CITY OF ARCADIA

City Council
Regular Meeting Agenda

Tuesday, March 18, 2025, 7:00 p.m.

Location: City Council Chambers, 240 W. Huntington Drive, Arcadia

Pursuant to the Americans with Disabilities Act, persons with a disability who require a disability related modification or accommodation in order to participate in a meeting, including auxiliary aids or services, may request such modification or accommodation from the City Clerk at (626) 574-5455. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to assure accessibility to the meeting.

根据《美国残障人法案》，需要调整或提供便利设施才能参加会议的残障人士（包括辅助器材或服务）可与市书记官办公室联系（电话：(626) 574-5455）。请在会前 48 小时通知市书记官办公室，以便作出合理安排，确保顺利参加会议。

Pursuant to the City of Arcadia's Language Access Services Policy, limited-English proficient speakers who require translation services in order to participate in a meeting may request the use of a volunteer or professional translator by contacting the City Clerk's Office at (626) 574-5455 at least 72 hours prior to the meeting.

根据阿凯迪亚市的语言便利服务政策，英语能力有限并需要翻译服务才能参加会议的人可与市书记官办公室联系（电话：(626) 574-5455），请求提供志愿或专业翻译服务，请至少在会前 72 小时提出请求。

How to Submit Public Comment:
Members of the Public who wish to submit public comment may do so using one of the following methods. Public comment is limited to the time and words allotted.

1. **In-Person:** Complete a Speaker Card, indicating the agenda item number and submit it to the City Clerk prior to the meeting, or simply come to the podium when the Mayor asks for those who wish to speak. Speakers are generally limited to five (5) minutes per person; any changes to the allotted time will be announced prior to the Public Comment period. At the Mayor's discretion, the time limit may be shortened to allow speakers to address the City Council.

Electronic submission of Public Comment is also available via the City's website or by email as noted below. Public Comment submitted electronically will not be read into the record at the posted meeting time but are forwarded to the City Council prior to the meeting for consideration.

1. **Website:** Please submit your comments using our online public comment form at ArcadiaCA.gov/comment. Your comments must be received at least 30 minutes prior to the posted meeting time.

2. **Email:** Please submit your comments via email to CityClerk@ArcadiaCA.gov . Your comments must be received at least 30 minutes prior to the posted meeting time.

如何提交公众评论意见：
公众成员可以使用以下任何一种方法提交公众评论意见。请在时间和字数的限制范围内提交公众评论意见。

1. **亲自出席：**填写一张发言人卡片，注明议程项目编号，然后在会议开始前提交给市书记官，或者在市长询问公众发言时，直接到讲台上发言。发言者通常每人限时五（5）分钟；如有时间调整，将在公众评论期间之前公告。根据市长的裁量权，时间限制可能会缩短，以便发言者向市议会发言。

亦可按照以下方法在本市网站上或通过电子邮件以电子方式提交公众评论意见。以电子方式提交的公众评论意见不会在公布的会议期间读入记录，但会在会议开始前转交给市议会，供市议会考虑。

1. **网站：**请使用以下网站中刊载的在线公众评论意见表提交您的评论意见：ArcadiaCA.gov/comment。必须在公布的会议时间前至少提前 30 分钟提交评论意见。

2. **电子邮件：**请将您的评论意见通过电子邮件发送至：CityClerk@ArcadiaCA.gov。必须在公布的会议时间前至少提前 30 分钟提交评论意见。

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1. CALL TO ORDER

2. INVOCATION

Reverend Jolene Cadenbach, Arcadia Congregational Church

3. PLEDGE OF ALLEGIANCE

George Tegart, Army Veteran and Arcadia Resident

4. ROLL CALL OF CITY COUNCIL MEMBERS

Dr. Michael Cao, Mayor
Sharon Kwan, Mayor Pro Tem
Paul P. Cheng, Council Member
David Fu, Council Member
Eileen Wang, Council Member

5. SUPPLEMENTAL INFORMATION FROM CITY MANAGER REGARDING AGENDA ITEMS

6. PRESENTATIONS

a. Presentation of the 250th Anniversary of the United States Army Proclamation to Lieutenant Colonel Victor Shen.

b. Presentation of Mayor's Certificate of Commendation to the Assistance League of Arcadia in celebration of their 70th Anniversary.

c. Presentation of Mayor's Certificate of Commendation to the Fruit for Homeless volunteers.

d. Presentation of Mayor's Certificates of Commendation to Scouting America Troops 104 and 333G of Arcadia for achieving the rank of Eagle Scout.

e. Presentation of the Downtown Arcadia Improvement Association Annual Report by Executive Director Donna Choi.

7. PUBLIC HEARING

Any person wishing to speak before the City Council on a public hearing item is asked to complete a Speaker Card noting the agenda item number and provide it to the City Clerk prior to the start of the public hearing. Separate and apart from the applicant (who may speak longer in the discretion of the City Council) speakers are generally limited to five (5) minutes per person; any changes to the allotted time will be announced prior to the Public Comment period. Under the Brown Act, the City Council is prohibited from discussing or acting on any item not listed on the posted agenda. The applicant may additionally submit rebuttal comments, at the discretion of the City Council.

You are hereby advised that should you desire to legally challenge in court or in an administrative proceeding any action taken by the City Council regarding any public hearing item, you may be limited to raising only those issues and objections you or someone else raised at the public hearing or in written correspondence delivered to the City Council at, or prior to, the public hearing.

a. Appeal of the Planning Commission's Approval of the Arcadia Town Center Mixed-Use Development with 181 residential units and 13,130 square feet of commercial space, which includes a Tentative Tract Map, Minor Use Permit, Site Plan & Design Review, and Certificate of Demolition at 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue.
   CEQA: Adopt the Initial Study/Mitigated Negative Declaration with the Mitigation Monitoring and Reporting Program
   Recommended Action: Adopt Resolution No. 7618 denying the Appeal and upholding the Planning Commission's Approval.

8. PUBLIC COMMENTS (5-minute time limit each speaker)

Any person wishing to speak before the City Council is asked to complete a Speaker Card and provide it to the City Clerk prior to the start of the meeting. Speakers are generally limited to five (5) minutes per person; any changes to the allotted time will be announced prior to the Public Comment period. Under the Brown Act, the City Council is prohibited from discussing or taking action on any item not listed on the posted agenda.

9. REPORTS FROM MAYOR AND CITY COUNCIL *(including reports from the City Council related to meetings attended at City expense [AB 1234]).*

10. CONSENT CALENDAR

All matters listed under the Consent Calendar are considered to be routine and can be acted on by one roll call vote. There will be no separate discussion of these items unless a member of the City Council, staff, or the public requests that a specific item be removed from the Consent Calendar for separate discussion and action.

a. Regular Meeting Minutes of March 4, 2025.
   CEQA: Not a Project
   Recommended Action: Approve

b. Declare a vacancy on the Library Board of Trustees according to the Arcadia City Charter.
   CEQA: Not a Project
   Recommended Action: Approve

c. Contract with American Asphalt South, Inc. for the Fiscal Year 2024-25 Annual Slurry Seal Project in the amount of $1,182,734.45.
CEQA: Exempt
Recommended Action: Approve

d. Amendment to the Professional Services Agreement with Raftelis Financial Consultants, Inc. to include a Water and Sewer Capacity Fee Study in the amount of $19,960.
CEQA: Not a Project
Recommended Action: Approve

e. Purchase Orders with American Right of Way, Inc. and Swarco, Inc. for the purchase of new traffic signal poles and four new traffic signal cabinets for the Centennial Way and El Monte Avenue & Duarte Road/Campus Drive Traffic Signal Project, in the amount of $180,457.17.
CEQA: Exempt
Recommended Action: Approve

11. STATE OF THE CITY

Note: The City Council will recess at this time to The State of the City Address, which will be held on Thursday, March 20, 2025, at 4:00 p.m. at Le Meridien, 130 W. Huntington Drive, Arcadia, California.

State of the City Speakers:

- Sina Mohajer, Arcadia Chamber of Commerce Board President
- Michael Sagely, Air Sections Pilot, Los Angeles County Fire Department
- Dr. Michael Cao, City of Arcadia Mayor

12. ADJOURNMENT

The City Council will adjourn this meeting to Tuesday, April 1, 2025, 6:00 p.m. in the City Council Conference Room.

Welcome to the Arcadia City Council Meeting!

The City Council encourages public participation, and invites you to share your views on City business.

MEETINGS: Regular Meetings of the City Council are held on the first and third Tuesday of each month at 7:00 p.m. in City Council Chambers. A full City Council agenda packet with all backup information is available at City Hall, the Arcadia Library, and on the City's website at www.ArcadiaCA.gov. Copies of individual Agenda Reports are available via email upon request (CityClerk@ArcadiaCA.gov). Documents distributed to a majority of the City Council after the posting of this agenda will be available for review at the Office of the City Clerk, 240 W. Huntington Drive, Arcadia, California. Live broadcasts and replays of the City Council Meetings are on cable television. Your attendance at this public meeting may result in the recording and broadcast of your image and/or voice as previously described.

PUBLIC PARTICIPATION: Your participation is welcomed and invited at all City Council meetings. Time is reserved at each regular meeting for those in the audience who wish to address the City Council. The City requests that persons addressing the City Council refrain from making personal, slanderous, profane, or disruptive remarks. Where possible, please submit a ***Speaker Card*** to the City Clerk prior to your comments, or simply come to the podium when the Mayor asks for those who wish to speak, and state your name and address (optional) for the record. Please provide the City Clerk with a copy of any written materials used in your address to the City Council as well as 10 copies of any printed materials you would like distributed to the City Council. The use of City equipment for presentations is not permitted.

MATTERS NOT ON THE AGENDA should be presented during the time designated as "PUBLIC COMMENTS." In general, each speaker will be given five (5) minutes to address the City Council; however, the Mayor, at his/her discretion, may shorten the speaking time limit to allow all speakers time to address the City Council. **By State law, the City Council may not discuss or vote on items not on the agenda. The matter will automatically be referred to staff for appropriate action or response or will be placed on the agenda of a future meeting.**

MATTERS ON THE AGENDA should be addressed when the City Council considers that item. Please indicate the Agenda Item Numbers(s) on the ***Speaker Card***. Your name will be called at the appropriate time and you may proceed with your presentation within the five (5) minute time frame. The Mayor, at his/her discretion, may shorten the speaking time limit to allow all speakers to address the City Council.

PUBLIC HEARINGS AND APPEALS are items scheduled for which public input is either required or desired. Separate and apart from the applicant (who may speak longer in the discretion of the City Council), speakers shall be limited to five (5) minutes per person. The Mayor, at his/her discretion, may shorten the speaking time limit to allow all speakers to address the City Council. The applicant may additionally submit rebuttal comments.

AGENDA ITEMS: The Agenda contains the regular order of business of the City Council. Items on the Agenda have generally been reviewed and investigated by the City Staff in advance of the meeting so that the City Council can be fully informed about a matter before making its decision.

CONSENT CALENDAR: Items listed on the Consent Calendar are considered to be routine by the City Council and will be acted upon by one motion. There will be no separate discussion on these items unless a member of the City Council, Staff, or the public so requests. In this event, the item will be removed from the Consent Calendar and considered and acted on separately.

DECORUM: While members of the public are free to level criticism of City policies and the action(s) or proposed action(s) of the City Council or its members, members of the public may not engage in behavior that is disruptive to the orderly conduct of the proceedings, including but not limited to, conduct that prevents other members of the audience from being heard when it is their opportunity to speak or which prevents members of the audience from hearing or seeing the proceedings. Members of the public may not threaten any person with physical harm or act in a manner that may reasonably be interpreted as an imminent threat of physical harm. All persons attending the meeting are expected to adhere to the City's policy barring harassment based upon a person's race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, gender, sexual orientation, or age. The Chief of Police, or such member or members of the Police Department, shall serve as the Sergeant-at-Arms of the City Council meeting. The Sergeant-at-Arms shall carry out all orders and instructions given by the presiding official for the purpose of maintaining order and decorum at the meeting. Any person who violates the order and decorum of the meeting may be placed under arrest and such person may be prosecuted under the provisions of Penal Code Section 403 or applicable Arcadia Municipal Code section.

欢迎参加阿凯迪亚市议会会议！

市议会鼓励公众参与，并邀请您分享对城市管理的看法。

会议：市议会定期会议于每个月第一个和第三个星期二下午七时在市议会会议厅举行。在市政厅、阿凯迪亚图书馆和市政府网站（www.ArcadiaCA.gov）可以找到包含所有相关信息的完整市议会议程。单独的议程报告可应请求通过电子邮件索取（CityClerk@ArcadiaCA.gov）。至于在发布该议程后向市议会多数成员分发的文件，公众可在阿凯迪亚市书记官办公室查阅，地址：240 W. Huntington Drive, Arcadia, California。市议会会议实况将通过有线电视进行现场直播和回放。如在以往的通知中所提示，如果您参加这次公开会议，您的图像和/或声音可能被录下并播出。

公众参与：市议会欢迎并邀请您参加市议会的所有会议。在每次定期会议上都为那些希望在会上发言的市民留出时间。市政府要求在市议会发言的人杜绝个人攻击、诽谤、亵渎或破坏性言论。如有可能，请在发表意见之前向市书记官提交一张**发言卡**，亦可在市长宣布自由发言时直接上台发言，并说出您的姓名和地址（如果您愿意），以便制作会议记录。请向市书记官提供一份您在发言中使用的任何书面材料，以及 10 份您希望分发给市议会的任何印刷材料。不允许把市政府设备用于准备发言内容。

议程之外的事项应当在指定的“公众评议”时间提出。在一般情况下，每位发言者将有五（5）分钟时间向市议会陈述意见，但市长可酌情缩短发言时限，以便让所有希望发言的人都有机会发言。**根据州法，市议会不得讨论或表决未列入议程的事项。此类事项将自动转给工作人员采取适当行动或作出回应，或将其列入未来会议的议程。**

列入议程的事项应当在市议会审议该事项时讨论。请在**发言卡**上标明事项的议程编号。在适当的时间会叫到您的名字，您可以在五（5）分钟时限内发言。市长可酌情缩短发言时限，以便让所有希望发言的人都有机会发言。

公开听证和上诉是为需要或希望征求公众意见的事项安排的日程。除申请人外（市议会可酌情决定延长申请人的发言时间），每位发言人的发言不得超过五（5）分钟。市长可酌情缩短发言时限，以便让所有希望发言的人都有机会发言。申请人还可以另外提交反驳意见。

议程事项：议程包含市议会的例行议题。一般而言，由市政府工作人员在会议前对议程中的事项进行审查和调查，以便市议会在作出决定之前能够充分了解情况。

同意日历：在同意日历上列出的事项被市议会视为例行公事，并将通过一项动议采取行动。除非市议员、工作人员或公众提出请求，否则不会对这些事项进行单独讨论。如果有人提出请求，该事项将从同意日历中删除，单独进行审议和采取行动。

行为规范：尽管市民可对市政府的政策和市议会或其成员的行动或拟议行动自由地提出批评，但不得出现干扰会议正常秩序的行为，包括但不限于在别人的发言时间内阻止别人发言，或妨碍公众听到发言内容或看到议程进展状况。市民亦不得威胁进行身体伤害或以可能被合理理解为作出身体伤害紧迫威胁的方式行事。所有出席会议的人都必须遵守市政府的反骚扰政策，禁止基于个人种族、宗教信仰、肤色、原国籍、祖籍、身体残障、疾病、婚姻状况、性别、性取向或年龄骚扰他人。警察局长或警察局其他成员将担任维持市议会会议秩序的保安官。保安官将执行会议主持人的一切命令和指示，以维持会议秩序和行为规范。对任何违反会议秩序和行为规范的人可执行拘捕，并可能根据《刑法典》第 403 条或《阿凯迪亚市政法典》相关条款提出起诉。

City of Arcadia

PROCLAMATION

WHEREAS, the United States Army will celebrate its 250th anniversary on June 14, 2025, commemorating the Army's distinguished service to our nation; and

WHEREAS, the central theme for this year's celebration is "This We'll Defend"; and

WHEREAS, established on June 17, 1775, the Army is a year older than the United States itself. Since its establishment, Army soldiers, families, and civilians have supported our nation, bearing true faith and allegiance to the country, the Constitution, their units and fellow team members as they defend the nation and provide assistance in times of need, including disaster relief and recovery efforts; and

WHEREAS, for 250 years, the U.S. Army has offered endless possibilities and opportunities for service to our nation. With over 200 career choices for soldiers and more than 500 career paths for civilians, a career in the United States Army is limitless; and

WHEREAS, the Army helps create a sense of purpose through personal growth and professional development, empowering soldiers and civilians to be part of something greater than themselves and to be all they can be; and

WHEREAS, for 250 years, soldiers have proudly served our country and protected its people, taking an oath to support and defend the Constitution as their guiding principle. The United States Army continues to stand ready to respond to the needs of our nation, and to fight to win when called upon.

NOW, THEREFORE, I, Dr. Michael Cao, Mayor of the City of Arcadia, do hereby ask our residents to join me as we celebrate the

UNITED STATES ARMY 250TH ANNIVERSARY

and express our endless gratitude for the sacrifices of the men and women who served, or who are currently serving, in the United States Army, as guardians of our liberty.

Dated this
18th Day of March, 2025

Michael Cao

Dr. Michael Cao, Mayor

STAFF REPORT

Development Services Department

DATE: March 18, 2025

TO: Honorable Mayor and City Council

FROM: Jason Kruckeberg, Assistant City Manager/Development Services Director
Lisa L. Flores, Deputy Development Services Director
By: Melissa Chipres, Senior Planner

SUBJECT: APPEAL OF THE PLANNING COMMISSION'S APPROVAL OF THE ARCADIA TOWN CENTER MIXED-USE DEVELOPMENT WITH 181 RESIDENTIAL UNITS AND 13,130 SQUARE FEET OF COMMERCIAL SPACE, WHICH INCLUDES A TENTATIVE TRACT MAP, MINOR USE PERMIT, SITE PLAN & DESIGN REVIEW, AND CERTIFICATE OF DEMOLITION AT 5-19 W. HUNTINGTON DRIVE AND 25-75 N. SANTA ANITA AVENUE
CEQA: Adopt the Initial Study/Mitigated Negative Declaration with the Mitigation Monitoring and Reporting Program
Recommendation: Adopt Resolution No. 7618 denying the Appeal and upholding the Planning Commission Approval

SUMMARY

The Appellant, Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility (“SAFER”), has filed an appeal to overturn the Planning Commission’s approval of a new five-story mixed-use development known as the “Arcadia Town Center,” located at 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue. The Arcadia Town Center includes 181 residential units, 13,130 square feet of ground-floor commercial space, and 378 parking spaces (one level of subterranean parking and one level of ground level parking). The request also includes incidental outdoor dining for the restaurant uses on the ground level.

It is recommended that the City Council deny the appeal and uphold the Planning Commission’s approval of the Arcadia Town Center mixed-use development; and adopt Resolution No. 7618 (refer to Attachment No. 1), adopting the Mitigated Negative Declaration (“MND”) under the California Environmental Quality Act (“CEQA”) and approving Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Site Plan & Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25, subject to the conditions of approval and mitigation measures listed in this staff report.

BACKGROUND

The project site is comprised of five legal lots totaling 2.27 acres that span the entire block from Huntington Drive to Morlan Place, extending along Santa Anita Avenue (refer to Figure No. 1 below). Currently, the site includes 11 commercial buildings and surface parking on each legal lot. All the commercial buildings are currently vacant, except for Monarch Donuts. The property is bordered to the north by a Mercedes Benz dealership (Mercedes Benz of Arcadia), to the east by commercial establishments (Denny's restaurant and a dermatologist office), and to the west by the Arcadia Elks Lodge. To the south, just across Huntington Drive, is Arcadia County Park.

Figure 1: Site Plan

Planning for the Arcadia Town Center has been underway since 2019, with several key revisions made throughout the process. A major change occurred with the addition of the corner parcel at 5 W. Huntington Drive - the former Jiffy Lube located at the intersection of Huntington Drive and Santa Anita Avenue. The Applicant temporarily paused the project until acquiring the property in 2021, as its inclusion was essential for a cohesive and visually integrated design along both frontages. Following the acquisition, the project was redesigned to seamlessly incorporate the corner parcel, enhancing both functionality and aesthetics.

The site is currently zoned Downtown Mixed Use ("DMU") and has a corresponding Downtown Mixed Use designation in the General Plan. Previously, the site had a combination of DMU and Central Business District ("CBD") zoning and General Plan land use designation, with a Downtown Overlay. In February 2024, both the zoning and General Plan land use designation were updated to ensure consistency across the entire site as part of the Housing Element Update to the General Plan, enabling the site to better accommodate housing development throughout the project.

On January 14, 2025, the Planning Commission approved the project with a 4-0 vote, with Commissioner Arvizu absent. Further details of the Planning Commission's discussion are provided later in this staff report. A full project description, along with the Planning Commission Staff Report and approved Minutes, can be found in Attachment No. 4.

On January 27, 2025, the Appellant, Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER"), filed an appeal within the prescribed 10-day appeal period – refer to Appeal letter under Attachment No. 2. SAFER is an organization associated with the Southern California District Council of Laborers, a chartered council of the Laborers International Union of North America ("LIUNA"). They previously submitted the same letter on December 20, 2024, addressing concerns about biological resources, noise, air quality, and greenhouse gas emissions during the Initial Study/Mitigated Negative Declaration IS/MND public review period (November 21, 2024, through December 20, 2024), for which the City provided written responses for consideration by Planning Commission. These documents can also be found under Attachment No. 2.

The Notice of Determination ("NOD") for the Arcadia Town Center was filed at the Los Angeles County Registrar-Recorder/County Clerk on January 17, 2025, and posted at the State Clearinghouse on January 18, 2025. If the City Council approves the project, a new NOD will need to be filed.

DISCUSSION

The Arcadia Town Center project proposes the construction of a new five-story building with a contemporary design, featuring four floors of residential units (181 condominiums) above 13,130 square feet of ground-floor commercial space. The development will include parking for residents, guests, and customers, with a subterranean parking level dedicated to residents. Additionally, the project plans for seven outdoor dining areas adjacent to the commercial spaces, facing Huntington Drive and Santa Anita Avenue. The commercial spaces will be oriented toward the streets and connected to public plazas and residential unit lobbies to create an active, vibrant environment. The project also includes a Tentative Tract Map ("TTM") to subdivide the building's airspace for condominium purposes and consolidate five existing lots into a single parcel – Refer to Attachment No. 3 for the Architectural Plans and TTM. The development will comply with

all relevant zoning requirements, including height limits, density, floor area ratio, setbacks, and will align with the City's design guidelines.

The proposed residential condominium units will be sold separately for ownership, with 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units. Renderings from the two intersections along Santa Anita Avenue are provided below as Figures 2 and 3.

Figure 2: Corner View of Santa Anita Avenue and Huntington Drive

Figure 3: Corner view of Morlan Place and Santa Anita Avenue

For a full review of the project, please refer to the Planning Commission Staff Report, included as Attachment No. 4. As mentioned above, the project meets all relevant development standards and design guidelines. Parking, circulation, access and egress, and traffic impacts have all been evaluated and the project has met all requirements.

One unique aspect of the project related to utilities is the need for sewer upsizing. The site is served by an eight-inch sewer line on Santa Anita Avenue and a 10-inch sewer line on Morlan Place, both flowing into an 18-inch Los Angeles County Sanitation District ("LACSD") trunk line at Camino Real Avenue and 1st Avenue. To accommodate growth

in the Santa Anita corridor, including this and other planned projects, the City is replacing approximately 1.3 miles of sewer line on Santa Anita Avenue with a 12-inch pipeline. This sewer upsizing is part of a capital improvement project to handle increased wastewater generation and is expected to be completed by the end of the 2026-27 Fiscal Year. As a condition of approval, the Arcadia Town Center Applicant will contribute 9% of the total cost of the sewer upsizing, as the project will use the new pipeline. The sewer upsizing must be completed before a Certificate of Occupancy can be issued for the Arcadia Town Center. While essential for the project, the upsizing is being carried out by the City and is not part of the project's direct scope, as noted in the Mitigated Negative Declaration ("MND").

The Appeal

The Appellant's concerns focus on how the project impacts the environment in accordance with the California Environmental Quality Act ("CEQA"). Specifically, the appeal raises issues related to air quality (including indoor air quality) and greenhouse gas ("GHG") emissions, biological resources, and noise. The appeal letter challenges the adequacy of the environmental analyses conducted under CEQA and expresses concerns about the potential health risks associated with the indoor air quality of the proposed building.

It is important to note that both the South Coast Air Quality Management District ("SCAQMD"), which oversees air quality and Greenhouse Gas ("GHG") emissions, and the California Department of Fish and Wildlife ("CDFW"), which handles biological resources, received the Notice of Intent to Adopt a Mitigated Negative Declaration ("NOI") for the project. Neither agency provided comments on the Initial Study/Mitigated Negative Declaration ("IS/MND"), which suggests they did not have concerns about the methodology or assumptions used in the environmental review. This information was presented to the Planning Commission.

The three issues raised by the Appellant are outlined below—see Attachment No. 2 for the Appellant's letter. These issues are addressed directly in the Response to Comments ("RTC") for the IS/MND, prepared by the environmental firm Psomas - see Attachment No. 5.

1. Air Quality and Greenhouse Gas Emissions

The Appellant's letter of appeal, including information from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"), states that the Arcadia Town Center project will negatively affect air quality due to several issues with the MND's air quality analysis. Specifically, SWAPE contends that:

1. The MND relies on an inadequate air quality analysis.

2. The Project will cause significant health risks related to air pollutants, which the MND fails to address adequately.
3. The MND does not fully evaluate the Project's greenhouse gas ("GHG") emissions impacts.
4. The MND lacks all feasible mitigation measures to address the Project's air quality impacts.

SWAPE also alleged that the MND's air quality technical reports in Appendix A were incomplete. Specifically, the CalEEMod output files provided in the MND included land use inputs but omitted key qualitative outputs regarding both construction and operational emissions, and did not detail changes to the model's default values. Without access to this data, SWAPE was unable to verify the significance or accuracy of the MND's air quality modeling and recommends that an EIR be prepared to disclose the complete CalEEMod output files to comply with CEQA's formal guidelines.

The Appellant is correct in noting that CalEEMod provides default model inputs commonly used across the industry, which can be adjusted if more accurate, project-specific data is available. The default inputs were developed based on general assumptions, which may not fully represent every project. Therefore, the South Coast Air Quality Management District ("SCAQMD") permits modifications to these inputs when more representative data is available. For the Arcadia Town Center project, air quality and GHG emissions modeling was based on detailed, project-specific information, which was gathered through a specialized data needs form and extensive coordination with the Applicant. Where appropriate, the CalEEMod inputs were adjusted to ensure the model accurately reflected the project's conditions, following industry standard practices.

Upon reviewing the IS/MND's Appendix A files in response to this comment, Psomas discovered that some sections of the CalEEMod.PDF output for the proposed conditions did not populate with modeled data. This issue was caused by a software glitch and, although it had not been observed before or since, the data for existing conditions was fully populated. The sections that did not populate for the proposed conditions are as follows:

- Section 2: Emissions Summary
- Section 3: Construction Emissions Details
- Section 4: Operations Emissions Details
- Section 5: Activity Data
- Section 8: User Changes to Default Data

Despite this issue, all relevant inputs and quantitative outputs were included in the body of the IS/MND. The Appellant's comment that SWAPE could not verify the accuracy of the air quality modeling due to the missing data is unsubstantiated. The absence of this data does not imply that the air quality and GHG analyses in the MND are necessarily inaccurate. Furthermore, the requirement for an EIR under CEQA arises only when a

project may have significant environmental effects that cannot be mitigated to a less-than-significant level. Therefore, the call for disclosure of the complete CalEEMod output files is irrelevant to the determination of the appropriate CEQA documentation. It is also important to note that the provision of CalEEMod output files is not a CEQA or State CEQA Guidelines requirement; it is merely standard industry practice.

Additionally, the consulting firm Urban Crossroads further evaluated the potential health risks to sensitive receptors (i.e., nearby residents) from the project. Specifically, they assessed the health risks associated with exposure to Toxic Air Contaminants ("TACs"), including diesel particulate matter ("DPM"), which would be generated by heavy-duty diesel trucks and construction equipment during project construction. The health risk assessment concluded that the project would not produce significant TAC emissions during its long-term operation, meaning that an operational health risk assessment ("HRA") is not required.

2. Biological Resources

The Appellant states the Arcadia Town Center project will negatively impact biological resources due to several deficiencies in the Mitigated Negative Declaration ("MND"). Specifically, they claim that the MND:

1. Fails to account for the full diversity of species present on the project site, including species with special status.
2. Inadequately analyzes the project's adverse impacts on wildlife.
3. Proposes insufficient mitigation measures to reduce biological impacts.

However, these claims are not supported by substantial evidence. The wildlife species identified in the MND align with those observed during the site survey conducted by the project consultant, Psomas, and with species expected to occur in or around the project site. The Appellant does not identify any specific deficiencies in the IS/MND under the California Environmental Quality Act ("CEQA") or State CEQA Guidelines.

Instead, the Appellant relies on a mathematical regression model as an "analytical bridge" to estimate species diversity onsite. This model, however, was developed based on years of surveys conducted in the *41,300-acre Altamont Pass Wind Resource Area*, a predominantly undeveloped grassland region in central California. Applying this model—designed for a large, open space with native vegetation—to the 2.27-acre, fully developed urban site is both inappropriate and misleading.

The Arcadia Town Center site is an urban infill redevelopment area, currently occupied by existing land uses with minimal pervious surfaces and sparse ornamental vegetation. Given its location at the intersection of two major thoroughfares in Arcadia, it lacks essential habitat components needed to support native wildlife, such as nesting areas,

riparian resources, or diverse plant life for foraging. Urban settings do not support the same level of wildlife diversity as natural habitats.

Because the Appellant's analysis fails to account for these fundamental differences in environmental settings, their conclusions are inaccurate. As a result, no revisions to the IS/MND are warranted.

3. Noise

The Appellant states the Arcadia Town Center project will cause significant noise and vibration impacts due to several deficiencies in the MND's analysis. Specifically, they claim:

1. The MND's baseline noise data is inadequate.
2. The project will generate potentially significant construction noise.
3. The MND's operational noise analysis is insufficient.

Although the Appellant's expert consultant believes there is substantial evidence to support a fair argument that the project will cause significant noise and vibration impacts, the analysis conducted in the IS/MND indicates that, with mitigation measure ("MM") NOI-1, the impacts related to noise and vibration would be less than significant. Therefore, no changes to the IS/MND are warranted, based on the analysis described below.

A short-term noise measurement was conducted at the project site boundaries to establish existing daytime ambient noise levels near land uses adjacent to the project. These measurements were taken during the times when project construction is expected to occur, and they reflect the noise generated by traffic on nearby roadways, including Santa Anita Avenue, Huntington Drive, and Santa Clara Street. Since traffic noise is the primary source of existing ambient noise, the daytime noise levels at locations adjacent to these roads are expected to remain fairly consistent throughout the day. Nighttime noise measurements were not considered necessary, as project construction would be limited to daytime hours.

Two measurement locations, to the east and south of the project, are subject to the same traffic noise levels from Santa Anita Avenue and Huntington Drive as nearby Arcadia County Park and residential areas on South Santa Anita Avenue. Because traffic on Santa Clara Street is lower than on the major nearby roads, residential areas along its western side would experience lower noise levels. However, private outdoor areas of these residences would still be exposed to traffic noise from Santa Clara Street. These residences would be shielded from project construction noise by intervening buildings, such as the Mercedes Benz dealership and the Arcadia Elks Lodge.

Since the main source of operational noise is expected to be traffic generated by the project, Psomas maintains that 24-hour noise measurements were unnecessary.

Operational noise impacts were evaluated using Community Noise Equivalent Levels ("CNELs") to compare the existing environment with potential scenarios, a future without-project and a future with-project scenarios. Additional 24-hour noise measurements would not change the results of the IS/MND analysis.

Upon review, all concerns raised by the Appellant were found to be unsupported. The IS/MND thoroughly addressed the potential environmental impacts and no additional mitigation measures were deemed necessary. Consequently, the Planning Commission approved the project, concluding that it met all environmental standards and would bring significant benefits to the area (described further in the "Planning Commission" section below). All assertions made by the Appellant were found to be incorrect and unsupported, and the IS/MND effectively reviewed and discussed all potential environmental impacts, with no new mitigation measures warranted.

FINDINGS

Minor Use Permit

Section 9107.09.050(B) of the Development Code requires that for a Minor Use Permit to be granted, it must be found that all of the following findings can be satisfied. In this case, the Minor Use Permit being requested is for a mixed-use development in a downtown zone and for incidental outdoor dining.

1. **The proposed use is consistent with the General Plan and any applicable specific plan; and is allowed within the applicable zone, subject to the granting of a Conditional Use Permit, and complies with all other applicable provisions of this Development Code and the Municipal Code.**

   Facts to Support This Finding: Approval of the proposed mixed-use development and incidental outdoor dining would be consistent with the General Plan Land Use Designation of Downtown Mixed Use, which allows a residential density of 80 units per acre and a commercial floor area ratio of 1.0. This land use designation allows mixed-use developments and strongly encourages a pedestrian-oriented environment with a complementary mix of commercial and residential uses. The residential units will provide vitality to the area and the proposed commercial uses and restaurants with outdoor dining will help generate increased activity in Downtown Arcadia and along Santa Anita Avenue and Huntington Drive, and it will continue to convey a commercial appearance along the street. The proposed Arcadia Town Center complies with all the development standards within the DMU Zone, including but not limited to, setbacks, height, open space, density, and parking. As such, the project meets the Development and Municipal Code requirements. As required by the California Environmental Quality Act ("CEQA"), the Development Services Department prepared an Initial Study and Mitigated Negative Declaration ("MND") for the proposed project, which determined that the project, with mitigation measures, will have less-than-

significant impacts. Therefore, the proposed mixed-use development and outdoor dining will not adversely affect the comprehensive General Plan and is consistent with the following General Plan goals and policies:

Land Use and Community Design Element

- Policy LU-1.1: Promote new infill and redevelopment projects that are consistent with the City's land use and compatible with surrounding existing uses.
- Policy LU-1.8: Encourage development of types that support transit and other alternative forms of transportation, including bicycling and walking.
- Policy LU-4.2: Encourage residential development that enhances the visual character, quality, and uniqueness of the City's neighborhoods and districts.
- Policy LU-4.3: Require the provision of adequate private and common open space for residential units. Require sufficient on-site recreational facilities to meet the daily needs of residents, if possible, commensurate with the size of the development.
- Policy LU-6.4: Encourage design approaches that create a cohesive, vibrant look and that minimize the appearance of expansive parking lots on major commercial corridors for new or redeveloped uses.
- Policy LU-6.5: Where mixed use is permitted, promote commercial uses that are complementary to adjacent residential uses.

2. The design, location, size, and operating characteristics of the proposed activity will be compatible with the existing and future land uses in the vicinity.

Facts to Support This Finding: The subject site is located in the Downtown Mixed Use ("DMU") Zone and will be 2.19 acres in size after the dedication to the City for public right-of-way improvements. The site is located within the City's Downtown area and is bounded by Mercedes Benz of Arcadia to the north across Morlan Place, Denny's restaurant and other commercial businesses to the east across Santa Anita Avenue, the Arcadia Elks Lodge and other commercial uses to the west, and the Arcadia County Park to the south. The proposed mixed-use development will provide ground-floor commercial uses that will be compatible with the existing and future land uses in the vicinity. The project will also provide a residential use that will bring an increase to the residential population in the Downtown area that will support the commercial uses in the area. Additionally, outdoor dining will provide added curb appeal to the Arcadia Town Center and activate the commercial area around the development. As such, the Arcadia Town Center meets the intent of the City's General Plan vision of the of the DMU Zone, which is to encourage a mix of residential and commercial uses near public transit. Therefore, the proposed development will be compatible with the existing and future land uses in the vicinity.

3. The site is physically suitable in terms of:

a. Its design, location, shape, size, and operating characteristics of the proposed use in order to accommodate the use, site improvements, loading, and parking.

Facts to Support This Finding: The project site will be 2.19 acres in size and can physically accommodate the proposed mixed-use development and outdoor dining. The residential component of the project will provide a density of approximately 79.7 units per acre, which is in compliance with the maximum density for the DMU Zone. The commercial component of the project will have a floor area ratio ("FAR") far below the maximum allowable FAR of 1.0. All outdoor dining areas have been designed to be located on private property and will not interfere with pedestrian access on or around the site. Additionally, the amount of on-site parking that will be provided for the development meets the minimum required by the Development Code and the project is in close proximity to the Metro A Line Station. Therefore, the site is adequate in size to accommodate the proposed mixed-use development.

b. Streets and highways adequate to accommodate public and emergency vehicle (e.g., fire and medical) access.

Facts to Support This Finding: The project site is located on the northwest corner of Huntington Drive and Santa Anita Avenue. These streets are designed to be adequate in width and pavement type to carry emergency vehicles and traffic generated by the proposed uses on the site.

c. Public protection services (e.g., fire protection, police protection, etc.).

Facts to Support This Finding: The Fire and Police Departments have reviewed the application and determined that there will be no impacts to public protection services. As part of the environmental review process, the Initial Study and Mitigated Negative Declaration ("MND") determined that Fire and Police protection services would not be impacted. The need for new or altered Fire or Police services is usually associated with substantial population growth. Arcadia Town Center would provide approximately 0.82% of the projected population of 62,200 persons by 2045, as projected by the Southern California Association of Governments. This population growth is not considered substantial enough to require new facilities to provide public protection services. To the extent that there will be any direct impact to fire protection services, this development would be subject to paying its fair share through the City's Fire Impact Fee established for the

Downtown. Therefore, no impacts to public protection services are anticipated.

d. The provision of utilities (e.g., potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.).

Facts to Support This Finding: As part of the development, new utility connections, including connections for potable water and storm drainage, will be required. Implementation of best management practices by the Applicant during construction and operation would ensure impacts to water quality do not occur. The site can be adequately served by all required utilities through interconnection with existing utilities within City right-of-way abutting the site. The development will require a fair-share payment for upsizing of a sewer line, which is anticipated to be built by the City.

4. The measure of site suitability shall be required to ensure that the type, density, and intensity of use being proposed will not adversely affect the public convenience, health, interest, safety, or general welfare, constitute a nuisance, or be materially injurious to the improvements, persons, property, or uses in the vicinity and zone in which the property is located.

Facts to Support This Finding: The Arcadia Town Center is not anticipated to be detrimental to the public health or welfare of the surrounding properties. The project will be compatible with the surrounding commercial uses in the general area. The Initial Study and Mitigated Negative Declaration ("MND") prepared for the Arcadia Town Center analyzed all the potential impacts and all the project impacts are less than significant or can be reduced to less than significant level, with the implementation of the recommended mitigation measures. Therefore, no impacts to the uses in the vicinity and zone in which the property is located are anticipated.

Tentative Tract Map

Section 9105.03.060(A) of the Development Code requires that for a Tentative Tract Map to be granted, it must be found that all of the following findings can be satisfied:

1. The proposed map, subdivision design, and improvements are consistent with the General Plan, any applicable specific plan, and the Subdivisions Division of the Development Code.

Facts in Support of the Finding: Approval of the Arcadia Town Center with a tentative tract map to merge five lots together as one parcel and then subdivide the airspace for condominium purposes is consistent with the Downtown Mixed Use land use designation. The land use designation is intended to accommodate

mixed-use development with a residential density of up to 80 units per acre, and a floor area ratio of 1.0. The Arcadia Town Center is located in the Downtown area and is in conformance with the City's General Plan, Development Code, and the Subdivision Map Act. The site is physically suitable for this type of development, and the approval of the architectural design for the building is compatible with the scale and character of the existing neighborhood.

2. **The site is physically suitable for the type and proposed density of development.**

   Facts in Support of the Finding: The subject site will measure approximately 2.19 acres in size and is located within the Downtown Mixed Use ("DMU") Zone. The DMU Zone has a maximum residential density of 80 units per acre, and a maximum floor area ratio of 1.0 for non-residential uses. The Arcadia Town Center proposes a residential density of 79.7, and a commercial FAR of 0.13. Therefore, the development is in compliance with the Development Code and the site is physically suitable for the proposed development. In addition, there are no physical impediments to the development of this site for residential condominiums.

3. **The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.**

   Facts in Support of the Finding: The proposed tentative tract map involves merging five lots into a single parcel and subdividing the air space for the mixed-use development. This is considered a minor subdivision on an infill site within an urbanized area. The Initial Study and Mitigated Negative Declaration ("MND") have assessed the potential biological impacts of the project on the natural environment and determined that no significant effects would occur. As a result, the project will not cause substantial environmental harm or harm to fish, wildlife, or their habitats.

4. **The design of the subdivision or type of improvements is not likely to cause serious public health or safety problems.**

   Facts in Support of the Finding: The proposed subdivision is to merge five lots together as one parcel and subdivide the air space of the proposed mixed-use development. The construction of the Arcadia Town Center will be done in compliance with Building and Fire Codes and all other applicable regulations. The proposed density will be below the maximum allowed by the DMU Zone and the City's existing infrastructure will adequately serve the new development. In addition, the Project meets all health and safety requirements and will not cause any public health or safety problems.

5. **The design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through or use of,**

property within the proposed subdivision (This finding shall apply only to easements of record or to easements established by judgement of a court of competent jurisdiction and no authority is hereby granted to a legislative body to determine that the public at large has acquired easements for access through or use of property within the proposed subdivision).

Facts in Support of the Finding: The Arcadia Town Center will not impose on any public easements and will provide dedications for public sidewalk access to the City along Santa Anita Avenue and Huntington Drive. Therefore, no conflicts for the use of any easements are expected.

6. **The discharge of sewage from the proposed subdivision into the community sewer system will not result in violation of existing requirements specified by the California Regional Water Quality Control Board.**

   Facts in Support of the Finding: The Arcadia Public Works Services Department determined that the City's infrastructure will adequately serve the Arcadia Town Center. The City is currently in the process of upsizing an existing sewer line along Santa Anita Avenue that serves the project for which the Applicant will pay a fair share cost to help fund the project. Upon completion, the sewer line will adequately serve the project. Additionally, the requirements of the California Regional Water Quality Control Board will be satisfied.

7. **The proposed design and site improvements of the subdivision conform to the regulations of the Development Code and the regulations of any public agency having jurisdiction by law.**

   Facts in Support of the Finding: The proposed subdivision, as conditioned, complies with all regulations within the Development Code and all other applicable regulations.

Site Plan & Design Review

Section 9107.19.050(F) of the Development Code requires that the following findings must be met for the approval of the design.

1. **The proposed development will be in compliance with all applicable development standards and regulations in the Development Code.**

   Facts to Support This Finding: The Arcadia Town Center is in compliance with all the development standards required in the DMU and Downtown Overlay Zone such as FAR, maximum height, setbacks, and parking. Therefore, the project meets the intent of this finding.

2. **The proposed development will be consistent with the objectives and standards of the applicable Design Guidelines.**

Facts to Support This Finding: The Arcadia Town Center will feature a contemporary architectural style, incorporating a diverse color palette and high-quality exterior materials. This design will establish a prominent focal point at one of the City's major intersections, complementing the existing modern buildings along Santa Anita Avenue, while contributing to a vibrant atmosphere in the Downtown area. The design also includes several outdoor plazas on the ground floor, enhancing the commercial experience by encouraging walkability and activating public spaces. Additionally, two corner features will serve as visually striking focal points, drawing attention and enhancing the building's overall aesthetic appeal. These distinctive elements will create an inviting environment, making the Arcadia Town Center a standout addition to the area. As a result, the proposed design is in full alignment with the City's Design Guidelines.

3. **The proposed development will be compatible in terms of scale and aesthetic design with surrounding properties and developments.**

   Facts to Support This Finding: The Arcadia Town Center is compatible with adjacent sites such as the adjacent Mercedes-Benz of Arcadia building (101 N. Santa Anita Avenue), the IMS Executive Suites building (150 N. Santa Anita Avenue), and the approved Alexan project regarding scale, design, and creating a Downtown feel to the area along Santa Anita Avenue and Huntington Drive. The design of the Arcadia Town Center thoughtfully incorporates the ideas within the City's Center Design Plan, which promotes increased pedestrian activity, enhances street interaction, and building setbacks that respect the overall scale and mass. To align with these principles, the Arcadia Town Center is setback from Huntington Drive and Santa Anita Avenue, creating inviting public spaces and dining areas for residents and visitors. As a result, the Arcadia Town Center seamlessly integrates with the surrounding properties and developments as this area is in transition to allow for more mixed-use development.

4. **The proposed development will have an adequate and efficient site layout in terms of access, vehicular circulation, parking and landscaping.**

   Facts to Support This Finding: The Arcadia Town Center features a well-planned site layout, with two driveway access points designed to ensure smooth traffic flow within the parking garage. Both driveway access and circulation have been thoroughly reviewed by the City Engineer and are included in the Mitigated Negative Declaration to confirm their adequacy for servicing the development. The required parking is provided across two levels, minimizing dead-end drive aisles to enhance circulation throughout the site. Therefore, the site will be adequate in terms of parking and circulation.

5. **The proposed development will be in compliance with all of the applicable criteria identified in Subparagraph 9107.19.040.C.5 for compliance with the Development Code and all other applicable City regulations and policies, the**

General Plan and any appliable specific plan, the Design Guidelines, policies and standards, and efficient site and layout design.

Facts to Support This Finding: The Arcadia Town Center will fully comply with all applicable standards, the General Plan, and relevant design guidelines, contributing positively to the community's vision for Downtown Arcadia. Located within the DMU Zone, the project allows for a residential density of up to 80 units per acre and a building height of up to 60 feet. The proposed mass, scale, and design adhere to the City's Design Guidelines and City Center Design Plan, ensuring compatibility with existing developments in the Downtown area. The development will also support the General Plan's objectives by engaging the streetscape with inviting commercial storefronts and public plazas at the ground level. Additionally, the design incorporates adequate articulation, breaking up the building mass into distinct segments along each street frontage by positioning public plazas and stepping back the upper floors. As a result, the design of the proposed mixed-use development aligns with the City's Design Guidelines, City Center Design Plan, and all other applicable standards.

In terms of design, the Arcadia Town Center also complies with the City Center Design Plan, which promotes pedestrian activity, street interaction, and buildings that step back to respect the character of existing single-story developments in Downtown Arcadia. The Arcadia Town Center has been thoughtfully designed to incorporate public spaces and dining areas for both residents and visitors, with generous setbacks from the street to create inviting outdoor areas.

All City requirements regarding disabled access and facilities, occupancy limits, building safety, health code compliance, emergency equipment, environmental regulation compliance, and parking and site design shall be complied with by the property owner/applicant to the satisfaction of the Building Official, City Engineer, Deputy Development Services Director, Fire Marshal, and Public Works Services Director, or their respective designees.

PLANNING COMMISSION

The Planning Commission reviewed this project at its meeting on January 14, 2025, and agreed that the location was well-suited for a mixed-use development, given its proximity to the Metro station. They also confirmed that the project met all minimum requirements, including parking, and would enhance the vibrancy of the corner of Santa Anita Avenue and Huntington Drive.

The Appellant's representative, Chase Preciado, attended the meeting on behalf of Lozeau Drury LLP and spoke on behalf of the Supporters Alliance for Environmental Responsibility ("SAFER"). Mr. Preciado expressed concerns regarding the Mitigated Negative Declaration ("MND") and noted that his team had submitted a letter during the MND's comment period. A response to SAFER's letter was provided to the

Commissioners as part of the agenda packet. Ms. Neary, from the Psomas Environmental firm, also spoke at the meeting, explaining to the Planning Commission why the project did not warrant an Environmental Impact Report ("EIR") and how all identified impacts were considered less than significant. There were no additional public speakers and no comments from the surrounding residents or businesses other than letters of support from the Downtown Arcadia Improvement Association and California Housing Defense Fund ("CalHDF") – refer to Attachment No. 4.

The Planning Commission approved the project with a unanimous 4-0 vote, with Commissioner Arvizu absent. They confirmed that all applicable findings supported the project's approval. The Commission also determined that the Appellant's comments did not change the environmental determination. The MND concludes that the project will have less-than-significant impacts with mitigation measures, and this conclusion remains unchanged. A full description of the project and the approved Planning Commission minutes can be found in Attachment No. 4.

ENVIRONMENTAL ANALYSIS

In accordance with the California Environmental Quality Act ("CEQA"), an Initial Study and Mitigated Negative Declaration ("IS/MND") was prepared for the Arcadia Town Center (see Attachment No. 5). The IS/MND concluded that, with the implementation of mitigation measures, the project would result in less-than-significant impacts in the areas of Cultural Resources, Hazards & Hazardous Materials, Noise, Transportation, Utilities and Service Systems, and Tribal Cultural Resources. A thorough review is provided in the Initial Study and the mitigation measures are incorporated as Conditions of Approval (Nos. 53-59) for the project. To ensure compliance with these measures, a Mitigation Monitoring and Reporting Program ("MMRP") will be implemented.

FISCAL IMPACT

While a direct estimate of the impact is not available, the Project will have a positive revenue impact in that additional property taxes will be collected due to the substantial increase in appraised value for the subject site. The Project will also generate User Fees, Park Impact Fees, Transportation Impact Fees, and building permit revenue. Following construction, a modest increase in sales taxes will be expected as a result of the commercial component of the Project. Ancillary fiscal benefit will also result from the spending patterns of new residents in Downtown Arcadia, which will have both private and public fiscal benefits. It is not known if the revenue enhancements will fully offset the demand for services from the residents and businesses on the site; however, multifamily units of the type proposed generally do not have a high demand for public services.

The City will upgrade the sewer system to meet increased demand. The Applicant is required to contribute 9% of the total cost for the Santa Anita Avenue sewer upsizing, which involves replacing the sewer line between Huntington Drive and Camino Real

Avenue with a 12-inch diameter line. The sewer upsizing project will be implemented in three phases as part of the City's Capital Improvement Plan. Any future projects along this corridor will also be required to contribute their fair share toward this improvement.

RECOMMENDATION

It is recommended that the City Council Adopt Resolution No. 7618 denying the appeal and upholding the Planning Commission's approval of the Arcadia Town Center Mixed-Use Development with 181 residential units and 13,130 square feet of commercial space, which includes a Tentative Tract Map, Minor Use Permit, Site Plan & Design Review, and Certificate of Demolition at 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue, subject to the following conditions of approval and mitigation measures.

1. The project shall be developed and maintained by the Property Owner/Applicant in a manner that is consistent with the plans submitted and recommended for approval to the City Council for Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Site Plan & Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25, subject to the satisfaction of the Deputy Development Services Director or designee. Noncompliance with the conditions of approval shall be grounds for immediate suspension or revocation of any approvals. Any minor changes to the development, including the outdoor dining area, may be approved administratively by the Deputy Development Services Director.

2. The Property Owner/Applicant shall submit a haul route map and staging plan to Planning Services prior to issuance of a grading permit.

3. The Property Owner/Applicant shall be responsible for the repair of all damage to public improvements in the public right-of-way resulting from construction related activities, including, but not limited to, the movement and/or delivery of equipment, materials, and soils to and/or from the site. This shall be determined by the City Engineer and/or Public Works Services Director during construction and up until the issuance of a Certificate of Occupancy.

4. A comprehensive landscaping plan consistent with the conceptual landscape plan, approved as part of the project, must be submitted to Building Services for plan check and must be prepared by a licensed landscape architect, subject to the approval of the Deputy Development Services Director or their designee.

5. Grading plans shall be submitted to Building Services. The grading plans shall indicate all site improvements and shall indicate complete drainage paths of all drainage water run-off.

6. Prior to issuance of a building permit, the Property Owner/Applicant must submit a parking management plan to the Planning Division outlining the allocation of the

parking for the residential units. This Plan shall be reviewed and approved by the Deputy Development Services Director, or their designee.

7. The project shall comply with the latest adopted edition of the following codes as applicable:

    - California Building Code
    - California Electrical Code
    - California Mechanical Code
    - California Plumbing Code
    - California Energy Code
    - California Fire Code
    - California Green Building Standards Code
    - California Existing Building Code
    - Arcadia Municipal Code

8. The project shall comply with Chapter 35A Multiple Family Construction Standards in Arcadia Municipal Code Section 8130.20.

9. Prior to approval of the Final Tract Map, a dedication along the right-of-way of Santa Anita Avenue shall be dedicated to the City to accommodate a 10-foot parkway for sidewalk and utility purposes, and at the corner of Santa Anita Avenue and Morlan Place to provide a corner cut-off for a standard accessible access ramp.

10. Prior to approval of the Final Tract Map, a dedication of 1’-6” along the right-of-way of Huntington Drive shall be dedicated to the City to accommodate a 13’-6” wide parkway for sidewalk and utility purposes.

11. All above ground utilities serving the site shall be removed, including all utility poles along property boundaries, and all new utility services shall be placed underground.

12. Prior to approval of the Final Tract Map or the issuance of a demolition permit, whichever comes first, the Property Owner/Applicant shall either construct or post security for all public improvements shown on the Tentative Tract Map No. 83325, and the following item(s):

    - Remove and replace existing sidewalk, curb, and gutter along all property frontages, from property line to property line, to the satisfaction of the City Engineer.
    - Remove and replace all driveway approaches per City standard plan.
    - Coordinate with Public Works Services on the protection or replacement of street trees.

13. A 16” welded steel water main with 56 PSI static pressure is available on Huntington Drive and a 6” cast iron water main with 53 PSI static pressure is available on Morlan Place. Both mains are available for domestic water and/or fire service. The Applicant/Property Owner shall provide calculations to determine the maximum domestic demand, maximum commercial demand, and maximum fire demand in order to verify the required sizes of water services.

14. The Property Owner/Applicant shall provide separate water services and meters for each separate structure as well as designated services for specific residential, commercial, and irrigation uses. Domestic water service for residential condominiums shall be provided by a common master meter, with an approved reduced pressure backflow device for meter services protection.

15. An approved back flow prevention device shall be installed for commercial use.

16. In the event that fire suppression is common to the complex, a separate fire service with Double Check Detector Assembly (“DCDA”) shall be required as directed by the Fire Marshal. Fire protection requirements shall be as stipulated by the Arcadia Fire Department and shall be conformed to the Arcadia Standard Plan. All fire services shall be isolated from domestic water services with approved back flow prevention devices.

17. A Water Meter Clearance Application shall be submitted to the Public Works Services Department prior to final plan check approval.

18. New water service installations shall be installed by the Applicant/Property Owner. Installation shall be according to the specifications of the Public Works Services Department, Engineering Division. Abandonment of existing water services, if necessary, shall be carried out by the Applicant/Property Owner, according to Public Works Services Department, Engineering Division specifications.

19. The Property Owner/Applicant shall utilize existing sewer laterals, if possible. If any drainage fixture is lower than the elevation of the next upstream manhole cover, an approved type of backwater valve is required to be installed behind the property line.

20. Prior to a Certificate of Occupancy being issued for the project, the Applicant/Property Owner shall make a fair share contribution to the sewer line upsizing project along Santa Anita Avenue. This fair share payment is memorialized as Mitigation Measure UTL-1.

21. The Property Owner/Applicant shall plant 36-inch box trees in tree wells, with irrigation on Santa Anita Avenue and Morlan Place. Locations of the tree wells and species of trees are to be determined by the Public Works Services Inspector.

22. The Property Owner/Applicant shall file a Notice of Intent ("NOI") with the State Water Resources Control Board for a General Construction NPDES Permit, due to the proposed project exceeding one acre of disturbed land. The NOI must include items such as the preparation of a Stormwater Pollution Prevention Plan, applicable fees, and other required documentation. The City will not approve any grading plans until a Waste Discharger Identification number has been issued by the State.

23. The proposed project is subject to low impact development ("LID") requirements. The Property Owner/Applicant shall integrate LID strategies into the site design. These strategies include using infiltration trenches, bioretention planter boxes, roof drains connected to a landscaped area, pervious concrete/paver, etc.

24. Trash/recycling bins shall be configured to provide easy access for trash collection services. There should be 1-foot clearance around the trash bins/recycling bins and all bins/carts shall meet the specifications of the Public Works Services Department. At a minimum, trash enclosure areas should accommodate three containers: a 3-yard bin for trash, 3-yard bin for recycling, and 69/96 gallon sized carts for organics recycling. The roof clearance for the trash enclosure must be at least 10 feet high.

25. All building areas shall be fully fire-sprinklered per the City of Arcadia Fire Department Commercial Sprinkler Standard. The sprinkler systems serving commercial areas and residential areas shall be segregated. The fire sprinkler system shall be monitored by a UL listed central station. Notification appliances shall be provided in all common areas. Visual appliances shall be provided in any residential units classified as being accessible.

26. Class I standpipes shall be provided on all floors inside stairwells and shall extend to the roof. Additional standpipes may be required for the building interior.

27. Knox boxes shall be provided for all lobby areas. Any automatic gates used in parking areas shall be equipped with a Knox switch.

28. Minimum 2A:10BC fire extinguishers shall be provided in all common areas. A maximum travel distance of 75 feet shall be provided to fire extinguishers.

29. A minimum of one Emergency Medical Services ("EMS") elevator shall be required.

30. An Emergency Responder Radio Coverage System shall be provided.

31. The minimum required fire flow for the site shall be 1,500 GPM at 20 PSI.

32. All required exit stairwells shall be designed in an approved manner to allow the segregation of the commercial floors from the residential floors.

33. Three new public fire hydrants shall be provided. One hydrant shall be provided on the west side of the street frontage on Huntington Drive. Two fire hydrants shall be provided on the street frontage of Santa Anita Avenue at approved locations.

34. The Property Owner/Applicant shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting shall be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code.

35. The Project shall be conducted in compliance with all applicable South Coast Air Quality Management District ("SCAQMD") rules and permitting requirements, including but not limited to:

    - SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short-term particulate pollutant emissions.
    - SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."
    - SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content ("VOC") of architectural coatings used for the Project.

36. Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act ("MBTA"): "To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation

clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned."

37. As required by the City's Comprehensive Tree Management Program, the Property Owner/Applicant shall obtain a permit from the Arcadia Public Works Services Department for the removal and planting of street trees associated with the Project. The Property Owner/Applicant will abide by the standards set forth in the permit, as well as standards contained in the Comprehensive Tree Management Program and other applicable sections of the Arcadia Development and Municipal Codes.

38. The Property Owner/Applicant shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.

39. If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code §5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, they will contact the Native American Heritage Commission ("NAHC"). The NAHC shall be responsible for designating the most likely descendant ("MLD"), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make their recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible, it may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code §5097.98).

40. The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen Code. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles.

41. Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code ("CBC"), including

the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes (CBSC 2022). Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved.

42. Activities at the Project site shall comply with existing Federal, State, and local regulations regarding hazardous material use, storage, disposal, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22), and in a manner to the satisfaction of the local Certified Unified Program Agency ("CUPA"), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation ("Caltrans") standards; and Division of Occupational Safety and Health ("Cal/OSHA") standards.

43. Prior to the issuance of a demolition permit, the Property Owner/Applicant shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2012-0006-DWQ, NPDES No. CAS000002), which will require the development and implementation of a project-specific Storm Water Pollution Prevention Plan ("SWPPP").

44. The Property Owner/Applicant shall comply with all applicable codes, ordinances, and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other similar requirements. Prior to the issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy.

45. In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Property Owner/Applicant shall remit the most current Fire Protection Facilities Impact Fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to the issuance of a building permit.

46. Prior to issuance of the building permit, the Property Owner/Applicant shall pay new development fees to the Arcadia Unified School District (“AUSD”) pursuant to Section 65995 of the California Government Code. As an option for the payment of developer fees, AUSD and the Property Owner/Applicant can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit.

47. In accordance with the City’s Ordinance 2237 and Section 9105.15 of the City’s Development Code, prior to the issuance of the building permit, the Property Owner/Applicant shall remit the most current Park Facilities Impact Fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City’s Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to the issuance of a building permit.

48. The Property Owner/Applicant shall contribute, on a cost-share basis, to the City’s traffic mitigation system for any intersections affected by the Project, as defined in the approved Traffic Impact Study (Traffic Impact Study for the Arcadia Town Center Project, Psomas, September 2024).

49. The Property Owner/Applicant shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer, and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with, but not limited to, Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826.

50. All City requirements regarding disabled access and facilities, occupancy limits, building safety, health code compliance, emergency equipment, environmental regulation compliance, and parking and site design shall be complied with to the satisfaction of the Building Official, City Engineer, Deputy Development Services Director, Fire Marshal, and Public Works Services Director. Any changes to the existing facility may be subject to having fully detailed plans submitted for plan check review and approval by the aforementioned City officials and employees, and may subject to separate building permits.

51. To the maximum extent permitted by law, the Applicant must defend, indemnify, and hold the City, any departments, agencies, divisions, boards, and/or commissions of the City, and its elected officials, officers, contractors serving as City officials, agents, employees, and attorneys of the City (“Indemnitees”) harmless from liability for damages and/or claims, actions, or proceedings for

damages for personal injuries, including death, and claims for property damage, and with respect to all other actions and liabilities for damages caused or alleged to have been caused by reason of the Applicant's activities in connection with MUP 19-11, TTM 21-02, ADR 19-09, and COD 22-25 ("Project") on the Project site, and which may arise from the direct or indirect operations of the Applicant or those of the Applicant's contractors, agents, tenants, employees or any other persons acting on Applicant's behalf, which relate to the development and/or construction of the Project. This indemnity provision applies to all damages and claims, actions, or proceedings for damages, as described above, regardless of whether the City prepared, supplied, or approved the plans, specifications, or other documents for the Project

52. In the event of any legal action challenging the validity, applicability, or interpretation of any provision of this approval, or any other supporting document relating to the Project, the City will promptly notify the Applicant of the claim, action, or proceedings, and will fully cooperate in the defense of the matter. Once notified, the Applicant must indemnify, defend and hold harmless the Indemnitees, and each of them, with respect to all liability, costs and expenses incurred by, and/or awarded against, the City or any of the Indemnitees in relation to such action. Within 15 days' notice from the City of any such action, the Applicant shall provide to the City a cash deposit to cover legal fees, costs, and expenses incurred by City in connection with defense of any legal action in an initial amount to be reasonably determined by the City Attorney. The City may draw funds from the deposit for such fees, costs, and expenses. Within 5 business days of each and every notice from the City that the deposit has fallen below the initial amount, the Applicant shall replenish the deposit each and every time, in order for City's legal team to continue working on the matter. The City shall only refund to the Developer any unexpended funds from the deposit within 30 days of: (i) a final, non-appealable decision by a court of competent jurisdiction resolving the legal action; or (ii) full and complete settlement of legal action. The City shall have the right to select legal counsel of its choice that the Applicant reasonably approves. The parties hereby agree to cooperate in defending such action. The City will not voluntarily assist in any such third-party challenge(s) or take any position adverse to the Applicant in connection with such third-party challenge(s). In consideration for approval of the Project, this condition shall remain in effect if the entitlement(s) related to this Project are rescinded or revoked, at the request of the Applicant or not.

Mitigation Measures as Conditions of Approval

The following conditions are found in the Mitigation Monitoring and Reporting Program ("MMRP"). They are recorded here to facilitate review and implementation. More information on the timing and responsible parties for these mitigation measures is detailed in the MMRP.

53. **MM CUL-1.** Prior to the issuance of a demolition permit, the Property Owner/Applicant shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Project Applicant/Developer. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Property Owner/Applicant shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.

54. **MM NOI-1.** The Property Owner/Applicant shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as the use of concrete saws, universal processors, and/or expansive agents for demolition.

55. **MM TRANS-1.** Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Property Owner/Applicant for the review and approval of the City of Arcadia, and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (“MUTCD”). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Property Owner/Applicant shall begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within Downtown Arcadia.

    At a minimum, the Construction Management Plan shall:

    - Describe the duration and location of lane closures (if any).

    - Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as needed, use of flag persons and signage.

- Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.

- Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets.

- Identify emergency access points/routes.

- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.

- Require the contractor to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material that may have been spilled, tracked, or blown onto adjacent streets or areas.

- All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.

- Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.

- Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.

- Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.

- Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site, or on designated off-site parcels that would not adversely affect access or parking within the Downtown.

56. **MM TCR-1**. A Native American Monitor shall be retained prior to commencement of ground-disturbing activities:

A. The Property Owner/Applicant shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the commencement of any ground disturbing activity or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following: (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project, are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

57. **MM TCR-2.** Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial): Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate,

in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

58. **MM TCR-3.** Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects:

    A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

    B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.

    C. Human remains and grave/burial goods shall be treated alike according to the California Public Resources Code section 5097.98(d)(1) and (2).

    D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

    E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

59. **MM UTIL-1.** Sewer Upsizing Fair Share Payment. Prior to issuance of a Certificate of Occupancy permit for the Project, the Property Owner/Applicant shall make a fair share contribution of nine percent (9%) of the total Santa Anita Avenue Sewer Upsizing Project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line on Santa Anita Avenue, between Huntington Drive and Camino Real Avenue, with 12-inch diameter pipelines. The Santa Anita Avenue Sewer Upsizing Project shall be split into three phases and included in the City's Fiscal Year 2024-25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work is expected to be completed by the City's Public Works Services Department by the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue Sewer Upsizing Project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department, as appropriate.

Approved:

Dominic Lazzaretto
City Manager

Attachment No. 1: Resolution No. 7618
Attachment No. 2: Appeal Letter, dated January 24, 2025, Original Comment Letter from the Appellant, dated December 20, 2025, and Response to the comments
Attachment No. 3: Architectural Plans and TTM 21-02 (83325)
Attachment No. 4: Planning Commission Minutes, Staff Report, dated January 14, 2024 (Without Attachments) and Letters of Support
Attachment No. 5: Response to Comments to the Appeal letter and the Draft MMRP and Initial Study/Mitigated Negative Declaration ("IS/MND"). The Appendices to the IS/MND can be found under the Arcadia Town Center Project at: www.arcadiaca.gov/significantprojects

Attachment No. 1

Resolution No. 7618

RESOLUTION NO. 7618

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARCADIA, CALIFORNIA, DENYING THE APPEAL AND UPHOLDING THE PLANNING COMMISSION'S APPROVAL OF THE ARCADIA TOWN CENTER MIXED-USE DEVELOPMENT, INCLUDING 181 RESIDENTIAL UNITS AND 13,130 SQUARE FEET OF COMMERCIAL SPACE; APPROVING ASSOCIATED ENTITLEMENTS (TENTATIVE TRACT MAP NO. TTM 21-02 (83325), MINOR USE PERMIT NO. MUP 19-11, SITE PLAN & DESIGN REVIEW NO. ADR 19-09, AND CERTIFICATE OF DEMOLITION NO. COD 22-25) FOR THE PROPERTY LOCATED AT 5-19 W. HUNTINGTON DRIVE AND 25-75 N. SANTA ANITA AVENUE; AND ADOPTING THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION ("MND") PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT ("CEQA")

WHEREAS, on August 29, 2019, September 3, 2019, January 8, 2021, and November 3, 2022, applications for Architectural Design Review No. ADR 19-09, Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), and Certificate of Demolition No. COD 22-25 were filed concurrently by New World International, LLC ("Property Owner/Applicant") to construct the "Arcadia Town Center," a new mixed-use development at 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue. The proposal is to consolidate five legal lots into a single parcel to accommodate a new five-story, mixed-use building that will consist of 181 residential units, 13,130 square feet of ground-floor commercial space, and 378 parking spaces within one level of subterranean parking and one level of ground level parking. The request also includes incidental outdoor dining for the restaurant uses on the ground level (collectively referred to as the "Arcadia Town Center"); and

WHEREAS, in accordance with the CEQA guidelines, a Draft Initial Study/Mitigated Negative Declaration ("IS/MND") was prepared to consider the environmental impacts of the Project and was circulated for public review and comment

for 30 days from November 21, 2024, to December 20, 2024. During this time period, public agencies, organizations, and the public in general were afforded the opportunity to review the Draft IS/MND, and submit written comments regarding the documents and the Project; and

WHEREAS, the IS/MND concluded that the implementation of the Project will have less-than significant impacts with mitigation measures for the following categories: Cultural Resources, Hazards & Hazardous Materials, Noise, Transportation, Utilities and Service Systems, and Tribal Cultural Resources; and

WHEREAS, on January 14, 2025, a duly noticed public hearing was held before the Planning Commission on said Project, at which time all interested persons were given full opportunity to be heard and to present evidence; and

WHEREAS, on January 14, 2025, the Planning Commission reviewed the project, heard the public testimonies, and adopted the IS/MND with the Mitigated Monitoring and Reporting Program ("MMRP"), and approved the Project with a 4-0 vote, with Commissioner Arvizu absent; and

WHEREAS, within the prescribed 10-day appeal period, the Project was appealed by the Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER"); and

WHEREAS, on March 18, 2025, a duly noticed public hearing was held before the City Council on said application, at which time all interested persons were given full opportunity to be heard and to present evidence.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ARCADIA, CALIFORNIA, HEREBY RESOLVES AS FOLLOWS:

SECTION 1. The factual data submitted by the Development Services Department in the staff report dated March 18, 2025, are true and correct.

SECTION 2. The City Council finds, based upon the entire record, pursuant to Sections 9107.09.050(B) of the Development Code, all of the following findings can be made.

Minor Use Permit

1. The proposed use is consistent with the General Plan and any applicable specific plan; and is allowed within the applicable zone, subject to the granting of a Minor Use Permit, and complies with all other applicable provisions of this Development Code and the Municipal Code.

FACT: Approval of the proposed mixed-use development and incidental outdoor dining would be consistent with the General Plan Land Use Designation of Downtown Mixed Use, which allows a residential density of 80 units per acre and a commercial floor area ratio of 1.0. This land use designation allows mixed-use development and strongly encourages a pedestrian-oriented environment with a complementary mix of commercial and residential uses. The residential units will provide vitality to the area and the proposed commercial uses and restaurants with outdoor dining will help generate increased activity in Downtown Arcadia and along Santa Anita Avenue and Huntington Drive, and it will continue to convey a commercial appearance along the street. The proposed Arcadia Town Center complies with all the development standards within the DMU Zone, including but not limited to setbacks, height, open space, density, and parking. As such, the project meets the Development and Municipal Code requirements. As required by the California Environmental Quality Act ("CEQA"), the Development Services Department prepared an

Initial Study and Mitigated Negative Declaration ("MND") for the proposed project, which determined that the project, with mitigation measures, will have less-than-significant impacts. Therefore, the proposed mixed-use development and outdoor dining will not adversely affect the comprehensive General Plan and is consistent with the following General Plan goals and policies:

Land Use and Community Design Element

- Policy LU-1.1: Promote new infill and redevelopment projects that are consistent with the City's land use and compatible with surrounding existing uses.
- Policy LU-1.8: Encourage development of types that support transit and other alternative forms of transportation, including bicycling and walking.
- Policy LU-4.2: Encourage residential development that enhances the visual character, quality, and uniqueness of the City's neighborhoods and districts.
- Policy LU-4.3: Require the provision of adequate private and common open space for residential units. Require sufficient on-site recreational facilities to meet the daily needs of residents, if possible, commensurate with the size of the development.
- Policy LU-6.4: Encourage design approaches that create a cohesive, vibrant look and that minimize the appearance of expansive parking lots on major commercial corridors for new or redeveloped uses.
- Policy LU-6.5: Where mixed use is permitted, promote commercial uses that are complementary to adjacent residential uses.

2. The design, location, size, and operating characteristics of the proposed activity will be compatible with the existing and future land uses in the vicinity.

FACT: The subject site will be 2.19 acres in size (after the dedication to the City for public right-of-way improvements) and is located in the Downtown Mixed Use ("DMU") Zone. The site is located within the City's Downtown area and is bounded by Mercedes Benz of Arcadia to the north across Morlan Place, Denny's restaurant and other commercial businesses to the east across Santa Anita Avenue, the Arcadia Elks Lodge and other commercial uses to the west, and the Arcadia County Park to the south. The proposed mixed-use development will provide ground-floor commercial uses that will be compatible with the existing and future land uses in the vicinity. The project will also provide a residential use that will bring an increase to the residential population in the Downtown area that will support the commercial uses in the area. Additionally, outdoor dining will provide added curb appeal to the Arcadia Town Center and activate the commercial area around the development. As such, the Arcadia Town Center meets the intent of the City's General Plan vision of the of the DMU Zone, which is to encourage a mix of residential and commercial uses near public transit. Therefore, the proposed development will be compatible with the existing and future land uses in the vicinity.

3. The site is physically suitable in terms of:

a. Its design, location, shape, size, and operating characteristics of the proposed use in order to accommodate the use, site improvements, loading, and parking.

FACT: The project site will be 2.19 acres in size and can physically accommodate the proposed mixed-use development and outdoor dining. The residential component of the project will provide a density of approximately 79.7 units per acre, which is in compliance with the maximum density for the DMU Zone. The commercial component of the project will have a floor area ratio ("FAR") far below the maximum allowable FAR of

1.0. All outdoor dining areas have been designed to be located on private property and will not interfere with pedestrian access on or around the site. Additionally, the amount of on-site parking that will be provided for the development meets the minimum required by the Development Code and the project is in close proximity to the Metro A Line Station. Therefore, the site is adequate in size to accommodate the proposed mixed-use development.

b. Streets and highways adequate in width and pavement type to accommodate public and emergency vehicle (e.g., fire and medical) access;

FACT: The project site is located on the northwest corner of Huntington Drive and Santa Anita Avenue. These streets are designed to be adequate in width and pavement type to carry emergency vehicles and traffic generated by the proposed uses on the site

c. Public protection services (e.g., fire protection, police protection, etc.); and

FACT: The Fire and Police Departments have reviewed the application and determined that there will be no impacts to public protection services. As part of the environmental review process, the Initial Study and Mitigated Negative Declaration ("MND") determined that Fire and Police protection services would not be impacted. The need for new or altered Fire or Police services is usually associated with substantial population growth. Arcadia Town Center would provide approximately 0.82% of the projected population of 62,200 persons by 2045, as projected by the Southern California Association of Governments. This population growth is not considered substantial enough to require new facilities to provide public protection services. To the extent that there will be any direct impact to fire protection services, this development would be subject to

paying its fair share through the City's Fire Impact Fee established for the Downtown. Therefore, no impacts to public protection services are anticipated.

d. The provision of utilities (e.g., potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.).

FACT: As part of the development, new utility connections, including connections for potable water and storm drainage, will be required. Implementation of best management practices by the Applicant during construction and operation would ensure impacts to water quality do not occur. The site can be adequately served by all required utilities through interconnection with existing utilities within City right-of-way abutting the site. The development will require a fair-share payment for upsizing of a sewer line, which is anticipated to be built by the City.

4. The measure of site suitability shall be required to ensure that the type, density, and intensity of use being proposed will not adversely affect the public convenience, health, interest, safety, or general welfare, constitute a nuisance, or be materially injurious to the improvements, persons, property, or uses in the vicinity and zone in which the property is located.

FACT: The Arcadia Town Center is not anticipated to be detrimental to the public health or welfare of the surrounding properties. The project will be compatible with the surrounding commercial uses in the general area. The Initial Study and Mitigated Negative Declaration ("MND") prepared for the Arcadia Town Center analyzed all the potential impacts and all the project impacts are less than significant or can be reduced to less than significant level with the implementation of the recommended mitigation measures.

Therefore, no impacts to the uses in the vicinity and zone in which the property is located are anticipated.

Tentative Tract Map

Tentative Tract Map Section 9105.03.060(A) of the Development Code requires that for a Tentative Tract Map to be granted, it must be found that all of the following findings can be satisfied:

1. The proposed map, subdivision design, and improvements are consistent with the General Plan, any applicable specific plan, and the Subdivisions Division of the Development Code.

FACT: Approval of the Arcadia Town Center with a tentative tract map to merge five lots together as one parcel and then subdivide the airspace for condominium purposes is consistent with the Downtown Mixed Use land use designation. The land use designation is intended to accommodate mixed-use development with a residential density of up to 80 units per acre, and a floor area ratio of 1.0. The Arcadia Town Center is located in the Downtown area and is in conformance with the City's General Plan, Development Code, and the Subdivision Map Act. The site is physically suitable for this type of development, and the approval of the architectural design for the building is compatible with the scale and character of the existing neighborhood

2. The site is physically suitable for the type and proposed density of development.

FACT: The subject site will measure approximately 2.19 acres in size and is located within the Downtown Mixed Use ("DMU") Zone. The DMU Zone has a maximum residential density of 80 units per acre, and a maximum floor area ratio of 1.0 for non-residential uses. The Arcadia Town Center proposes a residential density of 79.7, and a commercial FAR

of 0.13. Therefore, the development is in compliance with the Development Code and the site is physically suitable for the proposed development. In addition, there are no physical impediments to the development of this site for residential condominiums.

3. The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.

FACT: The proposed tentative tract map involves merging five lots into a single parcel and subdividing the air space for the mixed-use development. This is considered a minor subdivision on an infill site within an urbanized area. The Initial Study and Mitigated Negative Declaration ("MND") have assessed the potential biological impacts of the project on the natural environment and determined that no significant effects would occur. As a result, the project will not cause substantial environmental harm or harm to fish, wildlife, or their habitats.

4. The design of the subdivision or type of improvements is not likely to cause serious public health or safety problems.

FACT: The proposed subdivision is to merge five lots together as one parcel and subdivide the air space of the proposed mixed-use development. The construction of the Arcadia Town Center will be done in compliance with Building and Fire Codes and all other applicable regulations. The proposed density will be below the maximum allowed by the DMU zone and the Arcadia Town Center January 14, 2025, Page 21 of 37 City's existing infrastructure will adequately serve the new development. In addition, the Project meets all health and safety requirements and will not cause any public health or safety problems.

5. The design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through or use of, property within the proposed subdivision (This finding shall apply only to easements of record or to easements established by judgement of a court of competent jurisdiction and no authority is hereby granted to a legislative body to determine that the public at large has acquired easements for access through or use of property within the proposed subdivision).

FACT: The Arcadia Town Center will not impose on any public easements and will provide dedications for public sidewalk access to the City along Santa Anita Avenue and Huntington Drive. Therefore, no conflicts for the use of any easements are expected.

6. The discharge of sewage from the proposed subdivision into the community sewer system will not result in violation of existing requirements specified by the California Regional Water Quality Control Board.

FACT: The Arcadia Public Works Services Department determined that the City's infrastructure will adequately serve the Arcadia Town Center. The City is currently in the process of upsizing an existing sewer line along Santa Anita Avenue that serves the project for which the Applicant will pay a fair share cost to help fund the project. Upon completion, the sewer line will adequately serve the project. Additionally, the requirements of the California Regional Water Quality Control Board will be satisfied.

7. That the proposed design and site improvements of the subdivision conform to the regulations of this Development Code and the regulations of any public agency having jurisdiction by law.

FACT: The proposed subdivision, as conditioned, complies with all regulations within the Development Code and all other applicable regulations

Site Plan & Design Review

1. The proposed development is in compliance with all applicable development standards and regulation in the Development Code.

FACT: The Arcadia Town Center is in compliance with all the development standards required in the DMU and Downtown Overlay Zone such as FAR, maximum height, setbacks, and parking. Therefore, the project meets the intent of this finding.

2. The proposed development is consistent in the objectives and standards of the applicable Design Guidelines.

FACT: The Arcadia Town Center will feature a contemporary architectural style, incorporating a diverse color palette and high-quality exterior materials. This design will establish a prominent focal point at one of the City's major intersections, complementing the existing modern buildings along Santa Anita Avenue while contributing to a vibrant atmosphere in the Downtown area. The design also includes several outdoor plazas on the ground floor, enhancing the commercial experience by encouraging walkability and activating public spaces. Additionally, two corner features will serve as visually striking focal points, drawing attention and enhancing the building's overall aesthetic appeal. These distinctive elements will create an inviting environment, making the Arcadia Town Center a standout addition to the area. As a result, the proposed design is in full alignment with the City's Design Guidelines.

3. The proposed development is compatible in terms of scale and aesthetic design with surrounding properties and developments.

FACT: The Arcadia Town Center is compatible with adjacent sites such as the adjacent Mercedes-Benz of Arcadia building (101 N. Santa Anita Avenue), the IMS

Executive Suites building (150 N. Santa Anita Avenue), and the approved Alexan project regarding scale, design, and creating a Downtown feel to the area along Santa Anita Avenue and Huntington Drive. The design of the Arcadia Town Center thoughtfully incorporates the ideas within the City's Center Design Plan, which promotes increased pedestrian activity, enhances street interaction, and building setbacks that respect the overall scale and mass. To align with these principles, the Arcadia Town Center is setback from Huntington Drive and Santa Anita Avenue, creating inviting public spaces and dining areas for residents and visitors. As a result, the Arcadia Town Center seamlessly integrates with the surrounding properties and developments as this area is in transition to allow for more mixed-use development.

4. The proposed development will have an adequate and efficient site layout in terms of access, vehicular circulation, parking, and landscaping.

FACT: The Arcadia Town Center features a well-planned site layout, with two driveway access points designed to ensure smooth traffic flow within the parking garage. Both driveway access and circulation have been thoroughly reviewed by the City Engineer and are included in the Mitigated Negative Declaration to confirm their adequacy for servicing the development. The required parking is provided across two levels, minimizing dead-end drive aisles to enhance circulation throughout the site. Therefore, the site will be adequate in terms of parking and circulation.

5. The proposed development will be in compliance with all of the applicable criteria identified in Subparagraph 9107.19.040.C.5 for compliance with the Development Code and all other applicable City regulations and policies, the General Plan and any

appliable specific plan, the Design Guidelines, policies and standards, and efficient site and layout design.

FACT: The Arcadia Town Center will fully comply with all applicable standards, the General Plan, and relevant design guidelines, contributing positively to the community's vision for Downtown Arcadia. Located within the DMU Zone, the project allows for a residential density of up to 80 units per acre and a building height of up to 60 feet. The proposed mass, scale, and design adhere to the City's Design Guidelines and City Center Design Plan, ensuring compatibility with existing developments in the Downtown area. The development will also support the General Plan's objectives by engaging the streetscape with inviting commercial storefronts and public plazas at the ground level. Additionally, the design incorporates adequate articulation, breaking up the building mass into distinct segments along each street frontage by positioning public plazas and stepping back the upper floors. As a result, the design of the proposed mixed-use development aligns with the City's Design Guidelines, City Center Design Plan, and all other applicable standards.

SECTION 3. For the foregoing reasons, the City Council adopt the Initial Study/Mitigated Negative Declaration with the Mitigated Monitoring and Reporting Program ("MMRP") in accordance with CEQA, and approve Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Site Plan & Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25 for the Arcadia Town Center mixed-use development at 5-19 W. Huntington Drive and 25-75 N. Santa Anita avenue, subject to the conditions of approval and mitigation measured attached hereto.

SECTION 4. The City Clerk shall certify to the adoption of this Resolution.

Passed, approved and adopted this 18th day of March, 2025.

_____
Mayor of the City of Arcadia

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
Michael J. Maurer
City Attorney

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Conditions of Approval

1. The project shall be developed and maintained by the Property Owner/Applicant in a manner that is consistent with the plans submitted and recommended for approval to the City Council for Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Architectural Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25, subject to the satisfaction of the Deputy Development Services Director or designee. Noncompliance with the conditions of approval shall be grounds for immediate suspension or revocation of any approvals. Any minor changes to the development, including the outdoor dining area may be approved administratively by the Deputy Development Services Director.

2. The Property Owner/Applicant shall submit a haul route map and staging plan to Planning Services prior to issuance of a grading permit.

3. The Property Owner/Applicant shall be responsible for the repair of all damage to public improvements in the public right-of-way resulting from construction related activities, including, but not limited to, the movement and/or delivery of equipment, materials, and soils to and/or from the site. This shall be determined by the City Engineer and/or Public Works Services Director during construction and up until issuance of a Certificate of Occupancy.

4. A comprehensive landscaping plan consistent with the conceptual landscape plan approved as part of the project must be submitted to Building Services for plan check and must be prepared by a licensed landscape architect, subject to the approval of the Deputy Development Services Director or their designee.

5. Grading plans shall be submitted to Building Services. The grading plans shall indicate all site improvements and shall indicate complete drainage paths of all drainage water run-off.

6. Prior to issuance of a building permit, the Property Owner/Applicant must submit a parking management plan to the Planning Division outlining the allocation of the parking for the residential units. This Plan shall be reviewed and approved by the Deputy Development Services Director, or their designee.

7. The project shall comply with the latest adopted edition of the following codes as applicable:

    - California Building Code
    - California Electrical Code
    - California Mechanical Code
    - California Plumbing Code
    - California Energy Code
    - California Fire Code
    - California Green Building Standards Code
    - California Existing Building Code

- Arcadia Municipal Code

8. The project shall comply with Chapter 35A Multiple Family Construction Standards in Arcadia Municipal Code Section 8130.20.

9. Prior to approval of the Final Tract Map, a dedication along the right-of-way of Santa Anita Avenue shall be dedicated to the City to accommodate a 10 foot parkway for sidewalk and utility purposes and at the corner of Santa Anita Avenue and Morlan Place to provide a corner cut-off for a standard accessible access ramp.

10. Prior to approval of the Final Tract Map, a dedication of 1'-6" along the right-of-way of Huntington Drive shall be dedicated to the City to accommodate a 13'-6" wide parkway for sidewalk and utility purposes.

11. All above ground utilities serving the site shall be removed, including all utility poles along property boundaries, and all new utility services shall be placed underground.

12. Prior to approval of the Final Tract Map or the issuance of a demolition permit, whichever comes first, the Property Owner/Applicant shall either construct or post security for all public improvements shown on the Tentative Tract Map No. 83325 and the following item(s):

    - Remove and replace existing sidewalk, curb, and gutter along all property frontages from property line to property line to the satisfaction of the City Engineer.
    - Remove and replace all driveway approaches per City standard plan.
    - Coordinate with Public Works Services on the protection or replacement of street trees.

13. A 16" welded steel water main with 56 PSI static pressure is available on Huntington Drive and a 6" cast iron water main with 53 PSI static pressure is available on Morlan Place. Both mains are available for domestic water and/or fire service. The Applicant/Property Owner shall provide calculations to determine the maximum domestic demand, maximum commercial demand, and maximum fire demand in order to verify the required sizes of water services.

14. The Property Owner/Applicant shall provide separate water services and meters for each separate structure as well as designated services for specific residential, commercial, and irrigation uses. Domestic water service for residential condominiums shall be provided by a common master meter with an approved reduced pressure backflow device for meter services protection.

15. An approved back flow prevention device shall be installed for commercial use.

16. In the event that fire suppression is common to the complex, a separate fire service with Double Check Detector Assembly (DCDA) shall be required as directed by the Fire Marshal. Fire protection requirements shall be as stipulated by the Arcadia Fire Department and shall be conformed to the Arcadia Standard Plan. All fire services shall be isolated from domestic water services with approved back flow prevention devices.

17. A Water Meter Clearance Application shall be submitted to the Public Works Services Department prior to final plan check approval.

18. New water service installations shall be installed by the Applicant/Property Owner. Installation shall be according to the specifications of the Public Works Services Department, Engineering Division. Abandonment of existing water services, if necessary, shall be carried out by the Applicant/Property Owner, according to Public Works Services Department, Engineering Division specifications.

19. The Property Owner/Applicant shall utilize existing sewer laterals, if possible. If any drainage fixture is lower than the elevation of the next upstream manhole cover, an approved type of backwater valve is required to be installed behind the property line.

20. Prior to a Certificate of Occupancy being issued for the project, the Applicant/Property Owner shall make a fair share contribution to the sewer line upsizing project along Santa Anita Avenue. This fair share payment is memorialized as Mitigation Measure UTL-1.

21. The Property Owner/Applicant shall plant 36-inch box trees in tree wells with irrigation on Santa Anita Avenue and Morlan Place. Locations of the tree wells and species of trees are to be determined by the Public Works Services Inspector.

22. The Property Owner/Applicant shall file a Notice of Intent (NOI) with the State Water Resources Control Board for a General Construction NPDES Permit, due to the proposed project exceeding one acre of disturbed land. The NOI must include items such as the preparation of a Stormwater Pollution Prevention Plan, applicable fees, and other required documentation. The City will not approve any grading plans until a Waste Discharger Identification number has been issued by the State.

23. The proposed project is subject to low impact development (LID) requirements. The Property Owner/ Applicant shall integrate LID strategies into the site design. These strategies include using infiltration trenches, bioretention planter boxes, roof drains connected to a landscaped area, pervious concrete/paver, etc.

24. Trash/recycling bins shall be configured to provide easy access for trash collection services. There should be 1 foot clearance around the trash bins/recycling bins

and all bins/carts shall meet the specifications of the Public Works Services Department. At a minimum, trash enclosure areas should accommodate three containers: a 3-yard bin for trash, 3-yard bin for recycling, and 69/96 gallon sized carts for organics recycling. The roof clearance for the trash enclosure must be at least 10 feet high.

25. All building areas shall be fully fire-sprinklered per the City of Arcadia Fire Department Commercial Sprinkler Standard. The sprinkler systems serving commercial areas and residential areas shall be segregated. The fire sprinkler system shall be monitored by a UL listed central station. Notification appliances shall be provided in all common areas. Visual appliances shall be provided in any residential units classified as being accessible.

26. Class I standpipes shall be provided on all floors inside stairwells and shall extend to the roof. Additional standpipes may be required for the building interior.

27. Knox boxes shall be provided for all lobby areas. Any automatic gates used in parking areas shall be equipped with a Knox switch.

28. Minimum 2A:10BC fire extinguishers shall be provided in all common areas. A maximum travel distance of 75 feet shall be provided to fire extinguishers.

29. A minimum of one Emergency Medical Services (EMS) elevator shall be required.

30. An Emergency Responder Radio Coverage System shall be provided.

31. The minimum required fire flow for the site shall be 1,500 GPM at 20 PSI.

32. All required exit stairwells shall be designed in an approved manner to allow the segregation of the commercial floors from the residential floors.

33. Three new public fire hydrants shall be provided. One hydrant shall be provided on the west side of the street frontage on Huntington Drive. Two fire hydrants shall be provided on the street frontage of Santa Anita Avenue at approved locations.

34. the Property Owner/Applicant shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting shall be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code

35. The Project shall be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to:

- SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short-term particulate pollutant emissions.
- SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".

- SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project.

36. Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA): "To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned."

37. As required by the City's Comprehensive Tree Management Program, the Property Owner/Applicant shall obtain a permit from the Arcadia Public Works Services Department for the removal and planting of street trees associated with the Project. The Property Owner/Applicant will abide by the standards set forth in the permit, as well as standards contained in the Comprehensive Tree Management Program and other applicable sections of the Arcadia Development and Municipal Codes.

38. The Property Owner/Applicant shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.

39. If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code §5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines

that the remains are prehistoric, they will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make their recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code §5097.98).

40. The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen Code. Construction activities shall comply with idling requirements and maintenance requirements for on- and offroad vehicles

41. Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes (CBSC 2022). Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved.

42. Activities at the Project site shall comply with existing Federal, State, and local regulations regarding hazardous material use, storage, disposal, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards.

43. Prior to the issuance of a demolition permit, the Property Owner/Applicant shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2012-0006-DWQ,

NPDES No. CAS000002), which will require the development and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP).

44. The Property Owner/Applicant shall comply with all applicable codes, ordinances, and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to the issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy.

45. In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Property Owner/Applicant shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to the issuance of a building permit.

46. Prior to issuance of the building permit, the Property Owner/Applicant shall pay new development fees to the Arcadia Unified School District (AUSD) pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Property Owner/Applicant can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit.

47. In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Property Owner/Applicant shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.

48. The Property Owner/Applicant shall contribute, on a cost-share basis, to the City's traffic mitigation system for any intersections affected by the Project, as defined in the approved Traffic Impact Study (Traffic Impact Study for the Arcadia Town Center Project, Psomas, September 2024).

49. The Property Owner/Applicant shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding

achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826.

50. All City requirements regarding disabled access and facilities, occupancy limits, building safety, health code compliance, emergency equipment, environmental regulation compliance, and parking and site design shall be complied with to the satisfaction of the Building Official, City Engineer, Deputy Development Services Director, Fire Marshal, and Public Works Services Director. Any changes to the existing facility may be subject to having fully detailed plans submitted for plan check review and approval by the aforementioned City officials and employees and may subject to separate building permits.

51. To the maximum extent permitted by law, the Applicant must defend, indemnify, and hold the City, any departments, agencies, divisions, boards, and/or commissions of the City, and its elected officials, officers, contractors serving as City officials, agents, employees, and attorneys of the City ("Indemnitees") harmless from liability for damages and/or claims, actions, or proceedings for damages for personal injuries, including death, and claims for property damage, and with respect to all other actions and liabilities for damages caused or alleged to have been caused by reason of the Applicant's activities in connection with MUP 19-11, TTM 21-02, ADR 19-09, and COD 22-25 ("Project") on the Project site, and which may arise from the direct or indirect operations of the Applicant or those of the Applicant's contractors, agents, tenants, employees or any other persons acting on Applicant's behalf, which relate to the development and/or construction of the Project. This indemnity provision applies to all damages and claims, actions, or proceedings for damages, as described above, regardless of whether the City prepared, supplied, or approved the plans, specifications, or other documents for the Project

52. In the event of any legal action challenging the validity, applicability, or interpretation of any provision of this approval, or any other supporting document relating to the Project, the City will promptly notify the Applicant of the claim, action, or proceedings and will fully cooperate in the defense of the matter. Once notified, the Applicant must indemnify, defend and hold harmless the Indemnitees, and each of them, with respect to all liability, costs and expenses incurred by, and/or awarded against, the City or any of the Indemnitees in relation to such action. Within 15 days' notice from the City of any such action, the Applicant shall provide to the City a cash deposit to cover legal fees, costs, and expenses incurred by City in connection with defense of any legal action in an initial amount to be reasonably determined by the City Attorney. The City may draw funds from the deposit for such fees, costs, and expenses. Within 5 business days of each and every notice from City that the deposit has fallen below the initial amount, Applicant shall replenish the deposit each and every time in order for City's legal team to continue working on the matter. The City shall only refund to the Developer any unexpended funds from the deposit within 30 days of: (i) a final, non-appealable decision by a

court of competent jurisdiction resolving the legal action; or (ii) full and complete settlement of legal action. The City shall have the right to select legal counsel of its choice that the Applicant reasonably approves. The parties hereby agree to cooperate in defending such action. The City will not voluntarily assist in any such third-party challenge(s) or take any position adverse to the Applicant in connection with such third-party challenge(s). In consideration for approval of the Project, this condition shall remain in effect if the entitlement(s) related to this Project is rescinded or revoked, at the request of the Applicant or not.

Mitigation Measures as Conditions of Approval

The following conditions are found in the Mitigation Monitoring and Reporting Program (MMRP). They are recorded here to facilitate review and implementation. More information on the timing and responsible parties for these mitigation measures is detailed in the MMRP.

53. **MM CUL-1.** Prior to the issuance of a demolition permit, the Property Owner/Applicant shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Project Applicant/Developer. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Property Owner/Applicant shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.
54. **MM NOI-1.** The Property Owner/Applicant shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition.
55. **MM TRANS-1.** Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Property Owner/Applicant for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Property Owner/Applicant shall begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can

be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia Downtown.

At a minimum, the Construction Management Plan shall:

- Describe the duration and location of lane closures (if any).

- Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as needed use of flag persons and signage.

- Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.

- Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets.
- Identify of emergency access points/routes.

- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.

- Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas.

- All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.

- Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.

- Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.

- Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.

- Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the Downtown.

56. **MM TCR-1**. A Native American Monitor shall be retained prior to commencement of ground-disturbing activities:

    A. The Property Owner/Applicant shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

    B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

    C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

    D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

57. **MM TCR-2.** Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial) Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

58. **MM TCR-3.** Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects:

    A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.
    B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.
    C. Human remains and grave/burial goods shall be treated alike according to the California Public Resources Code section 5097.98(d)(1) and (2).
    D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.
    E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

59. **MM UTIL-1.** Sewer Upsizing Fair Share Payment. Prior to issuance of a Certificate of Occupancy permit for the Project, the Property Owner/Applicant shall make a fair share contribution of nine percent (9%) of the total Santa Anita Avenue Sewer Upsizing Project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue within 12-inch diameter pipelines. The Santa Anita Avenue Sewer Upsizing Project shall be split into three phases and included in the City's 2024- 25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue Sewer Upsizing Project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate.

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Attachment No. 2

Appeal Letter dated January 24, 2025, Original Comment Letter from the Appellant, dated December 20, 2024, and Response to the Comments dated January, 2025

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VIA ONLINE PORTAL

January 24, 2025

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Re: Appeal to the Arcadia City Council
Arcadia Town Center Project (Resolution No. 2164, MUP 19-11, TTM 21-02 (83325), ADR 19-09, COD 22-25)

Dear Mr. Arreola,

This appeal letter is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") and its members living and/or working in or around the City of Arcadia to appeal the proposed Arcadia Town Center Project ("Project") to the Arcadia City Council.

SAFER hereby appeals the entirety of the Arcadia Planning Commission's January 14, 2025, decision to approve Resolution No. 2164, adopting the Mitigated Negative Declaration (MND) and approving MUP 19-11, TTM 21-02 (83325), ADR 19-09, and COD 22-25 for the Project.

The reasons and grounds for the appeal are contained in SAFER's comment letter to the Planning Commission attached hereto as **ATTACHMENT 1**.

Sincerely,

Hayley Uno
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ATTACHMENT 1

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December 20, 2024

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Marilynne Wilander, Chair
And Honorable Commissioners
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Re: Comment on the Mitigated Negative Declaration for the Arcadia Town Center Project (SCH No. 2024110749)

Dear Mr. Arreola, Ms. Flores, and Honorable Members of the Arcadia City Planning Commission:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Mitigated Negative Declaration ("MND") prepared for the Arcadia Town Center Project (SCH No. 2024110749) ("Project"), located on the cross-streets of West Huntington Drive and North Santa Anita Avenue in downtown Arcadia, CA. The Project involves the development of a five-story, 181-unit, mixed-use residential and commercial building with one level of above-ground parking and one level of underground parking.

As discussed below, there is a fair argument that the Project may result in significant adverse impacts on biological resources, noise, air quality, and indoor air quality. Therefore, SAFER respectfully requests that the City of Arcadia ("City") prepare an environmental impact report ("EIR") before approving the Project to analyze and mitigate these impacts in accordance with the California Environmental Quality Act ("CEQA").

SAFER's review of the MND was assisted by expert wildlife biologist Dr. Shawn

Smallwood, Ph.D; noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig; air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"); and indoor air quality expert and certified industrial hygienist Francis Offermann, P.E., C.I.H. Dr. Smallwood's written comments and CV are attached hereto as Exhibit A and are incorporated herein by reference in their entirety. Ms. Toncheva's written comments and CV are attached hereto as Exhibit B and are incorporated herein by reference in their entirety. SWAPE's written comments and CV are attached hereto as Exhibit C and are incorporated herein by reference in their entirety. Mr. Offermann's written comments and CV are attached hereto as Exhibit D and are incorporated herein by reference in their entirety.

PROJECT DESCRIPTION

The Project involves the construction of a new five-story, mixed-use residential and commercial building with a total combined floor area of 440,938 square feet. The building includes 13,130 square feet of commercial space on the ground floor. It will also have 181 multifamily residential units, including 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units. The Project has 3,890 square feet of residential amenity space and 38,713 square feet of public and private open space. Additionally, the Project will have one level of ground-floor parking and one level of subterranean parking, for 378 parking spaces total. The Project requires the grading of approximately 44,520 cubic yards of earth as well.

The Project involves the consolidation of five existing contiguous parcels encompassing 2.27 acres into a single lot occupying 2.19 net acres (95,396.4 square feet) of buildable lot area. The Project site's Assessor Parcel Numbers are 5775-025-032, -033, -034, -037, and -038. All parcels on the site have a land use designation of Downtown Mixed-Use and are zoned as Downtown Mixed-Use.

The site is located at 5-19 West Huntington Drive and 25-75 North Santa Anita Avenue, in a fully developed portion of the downtown area of the City of Arcadia. The site is bounded by West Huntington Drive to the south, North Santa Anita Avenue to the east, Morlan Place to the north, and an Elks Lodge to the west. The site is surrounded to the north, east, and west by existing urban development, including retail, eateries, offices, a car dealership, and associated surface parking. Single-family residences are located about 410 feet northwest of the site across, and multifamily residences are located about 280 feet southeast of the site along Santa Anita Avenue. Arcadia County Park is located immediately south of the site, across West Huntington Drive.

The Project site currently contains eleven total commercial buildings, including ten one-story buildings and one two-story building, and associated surface parking lots. All existing development on the site would be demolished for the Project. The Project will also remove 26 existing trees on the Project site, including six trees protected by the City.

LEGAL STANDARD

As the California Supreme Court held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." (*Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-20.) "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." (Pub. Res. Code ["PRC"] § 21068; see also 14 California Code of Regulations ["CCR"] § 15382.) An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 83.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109.)

The EIR is the very heart of CEQA. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214; *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927.) The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." (*Bakersfield Citizens*, *supra*, 124 Cal.App.4th at 1220.) The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." (*Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392.) The EIR process "protects not only the environment but also informed self-government." (*Pocket Protectors*, 124 Cal.App.4th 903, 927.)

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." (PRC § 21080(d); see also *Pocket Protectors*, supra, 124 Cal.App.4th at 927.) An MND instead of an EIR is proper only if project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and . . . there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331 [quoting PRC §§ 21064.5, 21080(c)(2)].) In that context, "may" means a reasonable possibility of a significant effect on the environment. (PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904-05.)

An EIR must be prepared rather than an MND "whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact." (*No Oil, Inc. v City of Los Angeles* (1974) 13 Cal.3d 68, 75.) Under this "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an

adverse environmental effect—even if contrary evidence exists to support the agency's decision. (14 CCR § 15064(f)(1); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602.) The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. (*Pocket Protectors*, supra, 124 Cal.App.4th at 928.)

The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

> This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

(Kostka & Zishcke, *Practice Under CEQA*, § 6.29, pp. 273-74.) The Courts have explained that "it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with a preference for resolving doubts in favor of environmental review." (*Pocket Protectors*, supra, 124 Cal.App.4th at 928.)

DISCUSSION

I. There is a fair argument that the Project may have significant adverse impacts on biological resources.

Expert wildlife biologist, Dr. Shawn Smallwood, Ph.D., has reviewed the Project's MND, its biological technical report, and other relevant documents regarding the Project's biological impacts. As discussed below, Dr. Smallwood found that the Project will adversely affect biological resources because (1) the MND failed to account for the diversity of species present on the Project site, including several special-status species; (2) the MND inadequately analyzed the Project's adverse impacts on wildlife; and (3) the MND's proposed mitigation measures are insufficient to reduce the Project's biological impacts.

A. The MND failed to account for the diversity of species present on the Project site, including several special-status species.

Dr. Smallwood's associate, biologist Noriko Smallwood, M.S., conducted a Project site visit on December 6, 2024, for 2.8 hours. (Ex. A at 1.) During her visit, Ms. Smallwood detected

25 species of vertebrate wildlife at or adjacent to the Project site, including six species with special status: the Allen's hummingbird, the California gull, and the Nuttall's woodpecker, which are all listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service; and the Cooper's hawk, red-tailed hawk, and peregrine falcon, which are all Birds of Prey under the California Fish & Game Code. (*Id.* at 2, 8.)

Using a nonlinear regression model, Dr. Smallwood predicted that about 50 total species of vertebrate wildlife were available to be detected at the site during Ms. Smallwood's December 6, 2024 visit, twice the number of species she actually detected. (*Id.* at 9.) Although Ms. Smallwood's site visit only lasted 2.8 hours, Dr. Smallwood also calculated that continued and more extensive surveys would reveal an even greater diversity of wildlife at the site, up to 118 species of vertebrate wildlife, including 28 special-status species. (*Id.* at 10-11.)

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the biological analysis should identify which wildlife species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey efforts directed to the site. Analysts need this information to characterize the environmental setting as a basis for predicting potential project impacts to biological resources. (Ex. A at 12.)

CEQA requires government agencies to describe the "environmental setting" of the Project. (CEQA Guidelines § 15063(d)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322.) The "environmental setting" is defined as "the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." (Guidelines § 15360; *see* Guidelines § 21060.5; *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1192.)

Here, the MND did not provide the results of any field surveys conducted to detect birds or other wildlife on the Project site. (Ex. A at 12.) Regarding the lack of bird surveys in particular, Dr. Smallwood stated that the "lack of surveys leaves the City of Arcadia blind to any potential impacts to birds, because without a survey, there is no sound basis for characterizing the existing environmental setting." (*Id*.) Proceeding with the project without completing avian surveys could also result in high bird mortality rates from window collisions and costs to the building's owner if the windows require bird-safe glass. He further notes that the MND fails to report the importance of the site's trees to birds, which is important because the site's trees effectively create open space and vertical habitat for birds. (*Id.*)

Additionally, the MND does not provide the results of any desktop review of available literature and databases to identify occurrence records of special-status species or assess the occurrence rates of avian species in the Project area. (*Id.* at 12.) Dr. Smallwood stated that desktop review is important to inform field surveys and supplement interpretation of their findings. (*Id.* at 13.) Based on his review of available databases, such as eBird and iNaturalist, Dr. Smallwood estimates that 77 special-status bird species are known to occur close enough to

the Project site to warrant analysis of their occurrence potential. (*Id.* at 13-14.)

Thus, by failing to accurately characterize the biological species using the Project site, including the fact that the site supports at least six special-status species, the MND inadequately describes the Project's "environmental setting" and thereby insufficiently analyzes the Project's biological impacts. (*Id.* at 11.) Dr. Smallwood therefore concludes that "there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community on the project site." (*Id.* at 18.)

B. There is substantial evidence that the Project will have significant impacts on biological resources that the MND fails to analyze and mitigate.

Dr. Smallwood concluded that the MND inadequately addressed the Project's various significant impacts on biological resources, including: (1) interference with wildlife movement; (2) bird-window collision mortality; (3) traffic mortality; and (4) cumulative impacts.

1. Interference with Wildlife Movement

The MND includes no analysis of whether the Project would interfere with local wildlife movement. (*Id.*) Dr. Smallwood found that the Project would clearly interfere with wildlife movement in the area because the Project would insert a midrise building into the airspace that has long been used by birds for migration, dispersal, home range patrol, and foraging. (*Id.*) Dr. Smallwood thus concluded that "a fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated." (*Id.*)

2. Bird-Window Collisions

According to Dr. Shawn Smallwood, the Project will have a significant impact on birds as a result of window collisions. The City has not analyzed or mitigated these potential impacts on special-status bird species. Analyzing the potential impact on wildlife from window collisions is especially important because "[w]indow collisions are often characterized as either the second or third largest source of human-caused bird mortality." (*Id.*)

The Project would construct a five-story building, which would expose local birds to many windows composing the building's facades, but the MND does not report the full extent of exterior glass windows on the proposed building. (*Id.* at 21.) However, Dr. Smallwood predicts 2,966 square meters of exterior glass on the project building. (*Id.*) Based on this amount of exterior glass, Dr. Smallwood estimates that the Project will cause 217 annual bird deaths from window collisions. (*Id.*) Dr. Smallwood's database review and Ms. Smallwood's site visit indicate that there are at least 77 special-status bird species with the potential to use the airspace around the Project site. (*Id.* at 17.) Most of the predicted bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and the California Migratory Bird Protection Act, "thus causing significant unmitigated impacts." (*Id.* at 21.) Given the estimated

level of bird-window collision mortality and the MND's lack of proposed mitigation, Dr. Smallwood concluded that "the proposed project would result in potentially significant adverse biological impacts." (*Id.*) The City thus must prepare an EIR to analyze and mitigate the Project's potential impacts from bird-window collisions.

3. Traffic Impacts

Dr. Smallwood found that the MND does not analyze the Project's potential impacts to wildlife from road collision mortality as a result of increased traffic generated by the Project. (*Id.*) As Dr. Smallwood explains, vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level. (*Id*.) Dr. Smallwood provides several studies demonstrating significant animal deaths due to collisions in the thousands per 100 kilometers of road per year. (*Id.* at 23.) The MND fails to analyze whether increased traffic generated by the Project would result in significant impacts to wildlife.

The MND estimates 1,302,015 annual vehicle miles traveled ("VMTs") for employees. (*Id*.) Based on this estimate, Dr. Smallwood calculated that the Project would cause approximately 554 vertebrate wildlife fatalities per year due to collisions with project-generated traffic. (*Id.*) He therefore concluded that "the project-generated traffic would cause substantial, significant impacts to wildlife," a potential impact that the MND does not analyze. (*Id.* at 24.) Dr. Smallwood's comments thus constitute substantial evidence supporting a fair argument that the Project's traffic will have a significant impact on special-status species of wildlife. An EIR is required to analyze and mitigate this impact.

4. Cumulative Impacts

CEQA documents, such as the MND, must discuss cumulative impacts and mitigate significant cumulative impacts. (14 CCR § 15130(a).) This requirement flows from CEQA Section 21083, which requires a finding that a project may have a significant effect on the environment if:

> The possible effects of a project are individually limited but cumulatively considerable. . . . 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand.

While acknowledging new Project-related biological impacts, the MND fails to analyze the Project's potentially significant cumulative biological impacts. Instead, the MND dismisses,

without evidence, the potential for cumulative impacts stemming from the Project by claiming that compliance with applicable land use and environmental regulations would ensure that "environmental effects associated with the Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." (MND at 3-114.) The problem with this analysis as it applies to biological resources is that the MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area.

The question that CEQA requires the City to address, and that the MND fails to address, is whether the Project's impacts will be significant when combined with other past, current, and probable future projects. By failing to provide this basic information, the MND's cumulative biological impact analysis is not supported by substantial evidence.

Dr. Smallwood found that the "[MND's] analysis of potential project contributions to cumulative impacts is flawed," stating that the MND "provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts on wildlife." (Ex. A at 24.) Dr. Smallwood calculated that the Project's incremental effects would include 217 annual bird fatalities from window collisions, as well as 166 to 554 annual vertebrate wildlife fatalities due to collisions with project- generated traffic. (*Id.* at 25.) Likewise, the Project would fragment the aerial habitat of volant wildlife by inserting a glass-covered, midrise building into airspace historically used by volant wildlife. (*Id.*)

C. The MND's proposed mitigation measures are insufficient to reduce the Project's adverse biological impacts.

The MND offers mitigation measures to reduce the Project's adverse impacts on biological resources. One proposed mitigation measure, Mitigation Measure RR BIO-3, is the delayed development of landscape plans. (*Id.* at 26.) However, this constitutes deferred mitigation, which CEQA prohibits.

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. (CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309.) An agency may only defer the formulation of mitigation measures when it possesses "'meaningful information' reasonably justifying an expectation of compliance." (*Sundstrom* at 308; *see also Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only "for kinds of impacts for which mitigation is known to be feasible").) A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available).) This approach helps "insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism

from being swept under the rug." (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.)

While specific details of mitigation measure may be deferred, an agency is required to (1) commit itself to mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the types of potential actions that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. *See Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 671.

Moreover, "mitigation measure[s] [that do] no more than require a report be prepared and followed" do not provide adequate information for informed decisionmaking under CEQA. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794; Guidelines § 15126.4(a)(1)(B).) By deferring the development of specific mitigation measures, the City has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the court in *Communities for a Better Env't v. Richmond* (2010) 184 Cal.App.4th 70, 92:

> [R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment.

Mitigation Measure RR BIO-3 constitutes deferred mitigation because it entails formulating landscape plans at an unspecified future date. (Ex. A at 26-27.) The City has not committed itself to mitigation, adopted specific performance standards the mitigation will achieve, or identified the types of potential actions that can feasibly achieve the performance standards.

The City cannot rely on the development of mitigation measures in the future because there is no way to ensure that the mitigation will be adequate. For example, here, before Project approval, the public has no way to ensure that the landscape plans will benefit wildlife. (*Id.* at 26.) This deferred mitigation is invalid under CEQA, and the Project's impacts on biological resources remain significant. An EIR is required to develop clear, enforceable mitigation measures to address the Project's significant adverse biological impacts.

Additionally, the MND proposes other mitigation measures, such as preconstruction nesting bird surveys and procurement of necessary permits. (*Id.*) However, Dr. Smallwood concludes that these measures would not avoid the long-term significant biological impacts caused by permanent habitat destruction, loss of reproductive capacity at the Project site, and increased wildlife mortality from project-generated traffic and window collisions. (*Id.* at 25-26.) Dr. Smallwood's comments thus constitute substantial evidence that the Project's impacts on biological resources would remain significant, necessitating preparation of an EIR.

Dr. Smallwood instead offers numerous other mitigation measures that the City should implement to reduce the Project's significant adverse impacts on biological resources, should the Project proceed. Potential mitigation measures include use of bird-safe glass and window treatments, compensatory mitigation for road mortality, funding of wildlife rehabilitation facilities, and native plant landscaping. (*Id.* at 27-28.)

II. There is a fair argument that the Project may have significant adverse impacts on noise and vibration.

Noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig has reviewed the Project's MND, its noise and vibration technical reports in Appendix G, and other relevant documents regarding the Project's noise and vibration impacts. As discussed below, Ms. Toncheva concluded that the Project will adversely affect noise and vibration levels because (1) the MND's noise analysis relies on an inadequate noise baseline; (2) the Project will result in potentially significant construction noise impacts; and (3) the MND's operational noise analysis is insufficient. Thus, her expert comments constitute substantial evidence of a fair argument that the Project will have significant impacts on noise and vibration.

A. The MND's noise analysis relies on an inadequately established noise baseline.

Ms. Toncheva concluded that the manner in which the MND determined the existing noise baseline was flawed. For example, she found that the MND's ambient noise measurements were taken at the Project boundaries rather than at sensitive receptors, such as nearby residences located 280 feet from the site on South Santa Anita Avenue and 410 feet from the site on Santa Clara Street. (Ex. B at 3; MND at 3-71.) She also found that the short-term ambient noise level measurements captured neither the fluctuation of noise levels over the day nor the adjustment of noise with distance from the sources measured. (Ex. B at 3; MND at 3-79.) As the MND itself acknowledged, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site." (MND at 3-79.) Moreover, the noise measurements close to the Santa Clara residences were dominated by HVAC noise directly next to the Project site. (Ex. B at 3.)

Ms. Toncheva thus concluded that the Project must perform properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet periods of the day and night to determine the impact of construction and operational noise. (*Id.*) The City therefore must prepare an EIR to analyze these potential impacts.

B. There is a fair argument that the Project will result in potentially significant construction noise impacts.

Ms. Toncheva also found that the MND failed to disclose and mitigate the Project's potentially significant noise impacts from construction. The MND claims that there are no sensitive receptors near the Project site, but it earlier identified residences as close as 280 feet

from the site on Santa Anita Avenue and does not predict construction noise impacts at these residences. (MND at 3-72, 3-78.) Ms. Toncheva estimates that the Project's construction noise levels would range from 60 to 69 decibels at the Santa Anita residences and 56 to 65 decibels at the Santa Clara residences. (Ex. B at 3.)

Furthermore, Ms. Toncheva found that the MND failed to explicitly establish any construction noise criteria. It referenced the noise limits of the City of Arcadia Noise Ordinance ("Ordinance") but omitted the Ordinance's adjustments to noise limits for impulsive sounds. (City of Arcadia Noise Ordinance § 5610.3(b); MND at 3-75; Ex. B at 4.) The Ordinance's daytime noise limit for residential land is 55 decibels. Thus, at the Santa Anita residences, the predicted noise levels would exceed the Ordinance limit by 5 to 9 decibels, excluding any extra noise impacts from impulsive noise sources, like jackhammers. (*Id.* at 4.)

The CEQA Guidelines cited in the MND state that noise impacts are significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels." (MND at 3-70.) However, the MND lacks a significance threshold for a "substantial increase" for Project noise. (Ex. B at 4.) The MND uses short-term ambient noise levels of 54 to 66 dBA for daytime hours, but as discussed above, these measurements were not taken sensitive receptors and were inadequate to accurately characterize local ambient noise levels (Ex. B at 4; MND at 3-71). Ms. Toncheva found that the predicted noise level for demolition at the Santa Clara residences is 65 decibels, 11 decibels over the ambient noise level at the western Project boundary. This 10-decibel increase is subjectively heard as an approximate doubling in loudness. (*Id.* at 4.)

Additionally, the MND does not discuss any mitigation measures for the Project's potentially significant construction noise impacts. (*Id.* at 4.) Ms. Toncheva estimates that noise barriers at the perimeter of the site could reduce noise by 10 to 15 decibels, but notes that contractors can be reluctant to use barriers because they slow production. (*Id.* at 4-5.)

Overall, the City must prepare an EIR to properly evaluate the Project's construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. As Ms. Toncheva states, "if the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant." (*Id.* at 5.)

C. The MND's operational noise analysis is incomplete.

The MND claims, without evidence, that the Project will have no operational noise impact. However, Ms. Toncheva found that MND identified HVAC noise as a potential operational noise source but lacked any quantitative analysis to predict the expected levels of mechanical noise (*Id*. at 5; MND at 3-79.) Ms. Toncheva also found that the MND failed to address potential noise impacts from the Project's parking garage entrance or ventilation system. (Ex. B at 5.)

III. There is a fair argument that the Project may have significant air quality impacts.

Air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE") have reviewed the Project's MND, its air quality and greenhouse gas technical reports in Appendix A, and other relevant documents regarding the Project's air quality impacts. As discussed below, SWAPE concluded that there is a fair argument that the Project will adversely affect air quality because (1) the MND relied on an inadequate air quality analysis; (2) the Project will have significant impacts related to air pollutant health risks that the MND failed to adequately address; (3) the MND inadequately evaluated the Project's greenhouse gas ("GHG") impacts; and (4) the MND does not include all feasible mitigation measures to address the Project's air quality impacts. SWAPE recommends that "[a]n Environmental Impact Report . . . should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment." (Ex. C at 1.)

A. The MND relied on an inadequate air quality analysis.

Land use development projects under CEQA typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod"). Using site-specific input details, the model calculates a project's construction and operational emissions, generating "output files." The output files describe what parameters were used in calculating the project's air pollutant emissions and show where default values were changed. (*Id.* at 1-2.)

Here, SWAPE found that the MND and its air quality technical reports in Appendix A failed to provide complete CalEEMod output files. Its files included land use inputs but omitted all other qualitative outputs regarding the Project's construction and operational emissions, and they also omitted details on changes to the model's default values. (*Id.* at 2; Appendix A at 38-39.) Without access to this data, SWAPE was unable to verify the potential significance and accuracy of the MND air quality modeling. (Ex. C at 2-3.) SWAPE concluded that "[a]n EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines." (*Id.* at 3.)

B. There is a fair argument that the Project may have significant impacts related to air pollutant health risks that the MND failed to adequately address.

The MND determined that the Project would result in a negligible health risk impact without performing a construction health risk analysis ("HRA"), even though CEQA requires all proposed projects to connect their air pollutant emissions to potential adverse impacts on human health. (*Id.*) The MND therefore violates CEQA because it does not connect the Project's construction-related emissions of diesel particulate matter ("DPM"), a known human carcinogen, to potential health risks to nearby sensitive receptors. (*Id.*) Moreover, the MND does not compare the Project's excess cancer risk to the CEQA significance threshold of the South Coast Air Quality Management District ("SCAQMD"). (*Id.*)

SWAPE's own CalEEMod calculations showed that the Project's construction activities will produce about 380 pounds of DPM over the 29-month construction period. (*Id.*) SWAPE then conducted an HRA to measure the health risks from these DPM emissions using AERSCREEN, a screening-level air quality dispersion model that measures the maximum potential concentrations of air contaminants affecting nearby sensitive receptors, such as infants. (*Id*.) SWAPE noted that if "AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval." (*Id.*)

From its HRA, SWAPE found that the excess cancer risk from the Project's DPM emissions at the nearest sensitive receptor would be 76.7 per million for infants over the 29-month construction period. (*Id.* at 6.) This far exceeds the SCAQMD's significance threshold of 10 per million. (*Id.* at 6-7.) SWAPE thus concluded that "this results in a potentially significant impact not previously addressed or identified in the IS/MND," and "an EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction." (*Id.* at 7.)

C. The MND failed to adequately assess the Project's impacts on greenhouse gas emissions.

The MND estimates that the Project will produce net annual GHG emissions of 2,181 metric tons of carbon dioxide equivalents per year. (*Id*.) However, because the MND's CalEEMod output files did not provide the emission estimates or any relevant inputs aside from land uses, SWAPE was unable to verify the legitimacy of the GHG emission estimates the MND provides. (*Id*.) As a result, the Project's GHG emissions could be underestimated. (*Id.*) SWAPE concludes that "until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon . . ." (*Id*.)

D. The MND does not include all feasible mitigation measures to address the Project's air quality impacts.

Because the Project would result in significant health risks to individuals in the community around the Project site, "the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks." (Ex. C at 7; Guidelines § 15096(g)(2).) SWAPE offers various mitigation measures that the City could evaluate to reduce the DPM emissions from Project construction. Such measures include, among other things, minimization of unnecessary vehicular and machinery, utilization of clean fuel generators and existing power sources, use of alternative fuel and electric equipment, and required implementation of Tier 4 equipment or better for all engines above 50 horsepower. (Ex. C at 8-9.) These measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, in turn minimizing emissions during construction. (*Id*. at 9.) SWAPE concludes that "an EIR should be prepared to include all feasible mitigation measures. . ." (*Id*.)

IV. There is a fair argument that the Project may have significant adverse impacts on indoor air quality.

Certified industrial hygienist, Francis Offermann, P.E., C.I.H., has reviewed the Project, the Director's Determination, and other documents regarding the Project's indoor air emissions. These documents provide no analysis of the Project's indoor air quality impacts. Mr. Offermann concludes that the Project will expose its future residents to significant health impacts related to indoor air quality, particularly emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic.

Mr. Offermann explains that many composite wood products used in building materials commonly found in residences contain formaldehyde-based glues which release formaldehyde gas over a very long period of time. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential, office, and retail building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (Ex. D at 2-3.)

Formaldehyde is a known human carcinogen, classified by the State as a Toxic Air Contaminant. The SCAQMD has established a CEQA significance threshold for airborne cancer risk of 10 per million. Mr. Offermann found that future Project occupants may be exposed to a cancer risk from formaldehyde emissions of about 120 per million for residents, and 17.7 per million for commercial employees, even assuming that all materials comply with the California Air Resources Board's ("CARB") formaldehyde airborne toxics control measure. (*Id.* at 4-5.) This exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk. (*Id*. at 2.)

Mr. Offermann concludes that the Project will have significant environmental impacts that must be analyzed in an EIR or MND and mitigation measures must be imposed to reduce the raised cancer risk. (*Id.* at 12-13.) Mr. Offermann prescribes a methodology for estimating the Project's formaldehyde emissions for a more project-specific health risk assessment. (*Id.* at 6-10.) He also identifies feasible several mitigation measures to decrease the significant health risks, like installing air ventilation systems and requiring the use of composite wood materials only for all interior finish systems that are made with CARB-approved no-added formaldehyde ("NAF") resins or ultra-low emitting formaldehyde ("ULEF") resins. (*Id.* at 12-14.)

When a project exceeds a duly adopted CEQA significance threshold, as here, this alone establishes substantial evidence that the project will have a significant adverse environmental impact. Indeed, in many instances, such air quality thresholds are the only criteria reviewed and treated as dispositive in evaluating the significance of a project's air quality impacts. (*See*, *e.g. Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 960 [County applies Air District's "published CEQA quantitative criteria" and "threshold level of cumulative significance"]; *see also Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 110-11 ["A 'threshold of significance' for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant"].) The

California Supreme Court has shown the importance an air district significance threshold has in providing substantial evidence of a significant adverse impact. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 [estimated emissions in excess of air district's significance thresholds "constitute substantial evidence supporting a fair argument for a significant adverse impact"].) Since expert evidence shows the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (*See Friends of Coll. of San Mateo Gardens v. San Mateo Cty. Cmty. Coll. Dist.* (2016) 1 Cal.5th 937, 958.)

The City's failure to address the Project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). The Court held in *CBIA* that CEQA does not generally require lead agencies to analyze the impacts of adjacent environmental conditions on a project. (*Id.* at 800-01.) However, to the extent that a project may exacerbate existing environmental conditions at or near a project site, those effects would still have to be considered pursuant to CEQA. (*Id.* at 801 ["CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"].) In so holding, the Court expressly held that CEQA's statutory language requires lead agencies to disclose and analyze "impacts on a project's users or residents that arise from the project's effects on the environment." (*Id.* at 800.)

The carcinogenic formaldehyde emissions Mr. Offermann has identified are not an existing environmental condition. Those emissions will be from the Project. Residential tenants will be the Project's users. Currently, there is presumably little to no formaldehyde emissions at the site. Once built, the Project will start emitting formaldehyde at levels posing significant direct and cumulative health risks to the Project's users. The California Supreme Court in *CBIA* expressly found that this air emission and health impact from the Project on the environment and a "project's users and residents" must be addressed under CEQA.

The California Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings*, either directly or indirectly.'" (*CBIA*, 62 Cal.4th at 800 [emphasis in original].) Likewise, "the Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." (*Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d).) It goes without saying that the Project's future residents and commercial employees are human beings, and their health and safety must be subjected to CEQA's safeguards.

The City has a duty to investigate issues relating to a project's potential environmental impacts. (*See County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. ["[U]nder CEQA, the lead agency bears a burden to investigate potential

environmental impacts."].) The Project will have significant effects on indoor air quality and health risks by emitting formaldehyde that will expose future residents and commercial employees to cancer risks exceeding SCAQMD's significance threshold for cancer risk of 10 per million. In light of this impact and the City's lack of any evidence to the contrary, the City must prepare an EIR before approving the Project to analyze and mitigate these impacts.

CONCLUSION

As discussed above, there is a fair argument that the Project may have significant adverse impacts on biological resources, noise, air quality, and indoor air quality. An EIR is therefore required to analyze and mitigate the Project's potentially significant effects. Thus, SAFER respectfully requests that the City not rely on the MND and instead prepare and circulate an EIR before further consideration of the Project.

Sincerely,

Hayley Uno
LOZEAU DRURY LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Attn. Edwin Arreola, Senior Planner
City of Arcadia
Development Services Department
240 West Huntington Drive
Arcadia, California 91066

12 December 2024

RE: Arcadia Town Center

Dear Mr. Arreola,

I write to comment on potential impacts to biological resources from the proposed Arcadia Town Center project, which I understand would add a five-story, 440,938 square-foot mixed-use building on 2.27 acres located on the corner of Huntington Dr. and N Santa Anita Ave. in Arcadia, CA. I comment on the analyses of impacts to biological resources in the Initial Study/Mitigated Negative Declaration (IS/MND) (City of Arcadia 2024).

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 2.8 hours from 06:47 to 09:35 hours on 6 December 2024. She walked the site's perimeter, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

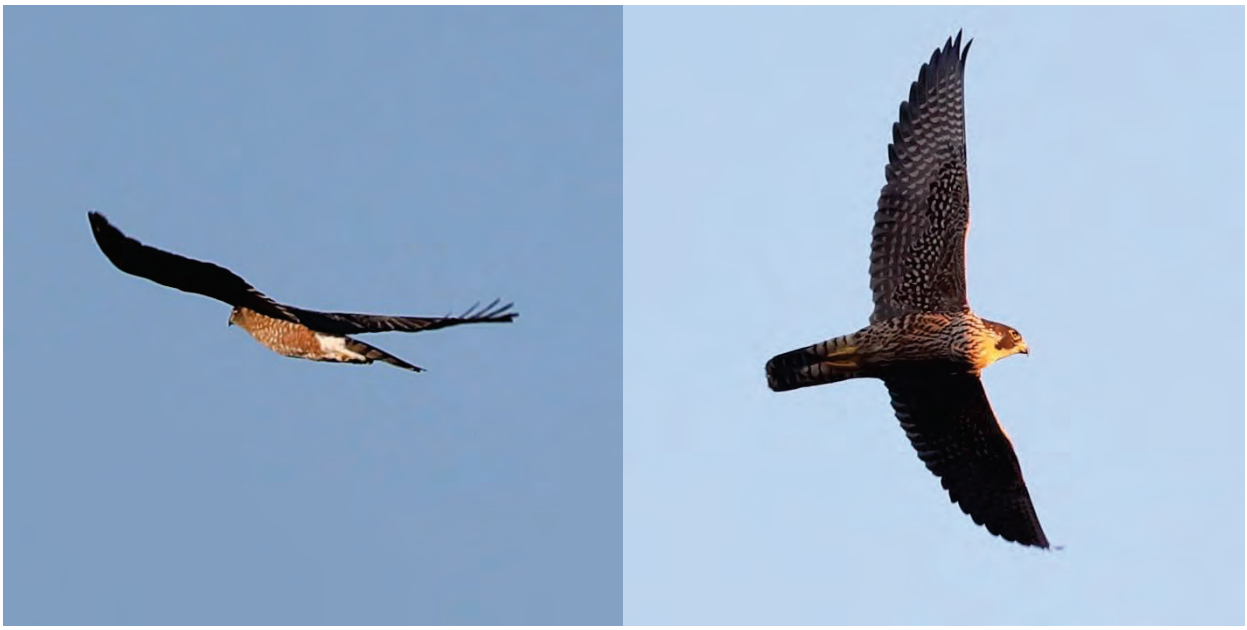
Conditions were sunny with 3 MPH northeast wind and temperatures of 52-63° F. The site contains unoccupied office and commercial buildings and a parking lot, with multiple ornamental trees and shrubs (Photos 1-3).

Photos 1 and 2. *Views of the project site, 6 December 2024. Photos by Noriko Smallwood.*

Noriko saw Cooper's hawk and peregrine falcon (Photos 3 and 4), Anna's hummingbird (Photos 5 and 12), house finch and red-crowned parrot (Photos 6 and 7), American crow and black phoebe (Photos 8 and 9), acorn woodpecker (Photo 10), Allen's hummingbird (Photo 11), western bluebird and yellow-rumped warbler (Photos 13 and 14), northern rough-winged swallow and California gull (Photos 15 and 16), mourning dove and band-tailed pigeon (Photos 17 and 18), northern mockingbird (Photos 19 and 20), eastern fox squirrel (Photo 21), among the other species listed in Table 1. Noriko detected 25 species of vertebrate wildlife at or adjacent to the project site, including six species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood



Photos 3 and 4. *Cooper's hawk (left), and peregrine falcon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photo 5. *Anna's hummingbird on the project site, 6 December 2024. Photo by Noriko Smallwood.*

Photos 6 and 7. *House finch (left) and red-crowned parrot (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 8 and 9. *American crow with a piece of bread (left), and black phoebe (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

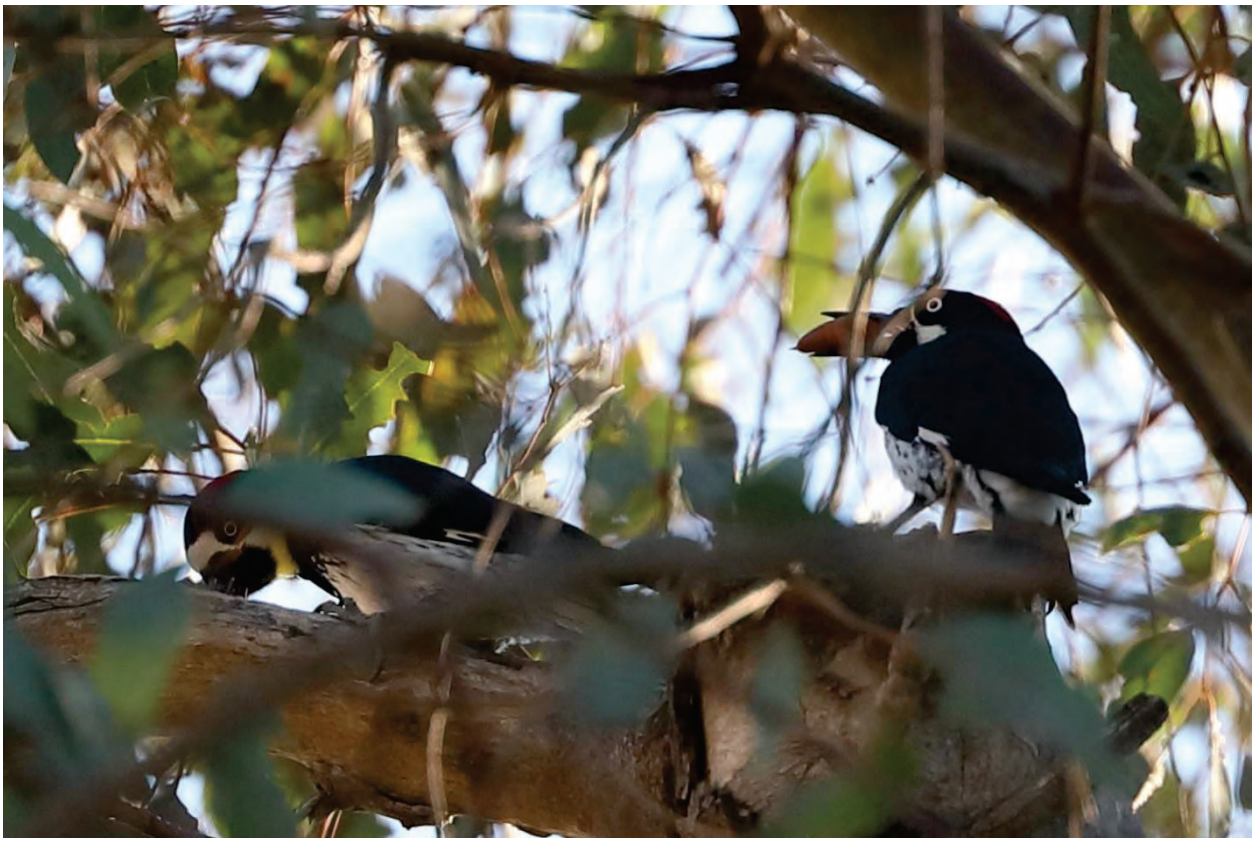


Photo 10. *Acorn woodpeckers just off of the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 11 and 12. *Allen's hummingbird (left), and Anna's hummingbird (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 13 and 14. *Western bluebird just off of the project site (left), and yellow-rumped warbler on the project site (right), 6 December 2024. Photos by Noriko Smallwood.*

Photos 15 and 16. *Northern rough-winged swallow (left), and California gull (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 17 and 18. *Mourning dove (left) and band-tailed pigeon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 19 and 20. *Northern mockingbird on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photo 21. *Eastern fox squirrel just off the project site, 6 December 2024. Photo by Noriko Smallwood.*

Table 1. *Species of wildlife Noriko observed during 2.8 hours of survey on 6 December 2024.*

Common name	***Species name***	**Status[1]**	**Notes**
Rock pigeon	*Columba livia*	Non-native	Flew over
Band-tailed pigeon	*Patagioenas fasciata*		Flew over
Mourning dove	*Zenaida macroura*		Flew over
Anna's hummingbird	*Calypte anna*		Territorial; chased NRWS and ALHU
Allen's hummingbird	*Selasphorus sasin*	BCC	Perched and flew over
California gull	*Larus californicus*	BCC, WL	3 flew over
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Chased BTPI on site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Just off site
Acorn woodpecker	*Melanerpes formicivorus*		Collected acorns
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Just off site
Peregrine falcon	*Falco peregrinus*	BOP	Flew over, perched nearby
Red-crowned parrot	*Amazona viridigenalis*		Many
Black phoebe	*Sayornis nigricans*		Perched, foraged
American crow	*Corvus brachyrhynchos*		Many
Common raven	*Corvus corax*		Flew over
Northern rough-winged swallow	*Stelgidopteryx serripennis*		Foraged, perched on site

Common name	*Species name*	Status[1]	Notes
Bushtit	*Psaltriparus minimus*		Foraged on site
Ruby-crowned kinglet	*Regulus calendula*		Just off site
Northern mockingbird	*Mimus polyglottos*		Perched
European starling	*Sturnus vulgaris*	Non-native	Flock flew over
Western bluebird	*Sialia mexicana*		Perched
House finch	*Haemorphous mexicanus*		Perched, socialized
Yellow-rumped warbler	*Setophaga coronata*		Foraged
Desert cottontail	*Sylvilagus audubonii*		Scat
Eastern fox squirrel	*Sciurus niger*	Non-native	Just off site

[1] Listed as BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (California Fish and Game Code 3503.5).

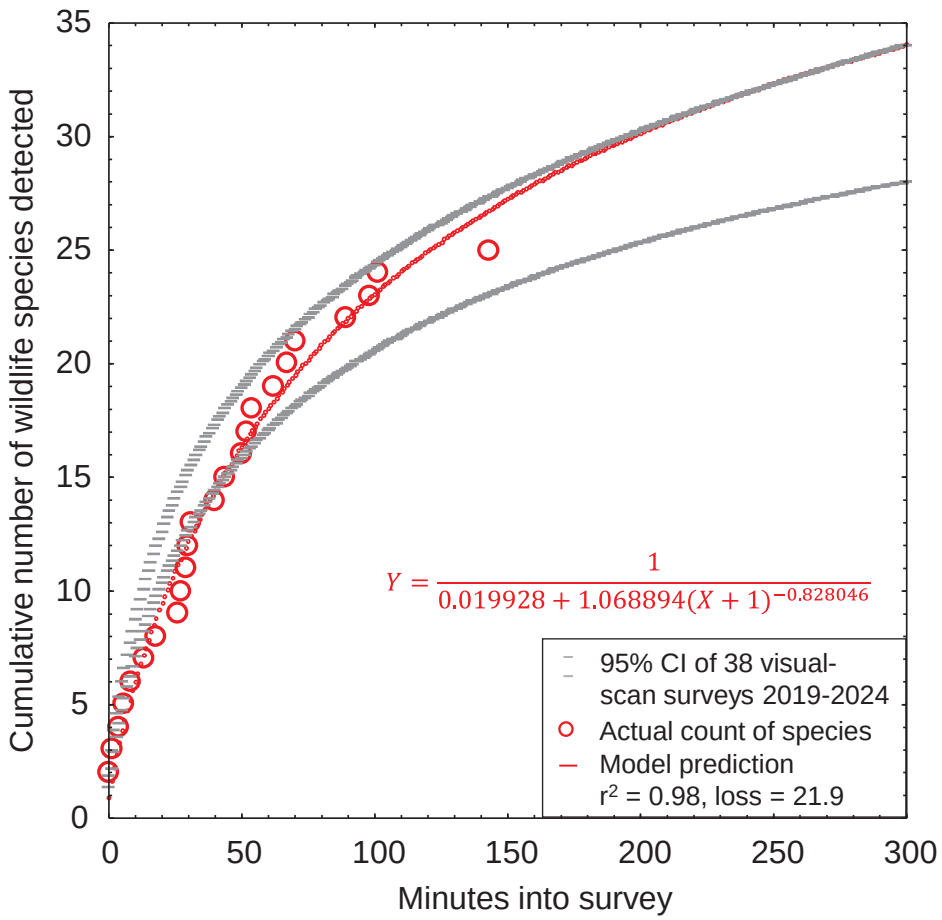
The species of wildlife Noriko detected at the project site comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit a nonlinear regression model to Noriko's cumulative number of vertebrate species detected with time into her survey to predict the number of species that she would have detected with a longer survey or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. In this case, the model fit to her survey predicts 50 species of vertebrate wildlife were available to be detected during that morning, or twice the number of species she actually detected (Figure 1).

Unknown are the identities of those species Noriko missed, but the pattern in her data indicates relatively high use of the project site compared to 38 other south-coast sites she and I have surveyed in California. Noriko's rate of detections of species at the project site tracked the 95% confidence interval estimated from other surveys in California's south coast region (Figure 1). Importantly, however, the species Noriko did and did not detect on 6 December 2024 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km^2 of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to

accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a+b\times(Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys on 31 August and 1 September 2024.*



I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 12.1 species over my first 2.8 hours of surveys at my research site in the Altamont Pass (2.8 hours to match the 2.8 hours Noriko surveyed at the project site), which composed 21.2% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 25 species Noriko detected after her 2.8 hours of survey at the project site likely represented 21.2% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko

would likely detect $^{25}/_{0.212} = 118$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 118 predicted species, then continued surveys would eventually detect 28 special-status species of vertebrate wildlife.

Because my prediction of 118 species of vertebrate wildlife, including 28 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the wildlife community of the site must be larger. Noriko's reconnaissance survey should serve only as a starting point toward characterization of the site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed to inventory the project site for wildlife. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

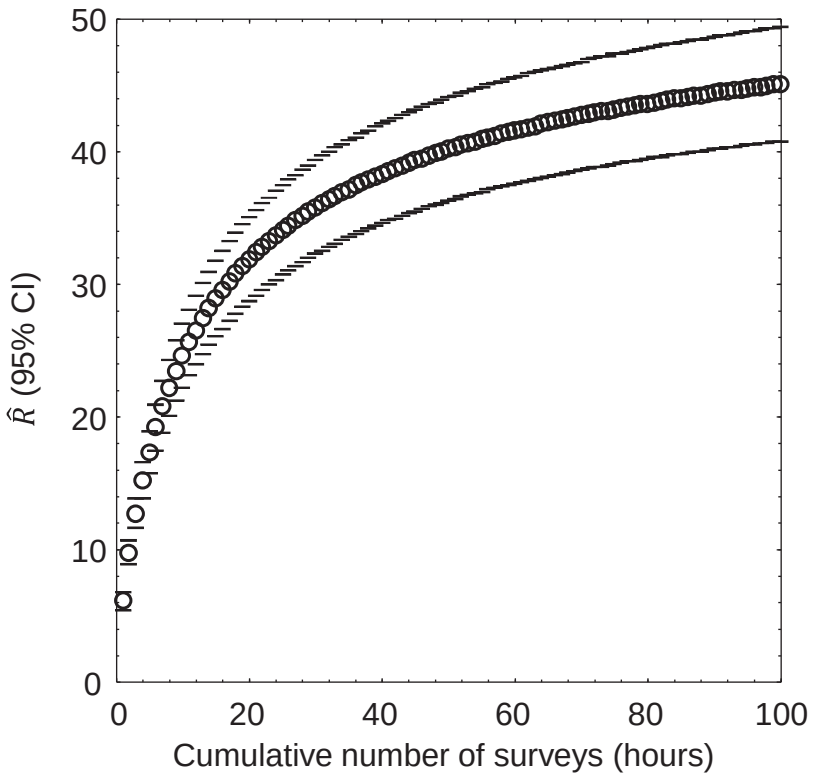


Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*

EXISTING ENVIRNMENTAL SETTING

The IS/MND fails to complete the first step in analysis of potential project impacts to biological resources, which is to accurately characterize the existing environmental setting, including the biological species that use the site. This first analytical step should also characterize the wildlife community that uses that portion of the aerosphere that would be appropriated by the project's building. This appropriated airspace is habitat that would be lost to many species of birds, where avian habitat is defined by a species' use of its environment (Hall et al. 1997), typically based on measurement (Smallwood

2002). The gaseous atmosphere, or aerosphere, is habitat to many species. It is a principal medium of life to volant animals such as birds (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat not just to volant wildlife that fly through it, but to any and every animal that breaths air. Indeed, an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008). The aerosphere is part of the existing environmental setting, and it needs to be characterized as such in CEQA review. The IS/MND makes no mention of the aerosphere, let alone which species of birds might use it.

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should identify which biological species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources. However, the IS/MND provides neither the results of a field survey to detect species of wildlife nor of a desktop review to identify occurrence records of special-status species in the project area.

Environmental Setting informed by Field Surveys

No surveys for birds were completed at the project site. Surveys are needed to characterize bird flights during both day and night, and the bird flights need to be further attributed by species, heights above ground, flight directions, and specific flight behaviors. The lack of surveys leaves the City of Arcadia blind to any potential project impacts to birds, because without a survey there is no sound basis for characterizing the existing environmental setting. Going forward with the project without completing appropriate avian surveys would be indefensible, and doing so could result in high costs to birds and to the building's owner if windows require retrofits or window glass needs to be marked for visibility post-construction (see below, under Bird-Window Collisions).

The IS/MND reports that the site supports 26 trees, but only three of which are protected by City Code. However, the IS/MND fails to report the importance of the site's trees to birds. The trees on site serve to expand the vertical structural available to birds on the adjoining County Park and golf course, the combination of which composes a considerable open space within an expansive urbanized landscape. The trees on the project site effectively add open space to birds.

Of Noriko Smallwood's 130 observations of birds in flight during her survey, 38 were headed to or from trees on the project site. House finches, yellow-rumped warblers and red-crowned parrots flew to and from the palm trees located in the middle of the site. An Allen's hummingbird and an Anna's hummingbird flew back and forth to other trees in the middle of the site. All of these and more observations should have been made by wildlife biologists sent to the project site by the City of Arcadia.

Noriko saw 17 species flying through the airspace of the project site, and all these flying birds were within the height domain of the proposed building. Of the flying birds, 44% were within 30 feet of the ground, and 93% were within 60 feet of the ground. Three of the birds circled over the site (including the peregrine falcon), while 38 were headed west, 30 east, 35 north, and 21 south. Unknown, however, are the numbers of birds, their heights above ground, behaviors, and their bearings in other seasons or at night. These details matter because they can affect collision rates with the building's windows, and whether the building can be designed to minimize collisions.

Environmental Setting informed by Desktop Review

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The IS/MND includes no desktop review to assess avian species' occurrence likelihoods in or near the airspace that would be appropriated by the proposed project. The lack of a desktop review for avian flight paths and for special-status species likely to occur at the project site leaves the City of Arcadia uninformed of and unprepared for potential project impacts to birds. It also fails to publicly disclose potential impacts to birds.

In my assessment based on database review, 77 special-status species of birds are known to occur near enough to the project site to warrant analysis of occurrence potential (Table 2). Members of these 77 species can fly within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 77 special-status species, 6 (8%) have been documented on or just next to the project site, 45 (58%) have been documented within 1.5 miles of the site (Very close), 11 (14%) within 1.5 and 4 miles (Nearby), and another 14 (18%) within 4 to 30 miles (In region). Most (80.5%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site's airspace carries considerable potential for supporting the travels of many special-status species of birds based on proximity of recorded occurrences.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. Entries in bold font identify species detected by Noriko.*

Common name	***Species name***	**Status[1]**	**Data base records, Site visits**
Monarch	*Danaus plexippus*	FC	Very close
Crotch's bumble bee	*Bombus crotchii*	CCE	Very close
Western pond turtle	*Emys marmorata*	SSC	In region
Blainville's horned lizard	*Phrynosoma blainvillii*	SSC	In region
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	SSC	Nearby
San Diegan legless lizard	*Anniella stebbinsi*	SSC	Very close
California glossy snake	*Arizona elegans occidentalis*	SSC	In region
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	SSC	In region
Fulvous whistling-duck	*Dendrocygna bicolor*	SSC1	In region
Western grebe	*Aechmophorus occidentalis*	BCC	Very close
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Nearby
Vaux's swift	*Chaetura vauxi*	SSC2	Very close
Calliope hummingbird	*Selasphorus calliope*	BCC	Very close
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close
Allen's hummingbird	*Selasphorus sasin*	BCC	**On site**
Laughing gull	*Leucophaeus atricilla*	WL	In region
Franklin's gull	*Leucophaeus pipixcan*	BCC	In region
Heermann's gull	*Larus heermanni*	BCC	In region
Western gull	*Larus occidentalis*	BCC	Very close
California gull	*Larus californicus*	BCC, WL	**On site**
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1	Very close
California brown pelican	*Pelecanus occidentalis californicus*	CFP	Nearby
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Very close
Turkey vulture	*Cathartes aura*	BOP	Very close
Osprey	*Pandion haliaetus*	WL, BOP	Very close
White-tailed kite	*Elanus luecurus*	CFP, BOP	Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL	Very close
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	**On site**
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP	Very close

Common name	*Species name*	Status[1]	Data base records, Site visits
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	**Just offsite**
Ferruginous hawk	*Buteo regalis*	WL, BOP	Very close
Zone-tailed hawk	*Buteo albonotatus*	BOP	Very close
Harris' hawk	*Parabuteo unicinctus*	WL, BOP	In region
Western screech-owl	*Megascops kennicotti*	BOP	Very close
Great horned owl	*Bubo virginianus*	BOP	Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP, CCE	Nearby
Long-eared owl	*Asio otus*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	In region
Northern saw-whet owl	*Aegolius acadicus*	BOP	Nearby
Northern pygmy-owl	*Glaucidium gnoma*	BOP	Nearby
Lewis's woodpecker	*Melanerpes lewis*	BCC	Very close
Nuttall's woodpecker	*Picoides nuttallii*	BCC	**Just offsite**
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	BOP	**On site**
Prairie falcon	*Falco mexicanus*	WL, BOP	Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Very close
Willow flycatcher	*Empidonax traillii*	CE	Very close
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Very close
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Nearby
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Very close
Oak titmouse	*Baeolophus inornatus*	BCC	Very close
California horned lark	*Eremophila alpestris actia*	WL	Very close
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Nearby
Wrentit	*Chamaea fasciata*	BCC	Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2	In region
California thrasher	*Toxostoma redivivum*	BCC	Very close
Cassin's finch	*Haemorhous cassinii*	BCC	Very close
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC	Nearby
Gray-headed junco	*Junco hyemalis caniceps*	WL	Very close
Bell's sparrow	*Amphispiza b. belli*	WL	In region
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2	In range
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL	Very close

Common name	*Species name*	Status[1]	Data base records, Site visits
Yellow-breasted chat	*Icteria virens*	SSC3	Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Very close
Bullock's oriole	*Icterus bullockii*	BCC	Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Very close
Lucy's warbler	*Leiothlypis luciae*	SSC3	Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Very close
Prothonotary warbler	*Protonotaria citrea*	BCC	In region
Prairie warbler	*Setophaga discolor*	BCC	In region
Yellow warbler	*Setophaga petechia*	SSC2	Very close
Summer tanager	*Piranga rubra*	SSC1	Very close
Little brown bat	*Myotis lucifugus*	WBWG:M	In region
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region
Long-eared myotis	*Myotis evotis*	WBWG:M	In region
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Long-legged myotis	*Myotis volans*	WBWG:H	In range
Small-footed myotis	*Myotis ciliolabrum*	WBWG:M	In range
Canyon bat	*Parastrellus hesperus*	WBWG:M	Nearby
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	In region
Hoary bat	*Lasiurus cinereus*	WBWG:M	In region
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	In range
Spotted bat	*Euderma maculatum*	SSC, WBWG:H	In range
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	In range
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In range
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	In region
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	SSC	In range
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	In range

[1] Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H).

Because the project would consist of a mid-rise building with many windows, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,585 birds of 117 species have been recorded flying into the Los Angeles Metropolitan area from 18 countries of the Americas, from as far away as Argentina,

Bahamas, and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ40oBhFA4OAVzTCOgFUBlWnAQzCgDMAFgB0ABgCsAiQHYCOCOlAC0ARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, nearly 794,000 birds were in flight over Los Angeles County during the night of 28 April 2024. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area.

More than 11 million birds flew across Los Angeles County through the 2024 spring migration by the time of this writing (https://dashboard.birdcast.info/region/US-CA-037). Bird flights across Los Angeles averaged 107,539 flights per night in spring 2024. Most of these flights ranged in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Arcadia, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the heights of the proposed building of either option. Assuming this percentage also applies to birds flying across the aerosphere overlying the Los Angeles Metropolitan Area including Arcadia, then migratory flights documented by BirdCast would average 13,873 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in the Los Angeles Metropolitan Area comes in the forms of buildings and trees. In summary, the basis exists for concern that a large number of birds might routinely fly through the aerosphere that would be appropriated by the proposed building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions.

Hundreds of thousands of birds migrate along the Pacific Flyway, which includes the Los Angeles Metropolitan Area. At least 77 special-status species of bird are known to the project area (Table 2). According to the scientific literature, many of the special-status species in Table 2 have been documented as window collision fatalities and are therefore susceptible to new structural glass installations (Supplemental Material to Basilio et al. 2020; Smallwood unpublished review). Many more species of migratory birds, protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, have also been documented as window collision victims (Basilio et al. 2020).

Surveys by qualified behavioral ecologists are needed to characterize bird flight activity in the project area. A desktop review is also needed to identify the special-status species

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

of birds most at risk of encountering the building while flying through the area. The analysis should provide guidance to the orientation and design of the building. Also, it should provide guidance to mitigation measures.

Based on Noriko Smallwood's brief survey of the site for vertebrate wildlife, and based on my cursory desktop review for the potential of special-status species of wildlife to occur at the site, there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community of the project site.

BIOLOGICAL IMPACTS ASSESSMENT

Accurate characterization of the existing environmental setting is an essential foundation for analysis of potential project impacts, but the IS/MND provides no foundation for an impacts analysis. An impacts analysis should consider whether and how the proposed project would affect members of each potentially occurring special-status species and of each species of bird likely to attempt to fly through the airspace of the project. In the following, I analyze impacts likely to result from the project but which are not addressed in the IS/MND.

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, the IS/MND includes no analysis of whether the project would interfere with wildlife movement in the region. The project would insert a midrise building into the airspace that has been used by birds on migration, dispersal, home range patrol and foraging over millions of years. This building would obviously interfere with wildlife movement in the region. Noriko Smallwood observed and photographed birds flying through the airspace of the project site. A fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated.

BIRD-WINDOW COLLISIONS

The project would add a 5-story mixed-use building, which would expose the birds of Arcadia to many windows composing the building's facades. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266

bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend

to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted for undetected fatalities). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m^2 of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The IS/MND does not disclose the extent of glass windows on the proposed new building. I therefore measured the extents of windows depicted in the IS/MND's schematics of the building, though in doing so I omitted measurement of the glass railings. I adjusted my measured extent of exterior glass for the exterior glass that was either not visible or only obliquely visible on façades of interior spaces such as around the courtyard and within projections of the building My adjustment was 50%, which was conservative. With this adjustment, I estimate the project would include 2,966 m^2 of exterior glass windows. Applying the mean fatality rate (above) to my estimates of glass in either project, I predict annual bird deaths of 217 (95% CI: 129–305).

The vast majority of bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and California's Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of bird-window collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The IS/MND neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 22—25), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 22. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 23. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

Photos 24 and 25. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020.)*

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study

found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009) study, hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The IS/MND predicts 1,302,015 annual VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted annual VMT would predict 554 vertebrate wildlife fatalities per year due to project-generated traffic. However, compared to the study area of Mendelsohn et al. (2009), fewer animals would be killed in the urbanized part of Arcadia that surrounds the project site, so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would be only 30% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 166. Even this assumed lower mortality would qualify as a

significant impact, and based on my review of the available documents, it would not be mitigated.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The IS/MND does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic.

CUMULATIVE IMPACTS

The IS'MND's analysis of potential project contributions to cumulative impacts is flawed. According to the IS/MND (p. 3-114), "All reasonably foreseeable future development in the City would be subject to the same land use and environmental regulations that have been described throughout this document. ... all development projects are guided by the policies identified in the City's General Plan and by the regulations established in the Development Code and AMC. Therefore, compliance with applicable land use and environmental regulations and implementation of the mitigation program would ensure that environmental effects associated with the proposed Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." However, according to the CEQA Guidelines §15064(h)(3), "a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project." The IS/MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area. The CEQA Guidelines §15064(h)(3) futher state, "When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable." The IS/MND provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts to wildlife.

To measure the impacts of habitat loss and cumulative impacts to wildlife caused by development projects that had to comply with existing policies and regulations, Noriko Smallwood and I measured the impacts of habitat loss to wildlife caused by mitigated development projects. We revisited 80 sites of proposed projects that we had originally surveyed in support of comments on CEQA review documents (Smallwood and Smallwood 2023). We revisited the sites to repeat the survey methods at the same time

of year, the same start time in the day, and the same methods and survey duration in order to measure the effects of mitigated development on wildlife. We structured the experiment in a before-after, control-impact experimental design, as some of the sites had been developed since our initial survey and some had remained undeveloped. We found that mitigated development resulted in a 66% loss of species on site, and 48% loss of species in the project area. Counts of vertebrate animals declined 90%. "Development impacts measured by the mean number of species detected per survey were greatest for amphibians (-100%), followed by mammals (-86%), grassland birds (-75%), raptors (-53%), special-status species (-49%), all birds as a group (-48%), non-native birds (-44%), and synanthropic birds (-28%). Our results indicated that urban development substantially reduced vertebrate species richness and numerical abundance, even after richness and abundance had likely already been depleted by the cumulative effects of loss, fragmentation, and degradation of habitat in the urbanizing environment," and despite all the mitigation measures per existing policies and regulations. We also specifically tested for the effects of projects to wildlife in neighboring habitats, and found significant decreases in species richness and overall abundance in those areas as well.

The project would insert a glass-covered midrise building into the airspace that has been used by volant wildlife for millions of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other midrise and high-rise buildings in the area. The project would also cause a predicted 217 (95% CI: 129–305) bird-window collision fatalities. Additionally, the project would generate a predicted annual VMT of 1,302,015, which would contribute 166 to 554 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Arcadia and the Los Angeles Metropolitan Area. A cumulative impacts analysis needs to be completed.

MITIGATION MEASURES

The IS/MND summarizes three measures to mitigate potential project impacts to wildlife, but these measures are incomplete and inadequate. Below my comments on these measures are my recommendations for mitigation that should be considered in an EIR.

RR BIO-1: *If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. ... If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned*.

Whereas a preconstruction nesting bird survey should be completed, it needs to be understood that a preconstruction survey unlikely to achieve much of any conservation

benefit to birds, and the IS/MND – like all other CEQA review documents I have read – cites no evidence of efficacy. Preconstruction, take-avoidance surveys consist of two steps, both of which are very difficult. First, the biologist(s) performing the survey must identify birds that are breeding. Second, the biologist(s) must locate the breeding birds' nests. The first step is typically completed by observing bird behaviors such as food deliveries and nest territory defense. These types of observations typically require many surveys on many dates spread throughout the breeding season, whereas preconstruction surveys take place only once and not necessarily at the optimal time for detecting nesting by birds. The biologists conducting the preconstruction survey would be very lucky to find any of the bird nests that are available to be found at the time of the survey.

One reason why preconstruction surveys achieve very little is because species of bird vary in their nest phenology within what is generally understand as the avian breeding season. Whereas, as examples (and not suggesting these particular species occur at the project site), killdeer begin nesting in mid-March, western meadowlarks begin in late April, burrowing owls usually begin in May, and American goldfinches do not nest until July-August. Whenever the preconstruction survey is conducted, the biologists conducting the survey would be searching only for the nests of the birds that happen to be breeding at the time, and would miss the nests begun between the survey and the start of construction. On the project site, this task would be further complicated by the size of the site, by its terrain, and by its diversity of vegetation communities.

Another reason why preconstruction surveys achieve very little is because the nests they might salvage are only the nests of the year. Preconstruction surveys can do nothing to mitigate the loss of productive capacity that ensues construction. All subsequent years of productivity would be destroyed by the project regardless of the success of a preconstruction survey.

Lastly, the mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine the buffer area for any given species. This measure lacks objective criteria, and it is therefore unenforceable.

RR BIO-2: *…the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project*. …

The obtaining of a necessary permit is not a legitimate mitigation measure, as it does not necessarily avoid, minimize, rectify, reduce, or compensate for impacts.

RR BIO-3: *The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan*.

This measure defers its own formulation to an unspecified later date that arrives after the public has had the opportunity to participate with the environmental review of the

project. It fails to suggest that any of the landscaping would be intended to benefit wildlife.

RECOMMENDED MEASURES

Guidelines on Building Design to Minimize Bird-Window Collisions: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce

collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

The City of Arcadia should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

Landscaping: If the project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

_____
Shawn Smallwood, Ph.D.

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EXHIBIT B

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

WI #24-002.xx

December 18, 2024

Hayley Uno
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

SUBJECT: Arcadia Town Center Project
City of Arcadia, CA
Review and Comment on Noise Study

Dear Ms. Uno,

Per your request, Wilson Ihrig has reviewed the information and noise impact analysis in the following documents:

Arcadia Town Center Project
Initial Study / Mitigated Negative Declaration, November 2024 (IS / MND)
Appendix G Noise Calculations (Appendix G)

The Proposed Arcadia Town Center Project (Project) would result in the construction of a mixed-use development consisting of a five-story building with subterranean and ground level parking. The project is surrounded by residential uses to the northwest and southeast, a park to the south, and commercial uses.

This letter reports our comments on the Noise Analysis in Section 3.13 of the Initial Study / Mitigated Negative Declaration and the Noise Calculations included in Appendix G. Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://www.who.int/docstore/peh/noise/Comnoise-1.pdf)

Baseline Noise is Not Properly Established

The manner in which the IS/MND has determined the existing noise environment is unsupported. The IS/MDN does not show ambient measurement locations. Table 20 [pg. 3-71] indicates the measurements were taken at the project boundary, rather than at sensitive receivers, such as nearby residences on Santa Clara (410 ft from site) and residences on Santa Anita S. (280ft from site). The ambient levels presented in Table 20 are based on short-term 20-minute measurements. As acknowledged in the IS/MDN, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site" [pg. 3-79]. The measurements used account for neither fluctuation over the course of the day nor adjustment with distance from the sources captured. Further, as stated in Table 20, the measurement closer to Santa Clara residences was dominated by HVAC noise directly adjacent to the Project site.

The Project must conduct properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet period of the day and night to determine the impact of construction and operational noise.

Figure 1 Project Site and Noise Sensitive Receivers

Potentially Significant Construction Noise Impacts

The IS/MND fails to disclose and mitigate the Project's potentially significant construction noise impacts. The report claims that "no sensitive receptors occur near the project" [3-78], even though earlier it identifies residences as close as 280 feet from the site [pg. 3-72]. No construction noise predictions are shown at these residences. Using the activity reference levels presented in the IS/MND Table 25 [pg. 3-78] and Appendix G, construction noise would range from 60 dBA to 69 dBA at these Santa Anita residences and 56 dBA to 65 dBA at further residences on Santa Clara Street, as shown in Table 1 below.

Table 1 Estimated Construction Noise Levels

Construction Phase	Noise Levels (Leq, dBA)			
	95 feet – Arcadia County Park[1]	10 feet – Elk Lodge[1]	280 feet – Santa Anita Residences [2]	410 feet – Santa Clara Residences [2]
Ground Cleaning / Demolition	78	98	69	65
Excavation	73	93	64	60
Foundation Construction	72	92	63	59
Building Construction	69	89	60	56
Paving and Site Cleanup	69	89	60	56

1. From Table 25 in IS/MND
2. Calculated based on distance using 20*log(distance / 95 feet)

The IS/MND does not explicitly establish construction noise criteria. It references the City of Arcadia Noise Ordinance limits [pg. 3-75], but omits Section 5610.3 (b), which includes corrections to noise limits for impulsive sounds.[2] The City daytime limit for residential land uses, according to Table 25 in the IS/MND is 55 dBA. The predicted noise levels at the Santa Anita residences would exceed this City limit by 5 to 9 dB, not including any penalty for impulsive sources (such as jackhammers).

Table 25 does show predictions for the Elk Lodge located directly adjacent to the Project site but does not discuss how it is categorizing the property or what criteria is being applied. The predictions shown in the IS/MND exceed commercial land use limits in Noise Ordinance,

The City of Arcadia Interior/Exterior Noise Standards presented in Table 22 of the IS/MND include CNEL exterior limits for passive recreation areas. Table 25 shows Leq levels at Arcadia Conty Park but does not provide CNEL predictions to compare to this criterion. Community Noise Equivalent Level (CNEL) is a weighted average of noise level over time and can be calculated using a properly measured ambient and anticipated construction hours.

California Environmental Quality Act Guidelines cited in the IS/MND state that impacts to noise would be significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels" [p. 3-70]. The IS/MND lacks a significance threshold for "substantial increase" for Project noise. Short-term ambient levels used by the IS/MND are 54 to 66 dBA for daytime hours [pg. 3-71]. As discussed above, the measurements used were not at sensitive receivers and too short to characterize local sources. As shown in Table 1, the predicted level for demolition at Santa Clara Residences is 65 dBA, 11 dBA above the ambient measured at the western Project boundary. A 10-dB increase is subjectively heard as an approximate doubling in loudness.

The IS/MND does not discuss construction mitigation measures for any of these potentially significant noise impacts. Noise barriers at the parameter of the site could provide 10 to 15 dB of

[2] https://library.municode.com/ca/arcadia/codes/code_of_ordinances?nodeId=ARTIVPUWEMOPO_CH6NORE_PT1GEPR_4610.3NOLI

reduction, depending on site geometry and barrier construction, however, contractors are often reluctant to employ barriers because they slow production**.**

The Project must properly evaluate construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. If the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant.

Operational Analysis Incomplete

The IS/MND claims with no evidence that there is no operational noise impact. The report identifies HVAC noise as a potential operational noise source [pg. 3-79] but does not provide any quantitative analysis of predicted levels from mechanical noise. Further, the report does not address noise from the parking garage entrance or ventilation system.

Conclusion

The Project may result in potentially significant construction noise impacts. The IS/MND relies on an inadequate baseline, based on short-term measurement not located at sensitive receivers. Finally, the IS/MDN fails to consider ambient-based significance criteria for noise impacts.

Please feel free to contact me with any questions on this information.

Very truly yours,
Ani Toncheva, Senior Consultant, WILSON IHRIG

EXHIBIT C

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December 18, 2024

Hayley Uno
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94618

Subject: Comments on the Arcadia Town Center Mixed Use Project (SCH No. 2024110749)

Dear Ms. Uno,

We have reviewed the November 2024 Initial Study/Mitigation Negative Declaration ("IS/MND") for the Arcadia Town Center Mixed Use Project ("Project") located in the City of Arcadia ("City"). The Project proposes to construct 440,938-square-feet ("SF") of residential space, including 181 dwelling units and 378 parking spaces on the 2.27-acre site.

Our review concludes that the IS/MND fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas ("GHG") impacts. Emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. An Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment.

Air Quality

Failure to Provide Complete CalEEMod Output Files

Land use development projects under the California Environmental Quality Act ("CEQA") typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod").[1] CalEEMod uses default values tailored to site-specific details such as land use type, meteorological data, lot size, project type, and typical equipment associated with that type. If project-specific details are available, users can modify these defaults, but CEQA requires substantial evidence to justify such changes. Once the inputs are finalized, the model calculates the

[1] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide.

project's construction and operational emissions and generates "output files." These output files disclose to the reader what parameters are used in calculating the Project's air pollutant emissions and demonstrate where default values are changed. Justifications are provided for the values selected.

Review of the Project's CalEEMod output files in Appendix A of the IS/MND reveals that the "Arcadia Town Center v2" includes land use inputs but omits all other qualitative outputs regarding the Project's construction-related and operational emission (pp. 38, 39).

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	181	Dwelling Unit	2.27	173,760	2,000	—	536	—
Enclosed Parking with Elevator	378	Space	0.00	151,200	0.00	—	—	—
Strip Mall	4.00	1000sqft	0.00	4,000	800	—	—	—
City Park	1.00	Acre	0.00	0.00	21,825	21,825	—	Private/Public Open Space
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.00	5,000	1,000	—	—	—
General Office Building	5.00	1000sqft	0.00	5,000	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

Year
Daily - Summer (Max)
Daily - Winter (Max)
Average Daily
Annual

Note: Only sections 1.2, 1.3, 2.1, and 2.2 are included for reader clarity.

Without access to specific emissions values, we are unable to verify the potential significance or accuracy of the Project's model. Furthermore, the "Arcadia Town Center v2" model does not include the "User Changes to Default" table. (Appendix A, pp. 54)

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Without access to the "User Changes to Default Data" table, we are unable to verify whether changes were made to the model's default values. CEQA requires public disclosure of environmental impacts to

ensure transparency with regards to potential environmental impacts of land use developments.[2] An EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines.

Diesel Particulate Matter Emissions Inadequately Evaluated

The IS/MND determines that the Project would result in a negligible health risk impact without conducting a construction health risk analysis ("HRA"). CEQA requires all proposed projects to connect their emissions with potential adverse impacts on human health caused by those emissions.[3] As the IS/MND does not establish a connection between the Project's construction-related diesel particulate matter ("DPM") emissions and potential health risks to nearby sensitive receptors, the Project violates CEQA's requirement. Additionally, the IS/MND does not compare the Project's excess cancer risk to the South Coast Air Quality Management District's ("SCAQMD") threshold of 10 in one million.[4]

An assessment of the health risk posed to nearby existing receptors due to Project construction should be conducted to comply with the most relevant guidance.

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

We conducted an HRA using AERSCREEN, a screening-level air quality dispersion model that estimates maximum potential concentrations of air contaminants affecting nearby sensitive receptors.[5] If AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval. [6]

To conduct a preliminary, screening-level construction HRA, it is necessary to have an estimate of the Project's annual particulate matter 10 ("PM_{10}") exhaust emissions.[7] However, as detailed in the section of this letter titled *Failure to Provide Complete CalEEMod Output Files,* the Project's CalEEMod files exclude the projected values for construction-related emissions. In the absence of this requisite information, we created a model using the Project-specific details provided in the IS/MND and related documents to estimate PM_{10} emissions.

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[2] "Environmental Review Guidelines." San Diego County Air Pollution Control District, September 2024*, available at*: https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/ceqa/DRAFT-SDAPCD-CEQA-Guidelines.pdf#:~:text=It%20is%20intended%20to%20require%20public%20disclosure,under%20what%20circumstances%20to%20approve%20such%20projects.&text=In%20accordance%20with%20Section%2015063%20of%20the,have%20a%20significant%20effect%20on%20the%20environment.

[3] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

[4] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, March 2023, *available at*: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

[5] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.

[6] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

[7] "Inhalable Particulate Matter and Health (PM2.5 and PM10)." CARB, *available at:* https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health.

Our analysis included 173,760-SF of "Apartments Mid Rise," 151,200-SF of "Enclosed Parking with Elevator," 4,000-SF of "Strip Mall," 1-acre of "City Park," 5,000-SF of "User Defined Commercial," and 5,000-SF of "General Office Building," consistent with the Project's original model. Additionally, as the Project's construction duration was not properly justified or disclosed, we developed a proportionately altered construction schedule to match the total construction duration of 29 months (IS/MND, p. 2-11).[8] All other values were left as default.[9]

Following Office of Environmental Health Hazard Assessment's ("OEHHA") recommendations, we began residential exposure at the third trimester of life. Our CalEEMod emissions indicate that construction will produce approximately 380 pounds of diesel particulate matter ("DPM") over the 730-day period.[10] The AERSCREEN model simulates maximum concentrations from emission sources using an average emission rate. We calculated this average DPM emission rate to account for variations in equipment usage and truck trips during construction using the following equation:

$$\text{Emission Rate } \left(\frac{\text{grams}}{\text{second}}\right) = \frac{380 \text{ lbs}}{730 \text{ days}} \times \frac{453.6 \text{ grams}}{\text{lbs}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3{,}600 \text{ seconds}} = \mathbf{0.00144\ g/s}$$

We estimated a construction emission rate of 0.00144 grams per second ("g/s"). Construction was simulated as a 2.27-acre rectangular area source in AERSCREEN, with approximate dimensions of 136- by 68-meters. A release height of 3 meters was selected to represent the height of stacks of heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of the city of Arcadia was obtained from U.S. 2023 Census data.[11]

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. U.S. Environmental Protection Agency ("U.S. EPA") guidance suggests that in screening procedures, the annualized average concentration of an air pollutant to be estimated by multiplying the single-hour concentration by 10%.[12] According to the AERSCREEN output files the maximally exposed individual receptor would be located 75 meters from the Project site. However, the IS/MD states that the nearest sensitive receptors are residences located approximately 280 feet, or 85 meters, from the Project site (p. 3-10). The single-hour concentration estimated by AERSCREEN for Project construction is 2.670 µg/m^3 DPM at around 100 meters downwind.[13] Multiplying this single-hour

[8] See Attachment A for the proportionately altered construction phases' calculations.
[9] See Attachment B for SWAPE's CalEEMod output files.
[10] See Attachment C for health risk calculations.
[11] "Arcadia" U.S. Census Bureau, 2023, *available at:* https://datacommons.org/place/geoId/0602462?q=arcadia.
[12] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* https://www.epa.gov/sites/default/files/2020-09/documents/epa-454r-92-019_ocr.pdf.
[13] *Note:* AERSCREEN output files come in increments of 25 meters, so our emissions calculations are slightly underestimated.

concentration by 10%, we get an annualized average concentration of 0.2670 µg/m^3 for Project construction at the nearest sensitive receptor.[14]

The excess cancer risk to the nearest sensitive receptor was calculated using applicable HRA methodologies as prescribed by OEHHA, in accordance with SCAQMD recommendation. [15] Guidance from OEHHA and California Air Resources Board ("CARB") suggests utilizing a standard point estimate approach, with high-point estimate breathing rates and age sensitivity factors ("ASF") to accurately assess risk, especially for susceptible populations like children. The residential exposure parameters considered in our screening-level HRA include daily breathing rates, exposure duration, ASFs, fraction of time at home, and exposure frequency for different age groups (see table below).

Exposure Assumptions for Residential Individual Cancer Risk

Age Group	Breathing Rate (L/kg-day)[16]	Age Sensitivity Factor[17]	Exposure Duration (years)	Fraction of Time at Home[18]	Exposure Frequency (days/year)[19]	Exposure Time (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 – 2)	1090	10	2	1	350	24
Child (2 – 16)	572	3	14	1	350	24
Adult (16 – 30)	261	1	14	0.73	350	24

The procedure requires the incorporation of several discrete variates to effectively quantify dose per age group for the inhalation pathway. Contaminate dose is then multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day^{-1}) to derive the cancer risk estimate. The following dose algorithm was used to assess exposure assumptions:

[14] See Attachment D for AERSCREEN output files.
[15] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[16] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[17] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.
[18] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[19] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 5-24.

$$\text{Dose}_{\text{AIR,per age group}} = \text{C}_{\text{air}} \times \text{EF} \times \left[\frac{\text{BR}}{\text{BW}}\right] \times \text{A} \times \text{CF}$$

where:

Dose_{AIR} = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

We used the following equation to calculate the overall cancer risk per appropriate age group:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{\text{AT}}$$

where:

Dose_{AIR} = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(\text{mg/kg/day})^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 730-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and the first 1.75 years of the infantile stage of life (0 – 2 years). The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction

Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	0.2670	3.63E-06
Infant (0 - 2)	1.75	0.2670	7.67E-05
Construction	**2**		**8.04E-05**

The excess cancer risks for the 3rd trimester of pregnancy and infant stage of life at the nearest sensitive receptor, over the course of Project construction are approximately 3.63 and 76.7 in one million, respectively. The excess cancer risk over just the course of the Project construction is approximately

80.4 in one million, which exceeds the SCAQMD threshold of 10 in one million. This results in a potentially significant impact not previously addressed or identified in the IS/MND.

Our analysis represents a conservative screening-level HRA, which prioritizes public health. It is used to show the potential correlation between Project emissions and adverse health risks. The U.S. EPA recommends the use of a screening-level analysis as the first phase of a tiered approach to conducting exposure assumptions, as outlined in their Exposure Assessment Guidelines.[20] Screening-level analyses require further evaluation with more developed modeling. Our initial HRA demonstrates that Project construction could lead to significant health risks. An EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The IS/MND estimates that the Project will produce a net annual GHG emissions of 2,181-metric-tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. 3-50, Table 17).

TABLE 17
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

The IS/MND indicates that the GHG emission values are included in Appendix A. However, as previously addressed, the IS/MND's CalEEMod output files do not provide the emissions estimates or include any relevant inputs beyond the land uses. We are therefore unable to verify the legitimacy of the estimates presented in the table above and, as such, the Project's GHG emissions could be underestimated. Until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon for Project significance.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

As the Project would result in a potentially significant health risk impact to individuals in the community surrounding the Project site, the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks. According to CEQA Guidelines § 15096(g)(2):

[20] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

"When an updated EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

The IS/MND should evaluate the following mitigation measures to reduce the DPM emissions associated with Project construction (see list below).

The Southern California Association of Governments' 2020 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report provides the following mitigation measures:[21]

- Minimize unnecessary vehicular and machinery activities.
- Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project.
- Ensure all construction equipment is properly tuned and maintained.
- Minimizing idling time to 5 minutes or beyond regulatory requirements —saves fuel and reduces emissions.
- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- Develop a traffic plan to minimize community impacts due to traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). If construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and

[21] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." SCAG, May 2020, *available at:* https://scag.ca.gov/peir.

remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.

The CalEEMod User's Guide confirms that the methods for mitigating DPM emissions include the use of "alternative fuel, electric equipment, diesel particulate filters (DPF), oxidation catalysts, newer tier engines, and dust suppression."[22]

The proposed mitigation measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, thereby minimizing emissions during construction. An EIR should be prepared to include all feasible mitigation measures and updated air quality, health risk, and GHG analyses. This will ensure that necessary mitigation measures are implemented to reduce emissions to the greatest extent possible.

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

[22] "Calculation Details for CalEEMod." CAPCOA, May 2021, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-a2020-4-0.pdf?sfvrsn=6, Appendix A, p. 60.

Attachment A: Construction Calculations
Attachment B: CalEEMod Output Files
Attachment C: Health Risk Calculations
Attachment D: AERSCREEN Output Files
Attachment E: Matt Hagemann CV
Attachment F: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	381	0.0525	891	47
Site Preparation	3	381	0.0079	891	7
Grading	6	381	0.0157	891	14
Construction	220	381	0.5774	891	514
Paving	10	381	0.0262	891	23
Architectural Coating	10	381	0.0262	891	23

	Total Default Construction Duration	Revised Construction Duration
Start Date	1/1/2026	1/1/2026
End Date	1/17/2027	6/10/2028
Total Days	381	891

Arcadia Town Center Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Arcadia Town Center
Construction Start Date	1/1/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	24.4
Location	34.140403578150526, -118.03194606892856
County	Los Angeles-South Coast
City	Arcadia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4922
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	181	Dwelling Unit	2.27	173,760	2,000	—	536	—

Enclosed Parking with Elevator	378	Space	0.00	151,200	0.00	—	—	—
City Park	1.00	Acre	0.00	0.00	21,825	21,825	—	—
User Defined Recreational	5.00	User Defined Unit	0.00	5,000	1,000	1,000	—	—
Strip Mall	4.00	1000sqft	0.09	4,000	800	—	—	—
General Office Building	5.00	1000sqft	0.11	5,000	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.71	1.95	45.7	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,843	29,843	1.62	4.38	61.6	31,250
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.67	1.95	47.0	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,847	29,847	1.62	4.38	1.60	31,194
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.62	1.33	10.4	16.5	0.03	0.31	2.16	2.47	0.28	0.59	0.87	—	4,825	4,825	0.22	0.34	4.01	4,936
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.24	1.89	3.01	0.01	0.06	0.40	0.45	0.05	0.11	0.16	—	799	799	0.04	0.06	0.66	817

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.71	1.95	45.7	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,843	29,843	1.62	4.38	61.6	31,250
2027	2.25	1.88	11.9	24.4	0.03	0.33	3.00	3.33	0.31	0.72	1.03	—	6,262	6,262	0.26	0.31	11.9	6,373
2028	0.79	0.66	5.58	9.02	0.01	0.20	0.52	0.54	0.19	0.12	0.23	—	1,440	1,440	0.05	0.02	1.48	1,447
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.67	1.95	47.0	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,847	29,847	1.62	4.38	1.60	31,194
2027	2.24	1.86	12.1	22.6	0.03	0.33	3.00	3.33	0.31	0.72	1.03	—	6,126	6,126	0.18	0.31	0.31	6,223
2028	2.15	1.78	11.5	21.9	0.03	0.30	3.00	3.29	0.27	0.72	0.99	—	6,049	6,049	0.17	0.31	0.28	6,145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.62	1.30	10.4	15.9	0.03	0.31	2.16	2.47	0.28	0.59	0.87	—	4,825	4,825	0.22	0.34	4.01	4,936
2027	1.60	1.33	8.68	16.5	0.02	0.24	2.11	2.34	0.22	0.51	0.72	—	4,402	4,402	0.13	0.22	3.68	4,474
2028	0.42	0.35	2.31	4.43	0.01	0.06	0.53	0.59	0.06	0.13	0.18	—	1,130	1,130	0.03	0.05	0.83	1,148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.30	0.24	1.89	2.90	0.01	0.06	0.40	0.45	0.05	0.11	0.16	—	799	799	0.04	0.06	0.66	817
2027	0.29	0.24	1.58	3.01	< 0.005	0.04	0.38	0.43	0.04	0.09	0.13	—	729	729	0.02	0.04	0.61	741
2028	0.08	0.06	0.42	0.81	< 0.005	0.01	0.10	0.11	0.01	0.02	0.03	—	187	187	0.01	0.01	0.14	190

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	62.8	57.1	7.13	142	0.32	13.0	7.62	20.7	12.8	1.94	14.7	1,788	14,202	15,990	14.9	0.43	23.9	16,513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.5	55.0	7.22	122	0.31	13.0	7.62	20.6	12.8	1.94	14.7	1,788	13,807	15,595	14.9	0.44	1.87	16,101
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.0	12.1	3.67	46.8	0.09	0.99	7.03	8.01	0.96	1.79	2.75	208	10,417	10,626	10.1	0.37	10.4	10,999
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.36	2.21	0.67	8.54	0.02	0.18	1.28	1.46	0.18	0.33	0.50	34.5	1,725	1,759	1.68	0.06	1.73	1,821

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.07	3.69	2.66	31.9	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	8,161	8,161	0.37	0.31	22.6	8,286
Area	58.7	53.4	3.91	110	0.24	12.9	—	12.9	12.7	—	12.7	1,695	3,296	4,992	5.06	0.06	—	5,137
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	62.8	57.1	7.13	142	0.32	13.0	7.62	20.7	12.8	1.94	14.7	1,788	14,202	15,990	14.9	0.43	23.9	16,513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	4.03	3.65	2.91	29.4	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	7,823	7,823	0.39	0.33	0.59	7,931
Area	56.5	51.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	60.5	55.0	7.22	122	0.31	13.0	7.62	20.6	12.8	1.94	14.7	1,788	13,807	15,595	14.9	0.44	1.87	16,101
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.75	3.39	2.75	28.2	0.07	0.04	7.03	7.07	0.04	1.79	1.83	—	7,411	7,411	0.36	0.31	9.14	7,522
Area	9.14	8.69	0.37	18.3	0.02	0.90	—	0.90	0.88	—	0.88	116	261	377	0.35	< 0.005	—	387
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	13.0	12.1	3.67	46.8	0.09	0.99	7.03	8.01	0.96	1.79	2.75	208	10,417	10,626	10.1	0.37	10.4	10,999
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.68	0.62	0.50	5.16	0.01	0.01	1.28	1.29	0.01	0.33	0.33	—	1,227	1,227	0.06	0.05	1.51	1,245
Area	1.67	1.59	0.07	3.33	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	43.2	62.4	0.06	< 0.005	—	64.1
Energy	0.01	0.01	0.10	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	440	440	0.03	< 0.005	—	442
Water	—	—	—	—	—	—	—	—	—	—	—	2.52	14.0	16.5	0.26	0.01	—	24.9
Waste	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21
Total	2.36	2.21	0.67	8.54	0.02	0.18	1.28	1.46	0.18	0.33	0.50	34.5	1,725	1,759	1.68	0.06	1.73	1,821

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	1.39	12.9	14.6	0.02	0.51	—	0.51	0.47	—	0.47	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.67	1.88	< 0.005	0.07	—	0.07	0.06	—	0.06	—	321	321	0.01	< 0.005	—	322
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.34	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.2	53.2	< 0.005	< 0.005	—	53.4
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.69	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	161	161	0.01	0.01	0.01	163
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	0.03	21.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.47	3.47	< 0.005	< 0.005	0.01	3.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.34	1.13	9.84	10.8	0.03	0.42	—	0.42	0.39	—	0.39	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	52.1	52.1	< 0.005	< 0.005	—	52.3
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.62	8.62	< 0.005	< 0.005	—	8.65
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.41	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.3	96.3	< 0.005	< 0.005	0.01	97.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.49	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	94.2	94.2	< 0.005	< 0.005	—	94.5
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.6
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	0.01	< 0.005	0.46	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.97	0.43	32.8	12.9	0.19	0.35	7.43	7.78	0.35	2.03	2.39	—	27,252	27,252	1.51	4.35	61.1	28,649
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.55	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.93	0.41	34.1	13.0	0.19	0.35	7.43	7.78	0.35	2.03	2.39	—	27,264	27,264	1.51	4.35	1.59	28,601
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.00	5.00	< 0.005	< 0.005	0.01	5.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.02	1.32	0.50	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,045	1,045	0.06	0.17	1.01	1,098
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.24	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	173	173	0.01	0.03	0.17	182

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.32	6.19	0.01	0.19	—	0.19	0.17	—	0.17	—	1,159	1,159	0.05	0.01	—	1,163
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.97	1.13	< 0.005	0.03	—	0.03	0.03	—	0.03	—	192	192	0.01	< 0.005	—	192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.73	0.77	12.8	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,694	2,694	0.11	0.09	9.11	2,734
Vendor	0.10	0.04	1.60	0.77	0.01	0.02	0.40	0.42	0.01	0.11	0.12	—	1,447	1,447	0.06	0.21	3.91	1,514
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.73	0.87	11.0	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,553	2,553	0.12	0.09	0.24	2,585
Vendor	0.10	0.04	1.67	0.79	0.01	0.02	0.40	0.42	0.01	0.11	0.12	—	1,448	1,448	0.06	0.21	0.10	1,511
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.38	0.50	6.04	0.00	0.00	1.35	1.35	0.00	0.32	0.32	—	1,364	1,364	0.06	0.05	2.08	1,382
Vendor	0.05	0.02	0.88	0.41	0.01	0.01	0.21	0.22	0.01	0.06	0.06	—	762	762	0.03	0.11	0.89	796
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.10	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	226	226	0.01	0.01	0.34	229
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	126	126	0.01	0.02	0.15	132
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	9.70	11.7	0.02	0.32	—	0.32	0.30	—	0.30	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	1.35	1.13	9.70	11.7	0.02	0.32	—	0.32	0.30	—	0.30	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.97	0.81	6.93	8.36	0.02	0.23	—	0.23	0.21	—	0.21	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.18	0.15	1.26	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.80	0.71	0.69	11.9	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,642	2,642	0.11	0.09	8.23	2,681
Vendor	0.09	0.04	1.53	0.73	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,419	1,419	0.06	0.20	3.70	1,483
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.69	0.86	10.1	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,505	2,505	0.04	0.09	0.21	2,534
Vendor	0.09	0.04	1.59	0.74	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,420	1,420	0.06	0.20	0.10	1,480
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.57	0.49	0.61	7.59	0.00	0.00	1.83	1.83	0.00	0.43	0.43	—	1,815	1,815	0.03	0.07	2.53	1,839
Vendor	0.07	0.03	1.14	0.53	0.01	0.01	0.28	0.29	0.01	0.08	0.08	—	1,014	1,014	0.04	0.14	1.14	1,058
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.39	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	301	301	< 0.005	0.01	0.42	304
Vendor	0.01	0.01	0.21	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	168	168	0.01	0.02	0.19	175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.08	9.23	11.7	0.02	0.28	—	0.28	0.26	—	0.26	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.52	1.92	< 0.005	0.05	—	0.05	0.04	—	0.04	—	362	362	0.01	< 0.005	—	363
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.04	0.03	0.28	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.77	0.67	0.77	9.53	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,460	2,460	0.03	0.09	0.19	2,489
Vendor	0.09	0.03	1.52	0.71	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,387	1,387	0.05	0.20	0.09	1,447
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.13	1.64	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	410	410	0.01	0.02	0.53	416
Vendor	0.02	0.01	0.25	0.12	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	228	228	0.01	0.03	0.25	238
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.30	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	67.9	67.9	< 0.005	< 0.005	0.09	68.8
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.7	37.7	< 0.005	0.01	0.04	39.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.73	0.61	5.53	8.18	0.01	0.20	—	0.20	0.19	—	0.19	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.61	5.53	8.18	0.01	0.20	—	0.20	0.19	—	0.19	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.4	78.4	< 0.005	< 0.005	—	78.6
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.0
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.85	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	196	196	< 0.005	0.01	0.56	198
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.01	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.02	12.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	1.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.41	8.41	< 0.005	< 0.005	—	8.44
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.39	1.39	< 0.005	< 0.005	—	1.40
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.14	2.24	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	519	519	0.01	0.02	1.48	526
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.5	31.5	< 0.005	< 0.005	0.04	31.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.21	5.21	< 0.005	< 0.005	0.01	5.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.30	2.99	2.15	25.8	0.06	0.04	6.14	6.18	0.04	1.56	1.60	—	6,574	6,574	0.30	0.25	18.2	6,675
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.04	15.5
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Strip Mall	0.60	0.54	0.40	4.80	0.01	0.01	1.15	1.16	0.01	0.29	0.30	—	1,233	1,233	0.06	0.05	3.42	1,252
General Office Building	0.16	0.15	0.11	1.32	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	339	339	0.02	0.01	0.94	344
Total	4.07	3.69	2.66	31.9	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	8,161	8,161	0.37	0.31	22.6	8,286
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.27	2.96	2.35	23.7	0.06	0.04	6.14	6.18	0.04	1.56	1.60	—	6,302	6,302	0.31	0.27	0.47	6,389
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	0.01	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	< 0.005	14.8
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.59	0.54	0.44	4.41	0.01	0.01	1.15	1.16	0.01	0.29	0.30	—	1,182	1,182	0.06	0.05	0.09	1,198
General Office Building	0.16	0.15	0.12	1.21	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	325	325	0.02	0.01	0.02	329
Total	4.03	3.65	2.91	29.4	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	7,823	7,823	0.39	0.33	0.59	7,931
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.56	0.51	0.41	4.22	0.01	0.01	1.05	1.06	0.01	0.27	0.27	—	1,003	1,003	0.05	0.04	1.24	1,018
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.28	1.28	< 0.005	< 0.005	< 0.005	1.30
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.10	0.09	0.07	0.76	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.05	—	181	181	0.01	0.01	0.22	184
General Office Building	0.02	0.02	0.02	0.17	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	41.2	41.2	< 0.005	< 0.005	0.05	41.8
Total	0.68	0.62	0.50	5.16	0.01	0.01	1.28	1.29	0.01	0.33	0.33	—	1,227	1,227	0.06	0.05	1.51	1,245

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	967	967	0.06	0.01	—	971
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.05	0.01	—	817
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	57.3	57.3	< 0.005	< 0.005	—	57.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,968	1,968	0.12	0.01	—	1,975
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	967	967	0.06	0.01	—	971
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.05	0.01	—	817
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	57.3	57.3	< 0.005	< 0.005	—	57.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,968	1,968	0.12	0.01	—	1,975
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	160	160	0.01	< 0.005	—	161
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.01	< 0.005	—	135

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	9.48	9.48	< 0.005	< 0.005	—	9.52
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	326	326	0.02	< 0.005	—	327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.06	0.03	0.51	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	644	644	0.06	< 0.005	—	646
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.67	7.67	< 0.005	< 0.005	—	7.70

General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.6	40.6	< 0.005	< 0.005	—	40.7
Total	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	693	693	0.06	< 0.005	—	694
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.06	0.03	0.51	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	644	644	0.06	< 0.005	—	646
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.67	7.67	< 0.005	< 0.005	—	7.70
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.6	40.6	< 0.005	< 0.005	—	40.7
Total	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	693	693	0.06	< 0.005	—	694
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	107	107	0.01	< 0.005	—	107
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.27
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.72	6.72	< 0.005	< 0.005	—	6.74
Total	0.01	0.01	0.10	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	115	115	0.01	< 0.005	—	115

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	52.4	47.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.22	2.08	0.16	17.5	< 0.005	0.02	—	0.02	0.01	—	0.01	—	57.0	57.0	< 0.005	< 0.005	—	57.2
Total	58.7	53.4	3.91	110	0.24	12.9	—	12.9	12.7	—	12.7	1,695	3,296	4,992	5.06	0.06	—	5,137
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	52.4	47.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080

Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	56.5	51.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.66	0.59	0.05	1.15	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	36.7	56.0	0.06	< 0.005	—	57.6
Consumer Products	0.74	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.28	0.26	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.46	6.46	< 0.005	< 0.005	—	6.49
Total	1.67	1.59	0.07	3.33	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	43.2	62.4	0.06	< 0.005	—	64.1

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	12.9	67.2	80.1	1.33	0.03	—	123
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.26	5.26	< 0.005	< 0.005	—	5.28
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.24	0.24	< 0.005	< 0.005	—	0.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.57	3.03	3.59	0.06	< 0.005	—	5.47
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.70	8.93	10.6	0.18	< 0.005	—	16.3
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	12.9	67.2	80.1	1.33	0.03	—	123
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.26	5.26	< 0.005	< 0.005	—	5.28
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.24	0.24	< 0.005	< 0.005	—	0.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.57	3.03	3.59	0.06	< 0.005	—	5.47
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.70	8.93	10.6	0.18	< 0.005	—	16.3
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2.14	11.1	13.3	0.22	0.01	—	20.3

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.87	0.87	< 0.005	< 0.005	—	0.87
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.04	0.04	< 0.005	< 0.005	—	0.04
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.09	0.50	0.60	0.01	< 0.005	—	0.91
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.28	1.48	1.76	0.03	< 0.005	—	2.69
Total	—	—	—	—	—	—	—	—	—	—	—	2.52	14.0	16.5	0.26	0.01	—	24.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.9	0.00	11.9	1.19	0.00	—	41.8

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	0.00	—	1.45
Total	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2026	3/6/2026	5.00	47.0	—

Site Preparation	Site Preparation	3/7/2026	3/17/2026	5.00	7.00	—
Grading	Grading	3/18/2026	4/6/2026	5.00	14.0	—
Building Construction	Building Construction	4/7/2026	3/24/2028	5.00	514	—
Paving	Paving	3/27/2028	4/26/2028	5.00	23.0	—
Architectural Coating	Architectural Coating	4/27/2028	5/29/2028	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45

Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	401	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—

Building Construction	Worker	199	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	46.4	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.8	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)

Demolition	0.00	0.00	0.00	0.00	—
Site Preparation	—	—	10.5	0.00	—
Grading	—	44,870	6.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Enclosed Parking with Elevator	0.00	100%
City Park	0.00	0%
User Defined Recreational	0.00	0%
Strip Mall	0.00	0%
General Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

Apartments Mid Rise	985	889	740	341,650	8,659	7,815	6,510	3,004,398
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.78	1.96	2.19	420	7.15	18.0	20.1	3,848
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	177	168	81.7	59,249	1,625	1,542	749	543,218
General Office Building	48.7	11.1	3.50	13,455	447	101	32.1	123,365

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	9
Gas Fireplaces	154
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	18
Conventional Wood Stoves	0
Catalytic Wood Stoves	9
Non-Catalytic Wood Stoves	9
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
—	—	—	—	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	663,516	532	0.0330	0.0040	2,010,339
Enclosed Parking with Elevator	558,144	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00
User Defined Recreational	0.00	532	0.0330	0.0040	0.00
Strip Mall	39,285	532	0.0330	0.0040	23,948
General Office Building	89,101	532	0.0330	0.0040	126,732

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	6,746,558	34,282
Enclosed Parking with Elevator	0.00	0.00
City Park	0.00	680,192

User Defined Recreational	0.00	31,166
Strip Mall	296,290	11,220
General Office Building	888,669	14,025

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	134	—
Enclosed Parking with Elevator	0.00	—
City Park	0.09	—
User Defined Recreational	0.00	—
Strip Mall	4.20	—
General Office Building	4.65	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat
Extreme Precipitation	9.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	16.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	70.7
AQ-DPM	57.7
Drinking Water	73.7
Lead Risk Housing	54.4
Pesticides	0.00
Toxic Releases	70.1
Traffic	80.3
Effect Indicators	—
CleanUp Sites	74.9
Groundwater	0.00

Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	6.04
Cardio-vascular	7.47
Low Birth Weights	7.29
Socioeconomic Factor Indicators	—
Education	42.7
Housing	10.2
Linguistic	80.2
Poverty	27.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	84.3320929
Employed	68.92082638
Median HI	57.88528166
Education	—
Bachelor's or higher	80.67496471
High school enrollment	100
Preschool enrollment	84.88387014
Transportation	—
Auto Access	70.20402926
Active commuting	5.915565251

Social	—
2-parent households	35.26241499
Voting	21.00603105
Neighborhood	—
Alcohol availability	87.47593995
Park access	34.12036443
Retail density	39.49698447
Supermarket access	46.73424868
Tree canopy	66.75221352
Housing	—
Homeownership	46.75991274
Housing habitability	43.07712049
Low-inc homeowner severe housing cost burden	33.1707943
Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	52.11086873
Arthritis	0.0
Asthma ER Admissions	94.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	97.0
Cognitively Disabled	87.2
Physically Disabled	80.2

Heart Attack ER Admissions	84.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	97.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	84.9
Elderly	16.5
English Speaking	18.2
Foreign-born	95.7
Outdoor Workers	60.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	34.1
Traffic Density	80.4
Traffic Access	23.0
Other Indices	—
Hardship	23.2
Other Decision Support	—
2016 Voting	20.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Consistent with IS/MND's model.
Construction: Construction Phases	Consistent with information provided by the IS/MND.

Construction

2026	
Annual Emissions (tons/year)	0.06
Daily Emissions (lbs/day)	0.328767123
Construction Duration (days)	365
Total DPM (lbs)	120
Total DPM (g)	54432
Start Date	1/1/2026
End Date	1/1/2027
Construction Days	365

2027	
Annual Emissions (tons/year)	0.04
Daily Emissions (lbs/day)	0.219178082
Construction Duration (days)	365
Total DPM (lbs)	80
Total DPM (g)	36288
Start Date	1/1/2027
End Date	1/1/2028
Construction Days	365

2028	
Annual Emissions (tons/year)	0.01
Daily Emissions (lbs/day)	0.054794521
Construction Duration (days)	180
Total DPM (lbs)	9.863013699
Total DPM (g)	4473.863014
Start Date	1/1/2028
End Date	6/29/2028
Construction Days	180

Total	
Total DPM (lbs)	380
Total DPM (g)	90729.86301
Emission Rate (g/s)	0.001438513
Release Height (meters)	3
Total Acreage	2.27
Max Horizontal (meters)	135.55
Min Horizontal (meters)	67.77
Initial Vertical Dimension (meters)	1.5
Setting	Arcadia
Population	54,157
Start Date	1/1/2026
End Date	1/1/2028
Total Construction Days	730
Total Years of Construction	2.00
Total Years of Operation	28.00

The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction			
Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	0.2670	3.63E-06
Infant (0 - 2)	1.75	0.2670	7.67E-05
Construction	**2**		**8.04E-05**

```
AERSCREEN 21112 / AERMOD 21112                                        12/16/24
                                                                      14:10:10

TITLE: ArcadiaTownCenter, Construction


------------------------------------------------------------------------------
*****************************  AREA PARAMETERS  ****************************
------------------------------------------------------------------------------

SOURCE EMISSION RATE:         0.144E-02 g/s            0.114E-01 lb/hr

AREA EMISSION RATE:           0.157E-06 g/(s-m2)       0.124E-05 lb/(hr-m2)
AREA HEIGHT:                       3.00 meters             9.84 feet
AREA SOURCE LONG SIDE:           135.55 meters           444.72 feet
AREA SOURCE SHORT SIDE:           67.77 meters           222.34 feet
INITIAL VERTICAL DIMENSION:        1.50 meters             4.92 feet
RURAL OR URBAN:                   URBAN
POPULATION:                       54157

INITIAL PROBE DISTANCE =          5000. meters            16404. feet



------------------------------------------------------------------------------
***********************  BUILDING DOWNWASH PARAMETERS  ***********************
------------------------------------------------------------------------------

              BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES



------------------------------------------------------------------------------
**************************  FLOW SECTOR ANALYSIS  **************************
                 25 meter receptor spacing: 1. meters - 5000. meters
------------------------------------------------------------------------------


   MAXIMUM  IMPACT  RECEPTOR

   Zo        SURFACE   1-HR CONC  RADIAL  DIST   TEMPORAL
   SECTOR    ROUGHNESS  (ug/m3)    (deg)   (m)    PERIOD
  ---------------------------------------------------
      1*       1.000     4.341      20    75.0     WIN
* = worst case diagonal



------------------------------------------------------------------------------
```

```
**********  MAKEMET METEOROLOGY PARAMETERS  **********
--------------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                   0.35
BOWEN RATIO:              1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       ------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   310.0    2.0



--------------------------------------------------------------------------------
********** AERSCREEN AUTOMATED DISTANCES **********
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
--------------------------------------------------------------------------------


                    MAXIMUM                             MAXIMUM
           DIST     1-HR CONC                  DIST     1-HR CONC
            (m)      (ug/m3)                    (m)      (ug/m3)
         --------------------                --------------------
           1.00     3.331                   2525.00    0.3360E-01
```

25.00	3.828	2550.00	0.3315E-01
50.00	4.210	2575.00	0.3271E-01
75.00	4.341	2600.00	0.3228E-01
100.00	2.670	2625.00	0.3186E-01
125.00	1.980	2650.00	0.3145E-01
150.00	1.551	2675.00	0.3104E-01
175.00	1.260	2700.00	0.3065E-01
200.00	1.053	2725.00	0.3027E-01
225.00	0.8974	2750.00	0.2989E-01
250.00	0.7785	2775.00	0.2952E-01
275.00	0.6845	2800.00	0.2916E-01
300.00	0.6082	2825.00	0.2881E-01
325.00	0.5458	2850.00	0.2846E-01
350.00	0.4940	2875.00	0.2813E-01
375.00	0.4496	2900.00	0.2779E-01
400.00	0.4119	2925.00	0.2747E-01
425.00	0.3795	2950.00	0.2715E-01
450.00	0.3511	2975.00	0.2684E-01
475.00	0.3263	3000.00	0.2653E-01
500.00	0.3044	3025.00	0.2623E-01
525.00	0.2849	3050.00	0.2594E-01
550.00	0.2674	3075.00	0.2565E-01
575.00	0.2518	3100.00	0.2537E-01
600.00	0.2376	3125.00	0.2509E-01
625.00	0.2247	3150.00	0.2482E-01
650.00	0.2130	3175.00	0.2455E-01
675.00	0.2023	3200.00	0.2429E-01
700.00	0.1926	3225.00	0.2403E-01
725.00	0.1836	3250.00	0.2378E-01
750.00	0.1753	3275.00	0.2353E-01
775.00	0.1677	3300.00	0.2329E-01
800.00	0.1606	3325.00	0.2305E-01
825.00	0.1540	3350.00	0.2282E-01
850.00	0.1479	3375.00	0.2258E-01
875.00	0.1422	3400.00	0.2236E-01
900.00	0.1368	3425.00	0.2213E-01
925.00	0.1318	3450.00	0.2192E-01
950.00	0.1270	3475.00	0.2170E-01
975.00	0.1226	3500.00	0.2149E-01
1000.00	0.1185	3525.00	0.2128E-01
1025.00	0.1145	3550.00	0.2107E-01
1050.00	0.1108	3575.00	0.2087E-01
1075.00	0.1073	3600.00	0.2068E-01
1100.00	0.1040	3625.00	0.2048E-01
1125.00	0.1009	3650.00	0.2029E-01
1150.00	0.9792E-01	3675.00	0.2010E-01
1175.00	0.9510E-01	3700.00	0.1991E-01
1200.00	0.9242E-01	3725.00	0.1973E-01
1225.00	0.8986E-01	3750.00	0.1955E-01
1250.00	0.8742E-01	3775.00	0.1938E-01

1275.00	0.8570E-01	3800.00	0.1920E-01
1300.00	0.8344E-01	3825.00	0.1903E-01
1325.00	0.8129E-01	3850.00	0.1886E-01
1350.00	0.7923E-01	3875.00	0.1869E-01
1375.00	0.7726E-01	3900.00	0.1853E-01
1400.00	0.7538E-01	3925.00	0.1837E-01
1425.00	0.7357E-01	3950.00	0.1821E-01
1450.00	0.7184E-01	3975.00	0.1805E-01
1475.00	0.7017E-01	4000.00	0.1790E-01
1500.00	0.6857E-01	4025.00	0.1775E-01
1525.00	0.6704E-01	4050.00	0.1760E-01
1550.00	0.6556E-01	4075.00	0.1745E-01
1575.00	0.6414E-01	4100.00	0.1731E-01
1600.00	0.6277E-01	4125.00	0.1716E-01
1625.00	0.6145E-01	4150.00	0.1702E-01
1650.00	0.6017E-01	4175.00	0.1688E-01
1675.00	0.5895E-01	4200.00	0.1674E-01
1700.00	0.5776E-01	4225.00	0.1661E-01
1725.00	0.5662E-01	4250.00	0.1648E-01
1750.00	0.5551E-01	4275.00	0.1634E-01
1775.00	0.5444E-01	4300.00	0.1621E-01
1800.00	0.5341E-01	4325.00	0.1609E-01
1824.99	0.5241E-01	4350.00	0.1596E-01
1850.00	0.5144E-01	4375.00	0.1584E-01
1875.00	0.5050E-01	4400.00	0.1571E-01
1900.00	0.4960E-01	4425.00	0.1559E-01
1924.99	0.4871E-01	4450.00	0.1547E-01
1950.00	0.4786E-01	4475.00	0.1535E-01
1975.00	0.4703E-01	4500.00	0.1524E-01
2000.00	0.4623E-01	4525.00	0.1512E-01
2025.00	0.4545E-01	4550.00	0.1501E-01
2050.00	0.4469E-01	4575.00	0.1490E-01
2075.00	0.4396E-01	4600.00	0.1479E-01
2100.00	0.4324E-01	4625.00	0.1468E-01
2125.00	0.4255E-01	4650.00	0.1457E-01
2150.00	0.4187E-01	4675.00	0.1446E-01
2175.00	0.4121E-01	4700.00	0.1436E-01
2200.00	0.4057E-01	4725.00	0.1425E-01
2225.00	0.3995E-01	4750.00	0.1415E-01
2250.00	0.3934E-01	4775.00	0.1405E-01
2275.00	0.3875E-01	4800.00	0.1395E-01
2300.00	0.3818E-01	4825.00	0.1385E-01
2325.00	0.3761E-01	4850.00	0.1375E-01
2350.00	0.3707E-01	4875.00	0.1366E-01
2375.00	0.3653E-01	4900.00	0.1356E-01
2400.00	0.3601E-01	4925.00	0.1347E-01
2425.00	0.3551E-01	4950.00	0.1337E-01
2450.00	0.3501E-01	4975.00	0.1328E-01
2475.00	0.3453E-01	5000.00	0.1319E-01
2500.00	0.3406E-01		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	4.436	4.436	4.436	4.436	N/A
DISTANCE FROM SOURCE	72.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	3.331	3.331	3.331	3.331	N/A
DISTANCE FROM SOURCE	1.00 meters				

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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2656 29th Street, Suite 201
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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

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EXHIBIT D

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Subject: Indoor Air Quality: Arcadia Town Center Project – Arcadia, CA.
(IEE File Reference: P-4950)

Pages: 19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 µg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 µg is 2 µg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m^3. The median indoor formaldehyde concentration was 36 µg/m^3, and ranged from 4.8 to 136 µg/m^3, which corresponds to a median exceedance of the 2 µg/m^3 NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the San Diego County Air Pollution Control District (SDAPCD, 2021).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 µg/m^3 to 28% for the Acute REL of 55 µg/m^3.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and

particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to the Arcadia Town Center project, Arcadia, CA, the buildings consist of residential and commercial spaces.

The residential occupants will potentially have continuous exposure (e.g. 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the residential occupants inhale 20 m^3 of air per day, the average 70-year lifetime formaldehyde daily dose is 482 µg/day for continuous exposure in the residences. This exposure represents a cancer risk of 120 per million, which is more than 12 times the CEQA cancer risk of 10 per million. For occupants that do not have continuous exposure, the cancer risk will be proportionally less but still substantially over the CEQA cancer risk of 10 per million (e.g. for 12/hour/day occupancy, more than 6 times the CEQA cancer risk of 10 per million).

The employees of the commercial spaces are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the employees of commercial spaces work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 µg/m^3, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures.

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifies an existing cancer risk at the Project site of 537 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (µg/h) from the product of the area-specific formaldehyde emission rate (µg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (µg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the

health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a

result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

The Arcadia Town Center project, Arcadia, CA is close to roads with moderate to high traffic (e.g., South Santa Anita Avenue, West Huntington Drive, East Huntington Drive, etc.). Thus, the Project is located in a sound impacted area.

According to the Initial Study/Mitigative Negative Declaration – Arcadia Town Center Project, Arcadia, CA there have been only four short-term (20 minute) measurements of the ambient noise levels on April 12, 2023, which ranged from 59.4 to 66.3 dBA Leq, and modeling of the future traffic noise levels which ranged from 59.4 to 73.5 dBA CNEL.

In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study with actual on-site measurements of the existing ambient noise levels and modeled future ambient noise levels needs to be conducted. The acoustic study of the existing ambient noise levels should be conducted over a minimum of a one-week period and report the dBA CNEL or Ldn. This study will allow for the selection of a building envelope and windows with a sufficient STC such that the indoor noise levels are acceptable. A mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors will also be required. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors.

$PM_{2.5}$ Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. The Arcadia Town Center Project, Arcadia, CA is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 537 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. at least MERV 13, or possibly MERV 14 or 15 depending on the results of the Project ambient $PM_{2.5}$ concentrations) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and

exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

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Re: Comment on the Mitigated Negative Declaration for the Arcadia Town Center Project (SCH No. 2024110749)

Dear Mr. Arreola, Ms. Flores, and Honorable Members of the Arcadia City Planning Commission:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Mitigated Negative Declaration ("MND") prepared for the Arcadia Town Center Project (SCH No. 2024110749) ("Project"), located on the cross-streets of West Huntington Drive and North Santa Anita Avenue in downtown Arcadia, CA. The Project involves the development of a five-story, 181-unit, mixed-use residential and commercial building with one level of above-ground parking and one level of underground parking.

As discussed below, there is a fair argument that the Project may result in significant adverse impacts on biological resources, noise, air quality, and indoor air quality. Therefore, SAFER respectfully requests that the City of Arcadia ("City") prepare an environmental impact report ("EIR") before approving the Project to analyze and mitigate these impacts in accordance with the California Environmental Quality Act ("CEQA").

SAFER's review of the MND was assisted by expert wildlife biologist Dr. Shawn

Smallwood, Ph.D; noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig; air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"); and indoor air quality expert and certified industrial hygienist Francis Offermann, P.E., C.I.H. Dr. Smallwood's written comments and CV are attached hereto as Exhibit A and are incorporated herein by reference in their entirety. Ms. Toncheva's written comments and CV are attached hereto as Exhibit B and are incorporated herein by reference in their entirety. SWAPE's written comments and CV are attached hereto as Exhibit C and are incorporated herein by reference in their entirety. Mr. Offermann's written comments and CV are attached hereto as Exhibit D and are incorporated herein by reference in their entirety.

PROJECT DESCRIPTION

The Project involves the construction of a new five-story, mixed-use residential and commercial building with a total combined floor area of 440,938 square feet. The building includes 13,130 square feet of commercial space on the ground floor. It will also have 181 multifamily residential units, including 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units. The Project has 3,890 square feet of residential amenity space and 38,713 square feet of public and private open space. Additionally, the Project will have one level of ground-floor parking and one level of subterranean parking, for 378 parking spaces total. The Project requires the grading of approximately 44,520 cubic yards of earth as well.

The Project involves the consolidation of five existing contiguous parcels encompassing 2.27 acres into a single lot occupying 2.19 net acres (95,396.4 square feet) of buildable lot area. The Project site's Assessor Parcel Numbers are 5775-025-032, -033, -034, -037, and -038. All parcels on the site have a land use designation of Downtown Mixed-Use and are zoned as Downtown Mixed-Use.

The site is located at 5-19 West Huntington Drive and 25-75 North Santa Anita Avenue, in a fully developed portion of the downtown area of the City of Arcadia. The site is bounded by West Huntington Drive to the south, North Santa Anita Avenue to the east, Morlan Place to the north, and an Elks Lodge to the west. The site is surrounded to the north, east, and west by existing urban development, including retail, eateries, offices, a car dealership, and associated surface parking. Single-family residences are located about 410 feet northwest of the site across, and multifamily residences are located about 280 feet southeast of the site along Santa Anita Avenue. Arcadia County Park is located immediately south of the site, across West Huntington Drive.

The Project site currently contains eleven total commercial buildings, including ten one-story buildings and one two-story building, and associated surface parking lots. All existing development on the site would be demolished for the Project. The Project will also remove 26 existing trees on the Project site, including six trees protected by the City.

LEGAL STANDARD

As the California Supreme Court held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." (*Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-20.) "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." (Pub. Res. Code ["PRC"] § 21068; see also 14 California Code of Regulations ["CCR"] § 15382.) An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 83.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109.)

The EIR is the very heart of CEQA. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214; *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927.) The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." (*Bakersfield Citizens*, *supra*, 124 Cal.App.4th at 1220.) The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." (*Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392.) The EIR process "protects not only the environment but also informed self-government." (*Pocket Protectors*, 124 Cal.App.4th 903, 927.)

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." (PRC § 21080(d); see also *Pocket Protectors*, supra, 124 Cal.App.4th at 927.) An MND instead of an EIR is proper only if project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and . . . there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331 [quoting PRC §§ 21064.5, 21080(c)(2)].) In that context, "may" means a reasonable possibility of a significant effect on the environment. (PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904-05.)

An EIR must be prepared rather than an MND "whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact." (*No Oil, Inc. v City of Los Angeles* (1974) 13 Cal.3d 68, 75.) Under this "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an

adverse environmental effect—even if contrary evidence exists to support the agency's decision. (14 CCR § 15064(f)(1); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602.) The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. (*Pocket Protectors*, supra, 124 Cal.App.4th at 928.)

The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

> This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

(Kostka & Zishcke, *Practice Under CEQA*, § 6.29, pp. 273-74.) The Courts have explained that "it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with a preference for resolving doubts in favor of environmental review." (*Pocket Protectors*, supra, 124 Cal.App.4th at 928.)

DISCUSSION

I. There is a fair argument that the Project may have significant adverse impacts on biological resources.

Expert wildlife biologist, Dr. Shawn Smallwood, Ph.D., has reviewed the Project's MND, its biological technical report, and other relevant documents regarding the Project's biological impacts. As discussed below, Dr. Smallwood found that the Project will adversely affect biological resources because (1) the MND failed to account for the diversity of species present on the Project site, including several special-status species; (2) the MND inadequately analyzed the Project's adverse impacts on wildlife; and (3) the MND's proposed mitigation measures are insufficient to reduce the Project's biological impacts.

A. The MND failed to account for the diversity of species present on the Project site, including several special-status species.

Dr. Smallwood's associate, biologist Noriko Smallwood, M.S., conducted a Project site visit on December 6, 2024, for 2.8 hours. (Ex. A at 1.) During her visit, Ms. Smallwood detected

25 species of vertebrate wildlife at or adjacent to the Project site, including six species with special status: the Allen's hummingbird, the California gull, and the Nuttall's woodpecker, which are all listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service; and the Cooper's hawk, red-tailed hawk, and peregrine falcon, which are all Birds of Prey under the California Fish & Game Code. (*Id.* at 2, 8.)

Using a nonlinear regression model, Dr. Smallwood predicted that about 50 total species of vertebrate wildlife were available to be detected at the site during Ms. Smallwood's December 6, 2024 visit, twice the number of species she actually detected. (*Id.* at 9.) Although Ms. Smallwood's site visit only lasted 2.8 hours, Dr. Smallwood also calculated that continued and more extensive surveys would reveal an even greater diversity of wildlife at the site, up to 118 species of vertebrate wildlife, including 28 special-status species. (*Id.* at 10-11.)

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the biological analysis should identify which wildlife species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey efforts directed to the site. Analysts need this information to characterize the environmental setting as a basis for predicting potential project impacts to biological resources. (Ex. A at 12.)

CEQA requires government agencies to describe the "environmental setting" of the Project. (CEQA Guidelines § 15063(d)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322.) The "environmental setting" is defined as "the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." (Guidelines § 15360; *see* Guidelines § 21060.5; *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1192.)

Here, the MND did not provide the results of any field surveys conducted to detect birds or other wildlife on the Project site. (Ex. A at 12.) Regarding the lack of bird surveys in particular, Dr. Smallwood stated that the "lack of surveys leaves the City of Arcadia blind to any potential impacts to birds, because without a survey, there is no sound basis for characterizing the existing environmental setting." (*Id*.) Proceeding with the project without completing avian surveys could also result in high bird mortality rates from window collisions and costs to the building's owner if the windows require bird-safe glass. He further notes that the MND fails to report the importance of the site's trees to birds, which is important because the site's trees effectively create open space and vertical habitat for birds. (*Id.*)

Additionally, the MND does not provide the results of any desktop review of available literature and databases to identify occurrence records of special-status species or assess the occurrence rates of avian species in the Project area. (*Id.* at 12.) Dr. Smallwood stated that desktop review is important to inform field surveys and supplement interpretation of their findings. (*Id.* at 13.) Based on his review of available databases, such as eBird and iNaturalist, Dr. Smallwood estimates that 77 special-status bird species are known to occur close enough to

the Project site to warrant analysis of their occurrence potential. (*Id.* at 13-14.)

Thus, by failing to accurately characterize the biological species using the Project site, including the fact that the site supports at least six special-status species, the MND inadequately describes the Project's "environmental setting" and thereby insufficiently analyzes the Project's biological impacts. (*Id.* at 11.) Dr. Smallwood therefore concludes that "there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community on the project site." (*Id.* at 18.)

B. There is substantial evidence that the Project will have significant impacts on biological resources that the MND fails to analyze and mitigate.

Dr. Smallwood concluded that the MND inadequately addressed the Project's various significant impacts on biological resources, including: (1) interference with wildlife movement; (2) bird-window collision mortality; (3) traffic mortality; and (4) cumulative impacts.

1. Interference with Wildlife Movement

The MND includes no analysis of whether the Project would interfere with local wildlife movement. (*Id.*) Dr. Smallwood found that the Project would clearly interfere with wildlife movement in the area because the Project would insert a midrise building into the airspace that has long been used by birds for migration, dispersal, home range patrol, and foraging. (*Id.*) Dr. Smallwood thus concluded that "a fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated." (*Id.*)

2. Bird-Window Collisions

According to Dr. Shawn Smallwood, the Project will have a significant impact on birds as a result of window collisions. The City has not analyzed or mitigated these potential impacts on special-status bird species. Analyzing the potential impact on wildlife from window collisions is especially important because "[w]indow collisions are often characterized as either the second or third largest source of human-caused bird mortality." (*Id.*)

The Project would construct a five-story building, which would expose local birds to many windows composing the building's facades, but the MND does not report the full extent of exterior glass windows on the proposed building. (*Id.* at 21.) However, Dr. Smallwood predicts 2,966 square meters of exterior glass on the project building. (*Id.*) Based on this amount of exterior glass, Dr. Smallwood estimates that the Project will cause 217 annual bird deaths from window collisions. (*Id.*) Dr. Smallwood's database review and Ms. Smallwood's site visit indicate that there are at least 77 special-status bird species with the potential to use the airspace around the Project site. (*Id.* at 17.) Most of the predicted bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and the California Migratory Bird Protection Act, "thus causing significant unmitigated impacts." (*Id.* at 21.) Given the estimated

level of bird-window collision mortality and the MND's lack of proposed mitigation, Dr. Smallwood concluded that "the proposed project would result in potentially significant adverse biological impacts." (*Id.*) The City thus must prepare an EIR to analyze and mitigate the Project's potential impacts from bird-window collisions.

3. Traffic Impacts

Dr. Smallwood found that the MND does not analyze the Project's potential impacts to wildlife from road collision mortality as a result of increased traffic generated by the Project. (*Id.*) As Dr. Smallwood explains, vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level. (*Id*.) Dr. Smallwood provides several studies demonstrating significant animal deaths due to collisions in the thousands per 100 kilometers of road per year. (*Id.* at 23.) The MND fails to analyze whether increased traffic generated by the Project would result in significant impacts to wildlife.

The MND estimates 1,302,015 annual vehicle miles traveled ("VMTs") for employees. (*Id*.) Based on this estimate, Dr. Smallwood calculated that the Project would cause approximately 554 vertebrate wildlife fatalities per year due to collisions with project-generated traffic. (*Id.*) He therefore concluded that "the project-generated traffic would cause substantial, significant impacts to wildlife," a potential impact that the MND does not analyze. (*Id.* at 24.) Dr. Smallwood's comments thus constitute substantial evidence supporting a fair argument that the Project's traffic will have a significant impact on special-status species of wildlife. An EIR is required to analyze and mitigate this impact.

4. Cumulative Impacts

CEQA documents, such as the MND, must discuss cumulative impacts and mitigate significant cumulative impacts. (14 CCR § 15130(a).) This requirement flows from CEQA Section 21083, which requires a finding that a project may have a significant effect on the environment if:

> The possible effects of a project are individually limited but cumulatively considerable. . . . 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand.

While acknowledging new Project-related biological impacts, the MND fails to analyze the Project's potentially significant cumulative biological impacts. Instead, the MND dismisses,

without evidence, the potential for cumulative impacts stemming from the Project by claiming that compliance with applicable land use and environmental regulations would ensure that "environmental effects associated with the Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." (MND at 3-114.) The problem with this analysis as it applies to biological resources is that the MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area.

The question that CEQA requires the City to address, and that the MND fails to address, is whether the Project's impacts will be significant when combined with other past, current, and probable future projects. By failing to provide this basic information, the MND's cumulative biological impact analysis is not supported by substantial evidence.

Dr. Smallwood found that the "[MND's] analysis of potential project contributions to cumulative impacts is flawed," stating that the MND "provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts on wildlife." (Ex. A at 24.) Dr. Smallwood calculated that the Project's incremental effects would include 217 annual bird fatalities from window collisions, as well as 166 to 554 annual vertebrate wildlife fatalities due to collisions with project- generated traffic. (*Id.* at 25.) Likewise, the Project would fragment the aerial habitat of volant wildlife by inserting a glass-covered, midrise building into airspace historically used by volant wildlife. (*Id.*)

C. The MND's proposed mitigation measures are insufficient to reduce the Project's adverse biological impacts.

The MND offers mitigation measures to reduce the Project's adverse impacts on biological resources. One proposed mitigation measure, Mitigation Measure RR BIO-3, is the delayed development of landscape plans. (*Id.* at 26.) However, this constitutes deferred mitigation, which CEQA prohibits.

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. (CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309.) An agency may only defer the formulation of mitigation measures when it possesses "'meaningful information' reasonably justifying an expectation of compliance." (*Sundstrom* at 308; *see also Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only "for kinds of impacts for which mitigation is known to be feasible").) A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available).) This approach helps "insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism

from being swept under the rug." (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.)

While specific details of mitigation measure may be deferred, an agency is required to (1) commit itself to mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the types of potential actions that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. *See Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 671.

Moreover, "mitigation measure[s] [that do] no more than require a report be prepared and followed" do not provide adequate information for informed decisionmaking under CEQA. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794; Guidelines § 15126.4(a)(1)(B).) By deferring the development of specific mitigation measures, the City has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the court in *Communities for a Better Env't v. Richmond* (2010) 184 Cal.App.4th 70, 92:

> [R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment.

Mitigation Measure RR BIO-3 constitutes deferred mitigation because it entails formulating landscape plans at an unspecified future date. (Ex. A at 26-27.) The City has not committed itself to mitigation, adopted specific performance standards the mitigation will achieve, or identified the types of potential actions that can feasibly achieve the performance standards.

The City cannot rely on the development of mitigation measures in the future because there is no way to ensure that the mitigation will be adequate. For example, here, before Project approval, the public has no way to ensure that the landscape plans will benefit wildlife. (*Id.* at 26.) This deferred mitigation is invalid under CEQA, and the Project's impacts on biological resources remain significant. An EIR is required to develop clear, enforceable mitigation measures to address the Project's significant adverse biological impacts.

Additionally, the MND proposes other mitigation measures, such as preconstruction nesting bird surveys and procurement of necessary permits. (*Id.*) However, Dr. Smallwood concludes that these measures would not avoid the long-term significant biological impacts caused by permanent habitat destruction, loss of reproductive capacity at the Project site, and increased wildlife mortality from project-generated traffic and window collisions. (*Id.* at 25-26.) Dr. Smallwood's comments thus constitute substantial evidence that the Project's impacts on biological resources would remain significant, necessitating preparation of an EIR.

Dr. Smallwood instead offers numerous other mitigation measures that the City should implement to reduce the Project's significant adverse impacts on biological resources, should the Project proceed. Potential mitigation measures include use of bird-safe glass and window treatments, compensatory mitigation for road mortality, funding of wildlife rehabilitation facilities, and native plant landscaping. (*Id.* at 27-28.)

II. There is a fair argument that the Project may have significant adverse impacts on noise and vibration.

Noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig has reviewed the Project's MND, its noise and vibration technical reports in Appendix G, and other relevant documents regarding the Project's noise and vibration impacts. As discussed below, Ms. Toncheva concluded that the Project will adversely affect noise and vibration levels because (1) the MND's noise analysis relies on an inadequate noise baseline; (2) the Project will result in potentially significant construction noise impacts; and (3) the MND's operational noise analysis is insufficient. Thus, her expert comments constitute substantial evidence of a fair argument that the Project will have significant impacts on noise and vibration.

A. The MND's noise analysis relies on an inadequately established noise baseline.

Ms. Toncheva concluded that the manner in which the MND determined the existing noise baseline was flawed. For example, she found that the MND's ambient noise measurements were taken at the Project boundaries rather than at sensitive receptors, such as nearby residences located 280 feet from the site on South Santa Anita Avenue and 410 feet from the site on Santa Clara Street. (Ex. B at 3; MND at 3-71.) She also found that the short-term ambient noise level measurements captured neither the fluctuation of noise levels over the day nor the adjustment of noise with distance from the sources measured. (Ex. B at 3; MND at 3-79.) As the MND itself acknowledged, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site." (MND at 3-79.) Moreover, the noise measurements close to the Santa Clara residences were dominated by HVAC noise directly next to the Project site. (Ex. B at 3.)

Ms. Toncheva thus concluded that the Project must perform properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet periods of the day and night to determine the impact of construction and operational noise. (*Id.*) The City therefore must prepare an EIR to analyze these potential impacts.

B. There is a fair argument that the Project will result in potentially significant construction noise impacts.

Ms. Toncheva also found that the MND failed to disclose and mitigate the Project's potentially significant noise impacts from construction. The MND claims that there are no sensitive receptors near the Project site, but it earlier identified residences as close as 280 feet

from the site on Santa Anita Avenue and does not predict construction noise impacts at these residences. (MND at 3-72, 3-78.) Ms. Toncheva estimates that the Project's construction noise levels would range from 60 to 69 decibels at the Santa Anita residences and 56 to 65 decibels at the Santa Clara residences. (Ex. B at 3.)

Furthermore, Ms. Toncheva found that the MND failed to explicitly establish any construction noise criteria. It referenced the noise limits of the City of Arcadia Noise Ordinance ("Ordinance") but omitted the Ordinance's adjustments to noise limits for impulsive sounds. (City of Arcadia Noise Ordinance § 5610.3(b); MND at 3-75; Ex. B at 4.) The Ordinance's daytime noise limit for residential land is 55 decibels. Thus, at the Santa Anita residences, the predicted noise levels would exceed the Ordinance limit by 5 to 9 decibels, excluding any extra noise impacts from impulsive noise sources, like jackhammers. (*Id.* at 4.)

The CEQA Guidelines cited in the MND state that noise impacts are significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels." (MND at 3-70.) However, the MND lacks a significance threshold for a "substantial increase" for Project noise. (Ex. B at 4.) The MND uses short-term ambient noise levels of 54 to 66 dBA for daytime hours, but as discussed above, these measurements were not taken sensitive receptors and were inadequate to accurately characterize local ambient noise levels (Ex. B at 4; MND at 3-71). Ms. Toncheva found that the predicted noise level for demolition at the Santa Clara residences is 65 decibels, 11 decibels over the ambient noise level at the western Project boundary. This 10-decibel increase is subjectively heard as an approximate doubling in loudness. (*Id.* at 4.)

Additionally, the MND does not discuss any mitigation measures for the Project's potentially significant construction noise impacts. (*Id.* at 4.) Ms. Toncheva estimates that noise barriers at the perimeter of the site could reduce noise by 10 to 15 decibels, but notes that contractors can be reluctant to use barriers because they slow production. (*Id.* at 4-5.)

Overall, the City must prepare an EIR to properly evaluate the Project's construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. As Ms. Toncheva states, "if the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant." (*Id.* at 5.)

C. The MND's operational noise analysis is incomplete.

The MND claims, without evidence, that the Project will have no operational noise impact. However, Ms. Toncheva found that MND identified HVAC noise as a potential operational noise source but lacked any quantitative analysis to predict the expected levels of mechanical noise (*Id*. at 5; MND at 3-79.) Ms. Toncheva also found that the MND failed to address potential noise impacts from the Project's parking garage entrance or ventilation system. (Ex. B at 5.)

III. There is a fair argument that the Project may have significant air quality impacts.

Air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE") have reviewed the Project's MND, its air quality and greenhouse gas technical reports in Appendix A, and other relevant documents regarding the Project's air quality impacts. As discussed below, SWAPE concluded that there is a fair argument that the Project will adversely affect air quality because (1) the MND relied on an inadequate air quality analysis; (2) the Project will have significant impacts related to air pollutant health risks that the MND failed to adequately address; (3) the MND inadequately evaluated the Project's greenhouse gas ("GHG") impacts; and (4) the MND does not include all feasible mitigation measures to address the Project's air quality impacts. SWAPE recommends that "[a]n Environmental Impact Report . . . should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment." (Ex. C at 1.)

A. The MND relied on an inadequate air quality analysis.

Land use development projects under CEQA typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod"). Using site-specific input details, the model calculates a project's construction and operational emissions, generating "output files." The output files describe what parameters were used in calculating the project's air pollutant emissions and show where default values were changed. (*Id.* at 1-2.)

Here, SWAPE found that the MND and its air quality technical reports in Appendix A failed to provide complete CalEEMod output files. Its files included land use inputs but omitted all other qualitative outputs regarding the Project's construction and operational emissions, and they also omitted details on changes to the model's default values. (*Id.* at 2; Appendix A at 38-39.) Without access to this data, SWAPE was unable to verify the potential significance and accuracy of the MND air quality modeling. (Ex. C at 2-3.) SWAPE concluded that "[a]n EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines." (*Id.* at 3.)

B. There is a fair argument that the Project may have significant impacts related to air pollutant health risks that the MND failed to adequately address.

The MND determined that the Project would result in a negligible health risk impact without performing a construction health risk analysis ("HRA"), even though CEQA requires all proposed projects to connect their air pollutant emissions to potential adverse impacts on human health. (*Id.*) The MND therefore violates CEQA because it does not connect the Project's construction-related emissions of diesel particulate matter ("DPM"), a known human carcinogen, to potential health risks to nearby sensitive receptors. (*Id.*) Moreover, the MND does not compare the Project's excess cancer risk to the CEQA significance threshold of the South Coast Air Quality Management District ("SCAQMD"). (*Id.*)

SWAPE's own CalEEMod calculations showed that the Project's construction activities will produce about 380 pounds of DPM over the 29-month construction period. (*Id.*) SWAPE then conducted an HRA to measure the health risks from these DPM emissions using AERSCREEN, a screening-level air quality dispersion model that measures the maximum potential concentrations of air contaminants affecting nearby sensitive receptors, such as infants. (*Id*.) SWAPE noted that if "AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval." (*Id.*)

From its HRA, SWAPE found that the excess cancer risk from the Project's DPM emissions at the nearest sensitive receptor would be 76.7 per million for infants over the 29-month construction period. (*Id.* at 6.) This far exceeds the SCAQMD's significance threshold of 10 per million. (*Id.* at 6-7.) SWAPE thus concluded that "this results in a potentially significant impact not previously addressed or identified in the IS/MND," and "an EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction." (*Id.* at 7.)

C. The MND failed to adequately assess the Project's impacts on greenhouse gas emissions.

The MND estimates that the Project will produce net annual GHG emissions of 2,181 metric tons of carbon dioxide equivalents per year. (*Id*.) However, because the MND's CalEEMod output files did not provide the emission estimates or any relevant inputs aside from land uses, SWAPE was unable to verify the legitimacy of the GHG emission estimates the MND provides. (*Id*.) As a result, the Project's GHG emissions could be underestimated. (*Id.*) SWAPE concludes that "until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon . . ." (*Id*.)

D. The MND does not include all feasible mitigation measures to address the Project's air quality impacts.

Because the Project would result in significant health risks to individuals in the community around the Project site, "the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks." (Ex. C at 7; Guidelines § 15096(g)(2).) SWAPE offers various mitigation measures that the City could evaluate to reduce the DPM emissions from Project construction. Such measures include, among other things, minimization of unnecessary vehicular and machinery, utilization of clean fuel generators and existing power sources, use of alternative fuel and electric equipment, and required implementation of Tier 4 equipment or better for all engines above 50 horsepower. (Ex. C at 8-9.) These measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, in turn minimizing emissions during construction. (*Id*. at 9.) SWAPE concludes that "an EIR should be prepared to include all feasible mitigation measures. . ." (*Id*.)

IV. There is a fair argument that the Project may have significant adverse impacts on indoor air quality.

Certified industrial hygienist, Francis Offermann, P.E., C.I.H., has reviewed the Project, the Director's Determination, and other documents regarding the Project's indoor air emissions. These documents provide no analysis of the Project's indoor air quality impacts. Mr. Offermann concludes that the Project will expose its future residents to significant health impacts related to indoor air quality, particularly emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic.

Mr. Offermann explains that many composite wood products used in building materials commonly found in residences contain formaldehyde-based glues which release formaldehyde gas over a very long period of time. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential, office, and retail building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (Ex. D at 2-3.)

Formaldehyde is a known human carcinogen, classified by the State as a Toxic Air Contaminant. The SCAQMD has established a CEQA significance threshold for airborne cancer risk of 10 per million. Mr. Offermann found that future Project occupants may be exposed to a cancer risk from formaldehyde emissions of about 120 per million for residents, and 17.7 per million for commercial employees, even assuming that all materials comply with the California Air Resources Board's ("CARB") formaldehyde airborne toxics control measure. (*Id.* at 4-5.) This exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk. (*Id*. at 2.)

Mr. Offermann concludes that the Project will have significant environmental impacts that must be analyzed in an EIR or MND and mitigation measures must be imposed to reduce the raised cancer risk. (*Id.* at 12-13.) Mr. Offermann prescribes a methodology for estimating the Project's formaldehyde emissions for a more project-specific health risk assessment. (*Id.* at 6-10.) He also identifies feasible several mitigation measures to decrease the significant health risks, like installing air ventilation systems and requiring the use of composite wood materials only for all interior finish systems that are made with CARB-approved no-added formaldehyde ("NAF") resins or ultra-low emitting formaldehyde ("ULEF") resins. (*Id.* at 12-14.)

When a project exceeds a duly adopted CEQA significance threshold, as here, this alone establishes substantial evidence that the project will have a significant adverse environmental impact. Indeed, in many instances, such air quality thresholds are the only criteria reviewed and treated as dispositive in evaluating the significance of a project's air quality impacts. (*See*, *e.g. Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 960 [County applies Air District's "published CEQA quantitative criteria" and "threshold level of cumulative significance"]; *see also Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 110-11 ["A 'threshold of significance' for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant"].) The

California Supreme Court has shown the importance an air district significance threshold has in providing substantial evidence of a significant adverse impact. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 [estimated emissions in excess of air district's significance thresholds "constitute substantial evidence supporting a fair argument for a significant adverse impact"].) Since expert evidence shows the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (*See Friends of Coll. of San Mateo Gardens v. San Mateo Cty. Cmty. Coll. Dist.* (2016) 1 Cal.5th 937, 958.)

The City's failure to address the Project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). The Court held in *CBIA* that CEQA does not generally require lead agencies to analyze the impacts of adjacent environmental conditions on a project. (*Id.* at 800-01.) However, to the extent that a project may exacerbate existing environmental conditions at or near a project site, those effects would still have to be considered pursuant to CEQA. (*Id.* at 801 ["CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"].) In so holding, the Court expressly held that CEQA's statutory language requires lead agencies to disclose and analyze "impacts on a project's users or residents that arise from the project's effects on the environment." (*Id.* at 800.)

The carcinogenic formaldehyde emissions Mr. Offermann has identified are not an existing environmental condition. Those emissions will be from the Project. Residential tenants will be the Project's users. Currently, there is presumably little to no formaldehyde emissions at the site. Once built, the Project will start emitting formaldehyde at levels posing significant direct and cumulative health risks to the Project's users. The California Supreme Court in *CBIA* expressly found that this air emission and health impact from the Project on the environment and a "project's users and residents" must be addressed under CEQA.

The California Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings*, either directly or indirectly.'" (*CBIA*, 62 Cal.4th at 800 [emphasis in original].) Likewise, "the Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." (*Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d).) It goes without saying that the Project's future residents and commercial employees are human beings, and their health and safety must be subjected to CEQA's safeguards.

The City has a duty to investigate issues relating to a project's potential environmental impacts. (*See County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. ["[U]nder CEQA, the lead agency bears a burden to investigate potential

environmental impacts."].) The Project will have significant effects on indoor air quality and health risks by emitting formaldehyde that will expose future residents and commercial employees to cancer risks exceeding SCAQMD's significance threshold for cancer risk of 10 per million. In light of this impact and the City's lack of any evidence to the contrary, the City must prepare an EIR before approving the Project to analyze and mitigate these impacts.

CONCLUSION

As discussed above, there is a fair argument that the Project may have significant adverse impacts on biological resources, noise, air quality, and indoor air quality. An EIR is therefore required to analyze and mitigate the Project's potentially significant effects. Thus, SAFER respectfully requests that the City not rely on the MND and instead prepare and circulate an EIR before further consideration of the Project.

Sincerely,

Hayley Uno
LOZEAU DRURY LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Attn. Edwin Arreola, Senior Planner
City of Arcadia
Development Services Department
240 West Huntington Drive
Arcadia, California 91066

12 December 2024

RE: Arcadia Town Center

Dear Mr. Arreola,

I write to comment on potential impacts to biological resources from the proposed Arcadia Town Center project, which I understand would add a five-story, 440,938 square-foot mixed-use building on 2.27 acres located on the corner of Huntington Dr. and N Santa Anita Ave. in Arcadia, CA. I comment on the analyses of impacts to biological resources in the Initial Study/Mitigated Negative Declaration (IS/MND) (City of Arcadia 2024).

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 2.8 hours from 06:47 to 09:35 hours on 6 December 2024. She walked the site's perimeter, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

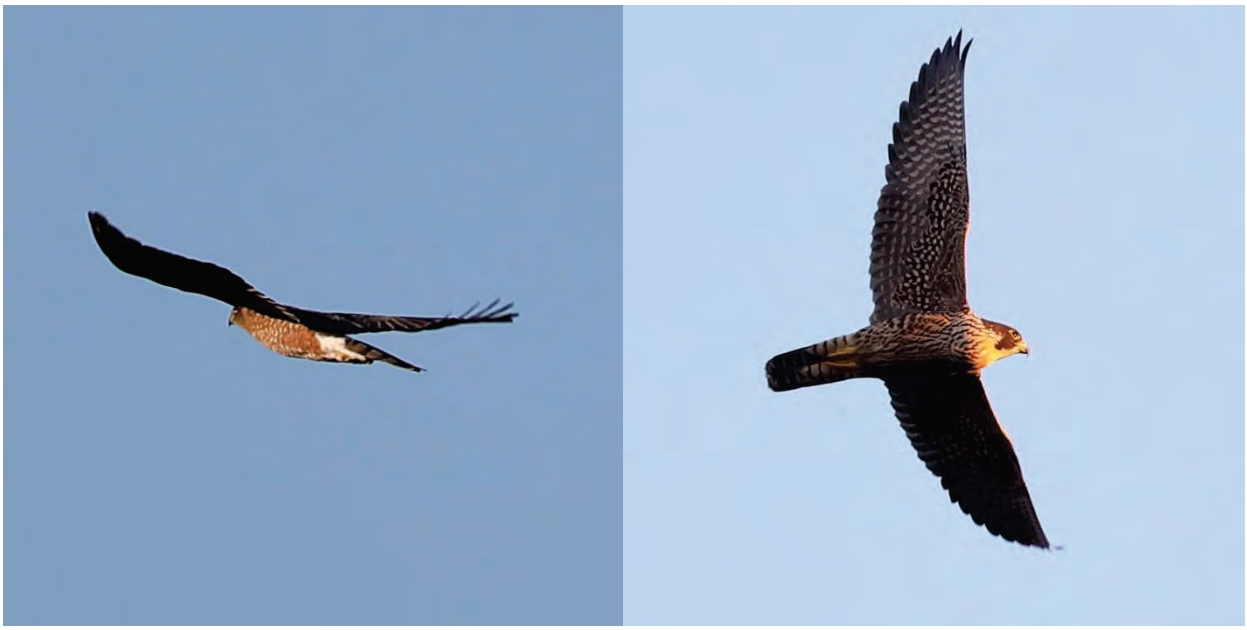
Conditions were sunny with 3 MPH northeast wind and temperatures of 52-63° F. The site contains unoccupied office and commercial buildings and a parking lot, with multiple ornamental trees and shrubs (Photos 1-3).

Photos 1 and 2. *Views of the project site, 6 December 2024. Photos by Noriko Smallwood.*

Noriko saw Cooper's hawk and peregrine falcon (Photos 3 and 4), Anna's hummingbird (Photos 5 and 12), house finch and red-crowned parrot (Photos 6 and 7), American crow and black phoebe (Photos 8 and 9), acorn woodpecker (Photo 10), Allen's hummingbird (Photo 11), western bluebird and yellow-rumped warbler (Photos 13 and 14), northern rough-winged swallow and California gull (Photos 15 and 16), mourning dove and band-tailed pigeon (Photos 17 and 18), northern mockingbird (Photos 19 and 20), eastern fox squirrel (Photo 21), among the other species listed in Table 1. Noriko detected 25 species of vertebrate wildlife at or adjacent to the project site, including six species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood



Photos 3 and 4. *Cooper's hawk (left), and peregrine falcon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photo 5. *Anna's hummingbird on the project site, 6 December 2024. Photo by Noriko Smallwood.*

Photos 6 and 7. *House finch (left) and red-crowned parrot (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 8 and 9. *American crow with a piece of bread (left), and black phoebe (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

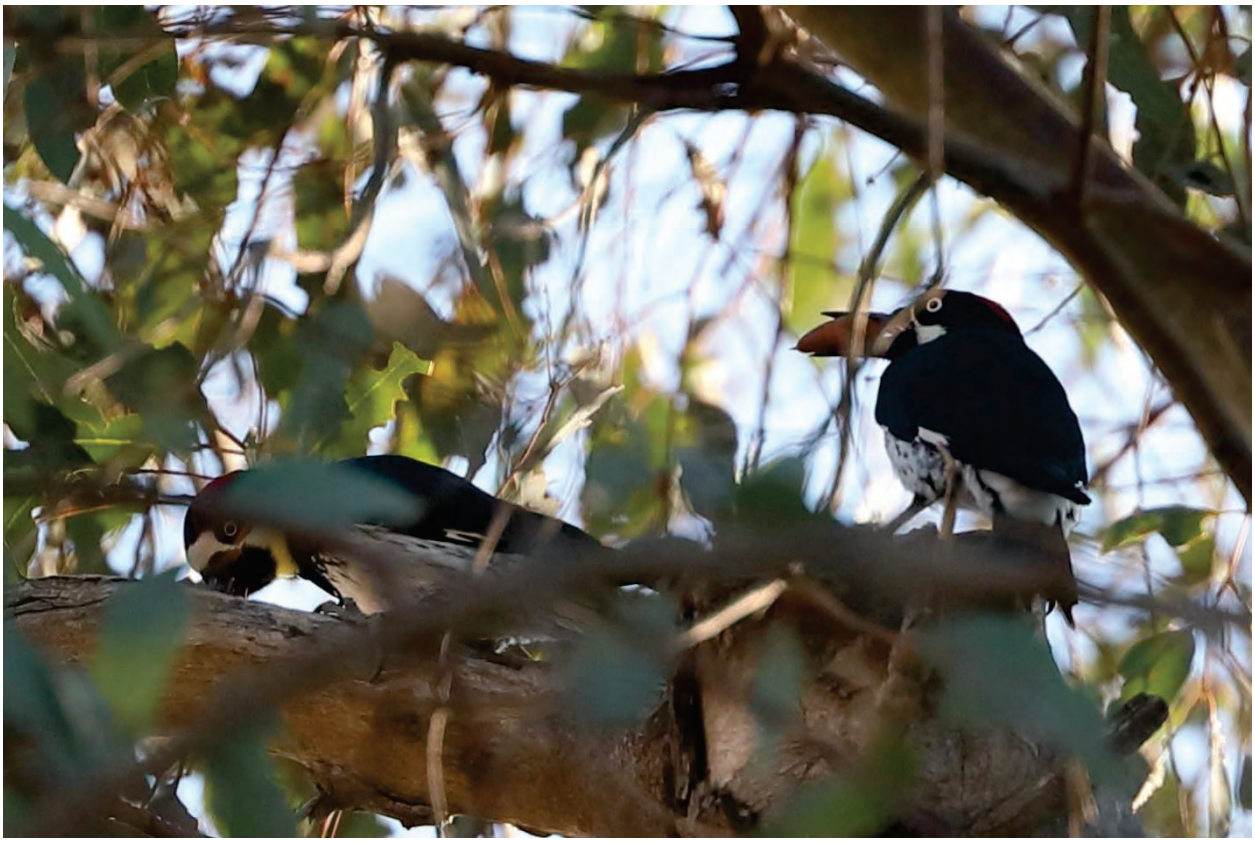


Photo 10. *Acorn woodpeckers just off of the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 11 and 12. *Allen's hummingbird (left), and Anna's hummingbird (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 13 and 14. *Western bluebird just off of the project site (left), and yellow-rumped warbler on the project site (right), 6 December 2024. Photos by Noriko Smallwood.*

Photos 15 and 16. *Northern rough-winged swallow (left), and California gull (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 17 and 18. *Mourning dove (left) and band-tailed pigeon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 19 and 20. *Northern mockingbird on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photo 21. *Eastern fox squirrel just off the project site, 6 December 2024. Photo by Noriko Smallwood.*

Table 1. *Species of wildlife Noriko observed during 2.8 hours of survey on 6 December 2024.*

Common name	***Species name***	**Status[1]**	**Notes**
Rock pigeon	*Columba livia*	Non-native	Flew over
Band-tailed pigeon	*Patagioenas fasciata*		Flew over
Mourning dove	*Zenaida macroura*		Flew over
Anna's hummingbird	*Calypte anna*		Territorial; chased NRWS and ALHU
Allen's hummingbird	*Selasphorus sasin*	BCC	Perched and flew over
California gull	*Larus californicus*	BCC, WL	3 flew over
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Chased BTPI on site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Just off site
Acorn woodpecker	*Melanerpes formicivorus*		Collected acorns
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Just off site
Peregrine falcon	*Falco peregrinus*	BOP	Flew over, perched nearby
Red-crowned parrot	*Amazona viridigenalis*		Many
Black phoebe	*Sayornis nigricans*		Perched, foraged
American crow	*Corvus brachyrhynchos*		Many
Common raven	*Corvus corax*		Flew over
Northern rough-winged swallow	*Stelgidopteryx serripennis*		Foraged, perched on site

Common name	*Species name*	Status[1]	Notes
Bushtit	*Psaltriparus minimus*		Foraged on site
Ruby-crowned kinglet	*Regulus calendula*		Just off site
Northern mockingbird	*Mimus polyglottos*		Perched
European starling	*Sturnus vulgaris*	Non-native	Flock flew over
Western bluebird	*Sialia mexicana*		Perched
House finch	*Haemorphous mexicanus*		Perched, socialized
Yellow-rumped warbler	*Setophaga coronata*		Foraged
Desert cottontail	*Sylvilagus audubonii*		Scat
Eastern fox squirrel	*Sciurus niger*	Non-native	Just off site

[1] Listed as BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (California Fish and Game Code 3503.5).

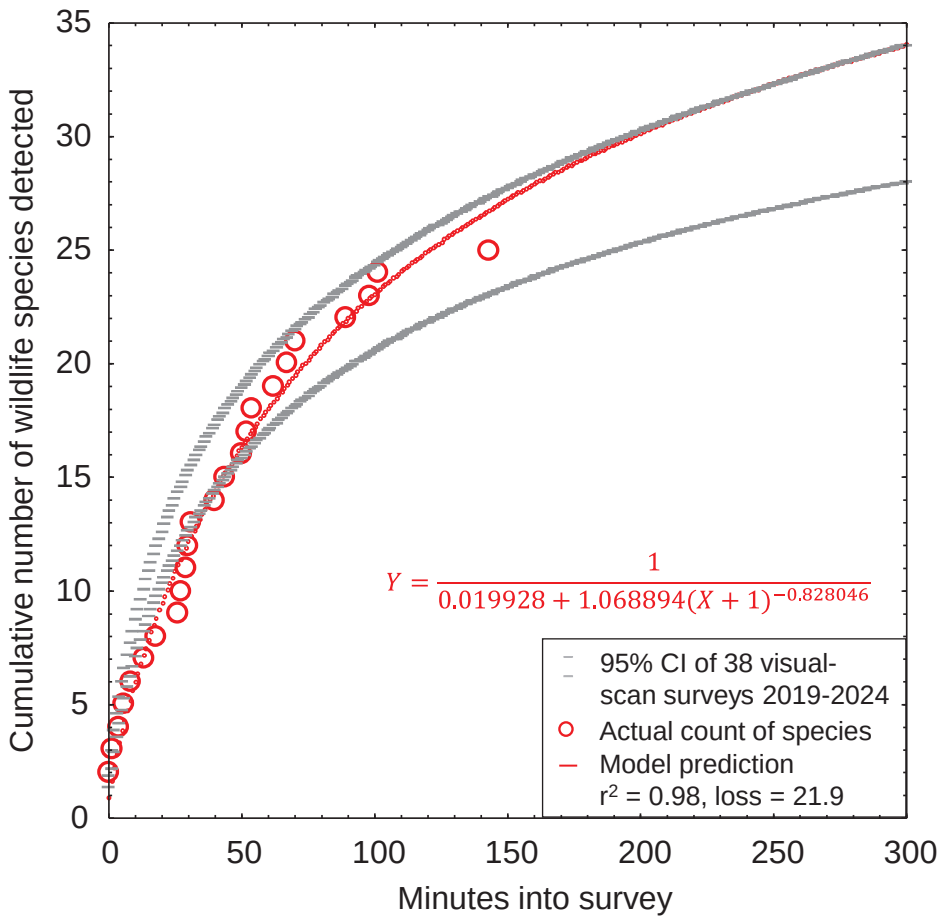
The species of wildlife Noriko detected at the project site comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit a nonlinear regression model to Noriko's cumulative number of vertebrate species detected with time into her survey to predict the number of species that she would have detected with a longer survey or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. In this case, the model fit to her survey predicts 50 species of vertebrate wildlife were available to be detected during that morning, or twice the number of species she actually detected (Figure 1).

Unknown are the identities of those species Noriko missed, but the pattern in her data indicates relatively high use of the project site compared to 38 other south-coast sites she and I have surveyed in California. Noriko's rate of detections of species at the project site tracked the 95% confidence interval estimated from other surveys in California's south coast region (Figure 1). Importantly, however, the species Noriko did and did not detect on 6 December 2024 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km^2 of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to

accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a+b\times(Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys on 31 August and 1 September 2024.*



I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 12.1 species over my first 2.8 hours of surveys at my research site in the Altamont Pass (2.8 hours to match the 2.8 hours Noriko surveyed at the project site), which composed 21.2% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 25 species Noriko detected after her 2.8 hours of survey at the project site likely represented 21.2% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko

would likely detect $^{25}/_{0.212} = 118$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 118 predicted species, then continued surveys would eventually detect 28 special-status species of vertebrate wildlife.

Because my prediction of 118 species of vertebrate wildlife, including 28 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the wildlife community of the site must be larger. Noriko's reconnaissance survey should serve only as a starting point toward characterization of the site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed to inventory the project site for wildlife. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

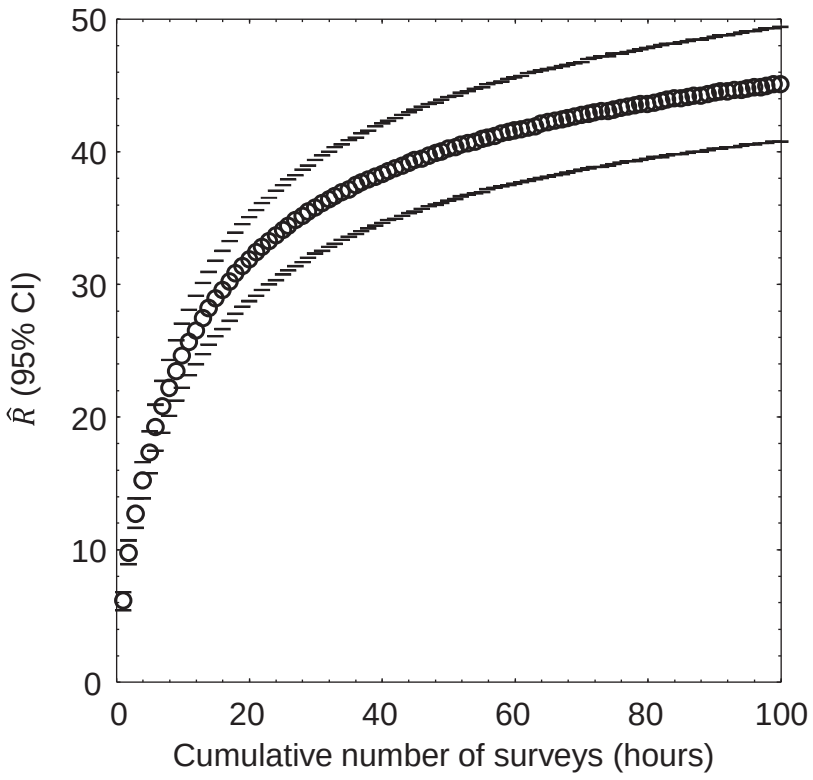


Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*

EXISTING ENVIRNMENTAL SETTING

The IS/MND fails to complete the first step in analysis of potential project impacts to biological resources, which is to accurately characterize the existing environmental setting, including the biological species that use the site. This first analytical step should also characterize the wildlife community that uses that portion of the aerosphere that would be appropriated by the project's building. This appropriated airspace is habitat that would be lost to many species of birds, where avian habitat is defined by a species' use of its environment (Hall et al. 1997), typically based on measurement (Smallwood

2002). The gaseous atmosphere, or aerosphere, is habitat to many species. It is a principal medium of life to volant animals such as birds (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat not just to volant wildlife that fly through it, but to any and every animal that breaths air. Indeed, an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008). The aerosphere is part of the existing environmental setting, and it needs to be characterized as such in CEQA review. The IS/MND makes no mention of the aerosphere, let alone which species of birds might use it.

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should identify which biological species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources. However, the IS/MND provides neither the results of a field survey to detect species of wildlife nor of a desktop review to identify occurrence records of special-status species in the project area.

Environmental Setting informed by Field Surveys

No surveys for birds were completed at the project site. Surveys are needed to characterize bird flights during both day and night, and the bird flights need to be further attributed by species, heights above ground, flight directions, and specific flight behaviors. The lack of surveys leaves the City of Arcadia blind to any potential project impacts to birds, because without a survey there is no sound basis for characterizing the existing environmental setting. Going forward with the project without completing appropriate avian surveys would be indefensible, and doing so could result in high costs to birds and to the building's owner if windows require retrofits or window glass needs to be marked for visibility post-construction (see below, under Bird-Window Collisions).

The IS/MND reports that the site supports 26 trees, but only three of which are protected by City Code. However, the IS/MND fails to report the importance of the site's trees to birds. The trees on site serve to expand the vertical structural available to birds on the adjoining County Park and golf course, the combination of which composes a considerable open space within an expansive urbanized landscape. The trees on the project site effectively add open space to birds.

Of Noriko Smallwood's 130 observations of birds in flight during her survey, 38 were headed to or from trees on the project site. House finches, yellow-rumped warblers and red-crowned parrots flew to and from the palm trees located in the middle of the site. An Allen's hummingbird and an Anna's hummingbird flew back and forth to other trees in the middle of the site. All of these and more observations should have been made by wildlife biologists sent to the project site by the City of Arcadia.

Noriko saw 17 species flying through the airspace of the project site, and all these flying birds were within the height domain of the proposed building. Of the flying birds, 44% were within 30 feet of the ground, and 93% were within 60 feet of the ground. Three of the birds circled over the site (including the peregrine falcon), while 38 were headed west, 30 east, 35 north, and 21 south. Unknown, however, are the numbers of birds, their heights above ground, behaviors, and their bearings in other seasons or at night. These details matter because they can affect collision rates with the building's windows, and whether the building can be designed to minimize collisions.

Environmental Setting informed by Desktop Review

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The IS/MND includes no desktop review to assess avian species' occurrence likelihoods in or near the airspace that would be appropriated by the proposed project. The lack of a desktop review for avian flight paths and for special-status species likely to occur at the project site leaves the City of Arcadia uninformed of and unprepared for potential project impacts to birds. It also fails to publicly disclose potential impacts to birds.

In my assessment based on database review, 77 special-status species of birds are known to occur near enough to the project site to warrant analysis of occurrence potential (Table 2). Members of these 77 species can fly within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 77 special-status species, 6 (8%) have been documented on or just next to the project site, 45 (58%) have been documented within 1.5 miles of the site (Very close), 11 (14%) within 1.5 and 4 miles (Nearby), and another 14 (18%) within 4 to 30 miles (In region). Most (80.5%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site's airspace carries considerable potential for supporting the travels of many special-status species of birds based on proximity of recorded occurrences.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. Entries in bold font identify species detected by Noriko.*

Common name	***Species name***	**Status[1]**	**Data base records, Site visits**
Monarch	*Danaus plexippus*	FC	Very close
Crotch's bumble bee	*Bombus crotchii*	CCE	Very close
Western pond turtle	*Emys marmorata*	SSC	In region
Blainville's horned lizard	*Phrynosoma blainvillii*	SSC	In region
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	SSC	Nearby
San Diegan legless lizard	*Anniella stebbinsi*	SSC	Very close
California glossy snake	*Arizona elegans occidentalis*	SSC	In region
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	SSC	In region
Fulvous whistling-duck	*Dendrocygna bicolor*	SSC1	In region
Western grebe	*Aechmophorus occidentalis*	BCC	Very close
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Nearby
Vaux's swift	*Chaetura vauxi*	SSC2	Very close
Calliope hummingbird	*Selasphorus calliope*	BCC	Very close
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close
Allen's hummingbird	*Selasphorus sasin*	BCC	**On site**
Laughing gull	*Leucophaeus atricilla*	WL	In region
Franklin's gull	*Leucophaeus pipixcan*	BCC	In region
Heermann's gull	*Larus heermanni*	BCC	In region
Western gull	*Larus occidentalis*	BCC	Very close
California gull	*Larus californicus*	BCC, WL	**On site**
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1	Very close
California brown pelican	*Pelecanus occidentalis californicus*	CFP	Nearby
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Very close
Turkey vulture	*Cathartes aura*	BOP	Very close
Osprey	*Pandion haliaetus*	WL, BOP	Very close
White-tailed kite	*Elanus luecurus*	CFP, BOP	Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL	Very close
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	**On site**
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP	Very close

Common name	*Species name*	Status[1]	Data base records, Site visits
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	**Just offsite**
Ferruginous hawk	*Buteo regalis*	WL, BOP	Very close
Zone-tailed hawk	*Buteo albonotatus*	BOP	Very close
Harris' hawk	*Parabuteo unicinctus*	WL, BOP	In region
Western screech-owl	*Megascops kennicotti*	BOP	Very close
Great horned owl	*Bubo virginianus*	BOP	Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP, CCE	Nearby
Long-eared owl	*Asio otus*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	In region
Northern saw-whet owl	*Aegolius acadicus*	BOP	Nearby
Northern pygmy-owl	*Glaucidium gnoma*	BOP	Nearby
Lewis's woodpecker	*Melanerpes lewis*	BCC	Very close
Nuttall's woodpecker	*Picoides nuttallii*	BCC	**Just offsite**
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	BOP	**On site**
Prairie falcon	*Falco mexicanus*	WL, BOP	Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Very close
Willow flycatcher	*Empidonax traillii*	CE	Very close
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Very close
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Nearby
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Very close
Oak titmouse	*Baeolophus inornatus*	BCC	Very close
California horned lark	*Eremophila alpestris actia*	WL	Very close
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Nearby
Wrentit	*Chamaea fasciata*	BCC	Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2	In region
California thrasher	*Toxostoma redivivum*	BCC	Very close
Cassin's finch	*Haemorhous cassinii*	BCC	Very close
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC	Nearby
Gray-headed junco	*Junco hyemalis caniceps*	WL	Very close
Bell's sparrow	*Amphispiza b. belli*	WL	In region
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2	In range
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL	Very close

Common name	*Species name*	Status[1]	Data base records, Site visits
Yellow-breasted chat	*Icteria virens*	SSC3	Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Very close
Bullock's oriole	*Icterus bullockii*	BCC	Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Very close
Lucy's warbler	*Leiothlypis luciae*	SSC3	Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Very close
Prothonotary warbler	*Protonotaria citrea*	BCC	In region
Prairie warbler	*Setophaga discolor*	BCC	In region
Yellow warbler	*Setophaga petechia*	SSC2	Very close
Summer tanager	*Piranga rubra*	SSC1	Very close
Little brown bat	*Myotis lucifugus*	WBWG:M	In region
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region
Long-eared myotis	*Myotis evotis*	WBWG:M	In region
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Long-legged myotis	*Myotis volans*	WBWG:H	In range
Small-footed myotis	*Myotis ciliolabrum*	WBWG:M	In range
Canyon bat	*Parastrellus hesperus*	WBWG:M	Nearby
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	In region
Hoary bat	*Lasiurus cinereus*	WBWG:M	In region
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	In range
Spotted bat	*Euderma maculatum*	SSC, WBWG:H	In range
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	In range
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In range
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	In region
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	SSC	In range
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	In range

[1] Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H).

Because the project would consist of a mid-rise building with many windows, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,585 birds of 117 species have been recorded flying into the Los Angeles Metropolitan area from 18 countries of the Americas, from as far away as Argentina,

Bahamas, and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ40oBhFA4OAVzTCOgFUBlWnAQzCgDMAFgB0ABgCsAiQHYCOCOlAC0ARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, nearly 794,000 birds were in flight over Los Angeles County during the night of 28 April 2024. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area.

More than 11 million birds flew across Los Angeles County through the 2024 spring migration by the time of this writing (https://dashboard.birdcast.info/region/US-CA-037). Bird flights across Los Angeles averaged 107,539 flights per night in spring 2024. Most of these flights ranged in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Arcadia, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the heights of the proposed building of either option. Assuming this percentage also applies to birds flying across the aerosphere overlying the Los Angeles Metropolitan Area including Arcadia, then migratory flights documented by BirdCast would average 13,873 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in the Los Angeles Metropolitan Area comes in the forms of buildings and trees. In summary, the basis exists for concern that a large number of birds might routinely fly through the aerosphere that would be appropriated by the proposed building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions.

Hundreds of thousands of birds migrate along the Pacific Flyway, which includes the Los Angeles Metropolitan Area. At least 77 special-status species of bird are known to the project area (Table 2). According to the scientific literature, many of the special-status species in Table 2 have been documented as window collision fatalities and are therefore susceptible to new structural glass installations (Supplemental Material to Basilio et al. 2020; Smallwood unpublished review). Many more species of migratory birds, protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, have also been documented as window collision victims (Basilio et al. 2020).

Surveys by qualified behavioral ecologists are needed to characterize bird flight activity in the project area. A desktop review is also needed to identify the special-status species

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

of birds most at risk of encountering the building while flying through the area. The analysis should provide guidance to the orientation and design of the building. Also, it should provide guidance to mitigation measures.

Based on Noriko Smallwood's brief survey of the site for vertebrate wildlife, and based on my cursory desktop review for the potential of special-status species of wildlife to occur at the site, there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community of the project site.

BIOLOGICAL IMPACTS ASSESSMENT

Accurate characterization of the existing environmental setting is an essential foundation for analysis of potential project impacts, but the IS/MND provides no foundation for an impacts analysis. An impacts analysis should consider whether and how the proposed project would affect members of each potentially occurring special-status species and of each species of bird likely to attempt to fly through the airspace of the project. In the following, I analyze impacts likely to result from the project but which are not addressed in the IS/MND.

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, the IS/MND includes no analysis of whether the project would interfere with wildlife movement in the region. The project would insert a midrise building into the airspace that has been used by birds on migration, dispersal, home range patrol and foraging over millions of years. This building would obviously interfere with wildlife movement in the region. Noriko Smallwood observed and photographed birds flying through the airspace of the project site. A fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated.

BIRD-WINDOW COLLISIONS

The project would add a 5-story mixed-use building, which would expose the birds of Arcadia to many windows composing the building's facades. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266

bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend

to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted for undetected fatalities). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m^2 of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The IS/MND does not disclose the extent of glass windows on the proposed new building. I therefore measured the extents of windows depicted in the IS/MND's schematics of the building, though in doing so I omitted measurement of the glass railings. I adjusted my measured extent of exterior glass for the exterior glass that was either not visible or only obliquely visible on façades of interior spaces such as around the courtyard and within projections of the building My adjustment was 50%, which was conservative. With this adjustment, I estimate the project would include 2,966 m^2 of exterior glass windows. Applying the mean fatality rate (above) to my estimates of glass in either project, I predict annual bird deaths of 217 (95% CI: 129–305).

The vast majority of bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and California's Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of bird-window collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The IS/MND neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 22—25), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 22. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 23. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

Photos 24 and 25. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020.)*

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study

found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009) study, hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The IS/MND predicts 1,302,015 annual VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted annual VMT would predict 554 vertebrate wildlife fatalities per year due to project-generated traffic. However, compared to the study area of Mendelsohn et al. (2009), fewer animals would be killed in the urbanized part of Arcadia that surrounds the project site, so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would be only 30% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 166. Even this assumed lower mortality would qualify as a

significant impact, and based on my review of the available documents, it would not be mitigated.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The IS/MND does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic.

CUMULATIVE IMPACTS

The IS'MND's analysis of potential project contributions to cumulative impacts is flawed. According to the IS/MND (p. 3-114), "All reasonably foreseeable future development in the City would be subject to the same land use and environmental regulations that have been described throughout this document. ... all development projects are guided by the policies identified in the City's General Plan and by the regulations established in the Development Code and AMC. Therefore, compliance with applicable land use and environmental regulations and implementation of the mitigation program would ensure that environmental effects associated with the proposed Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." However, according to the CEQA Guidelines §15064(h)(3), "a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project." The IS/MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area. The CEQA Guidelines §15064(h)(3) futher state, "When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable." The IS/MND provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts to wildlife.

To measure the impacts of habitat loss and cumulative impacts to wildlife caused by development projects that had to comply with existing policies and regulations, Noriko Smallwood and I measured the impacts of habitat loss to wildlife caused by mitigated development projects. We revisited 80 sites of proposed projects that we had originally surveyed in support of comments on CEQA review documents (Smallwood and Smallwood 2023). We revisited the sites to repeat the survey methods at the same time

of year, the same start time in the day, and the same methods and survey duration in order to measure the effects of mitigated development on wildlife. We structured the experiment in a before-after, control-impact experimental design, as some of the sites had been developed since our initial survey and some had remained undeveloped. We found that mitigated development resulted in a 66% loss of species on site, and 48% loss of species in the project area. Counts of vertebrate animals declined 90%. "Development impacts measured by the mean number of species detected per survey were greatest for amphibians (-100%), followed by mammals (-86%), grassland birds (-75%), raptors (-53%), special-status species (-49%), all birds as a group (-48%), non-native birds (-44%), and synanthropic birds (-28%). Our results indicated that urban development substantially reduced vertebrate species richness and numerical abundance, even after richness and abundance had likely already been depleted by the cumulative effects of loss, fragmentation, and degradation of habitat in the urbanizing environment," and despite all the mitigation measures per existing policies and regulations. We also specifically tested for the effects of projects to wildlife in neighboring habitats, and found significant decreases in species richness and overall abundance in those areas as well.

The project would insert a glass-covered midrise building into the airspace that has been used by volant wildlife for millions of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other midrise and high-rise buildings in the area. The project would also cause a predicted 217 (95% CI: 129–305) bird-window collision fatalities. Additionally, the project would generate a predicted annual VMT of 1,302,015, which would contribute 166 to 554 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Arcadia and the Los Angeles Metropolitan Area. A cumulative impacts analysis needs to be completed.

MITIGATION MEASURES

The IS/MND summarizes three measures to mitigate potential project impacts to wildlife, but these measures are incomplete and inadequate. Below my comments on these measures are my recommendations for mitigation that should be considered in an EIR.

RR BIO-1: *If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. ... If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned*.

Whereas a preconstruction nesting bird survey should be completed, it needs to be understood that a preconstruction survey unlikely to achieve much of any conservation

benefit to birds, and the IS/MND – like all other CEQA review documents I have read – cites no evidence of efficacy. Preconstruction, take-avoidance surveys consist of two steps, both of which are very difficult. First, the biologist(s) performing the survey must identify birds that are breeding. Second, the biologist(s) must locate the breeding birds' nests. The first step is typically completed by observing bird behaviors such as food deliveries and nest territory defense. These types of observations typically require many surveys on many dates spread throughout the breeding season, whereas preconstruction surveys take place only once and not necessarily at the optimal time for detecting nesting by birds. The biologists conducting the preconstruction survey would be very lucky to find any of the bird nests that are available to be found at the time of the survey.

One reason why preconstruction surveys achieve very little is because species of bird vary in their nest phenology within what is generally understand as the avian breeding season. Whereas, as examples (and not suggesting these particular species occur at the project site), killdeer begin nesting in mid-March, western meadowlarks begin in late April, burrowing owls usually begin in May, and American goldfinches do not nest until July-August. Whenever the preconstruction survey is conducted, the biologists conducting the survey would be searching only for the nests of the birds that happen to be breeding at the time, and would miss the nests begun between the survey and the start of construction. On the project site, this task would be further complicated by the size of the site, by its terrain, and by its diversity of vegetation communities.

Another reason why preconstruction surveys achieve very little is because the nests they might salvage are only the nests of the year. Preconstruction surveys can do nothing to mitigate the loss of productive capacity that ensues construction. All subsequent years of productivity would be destroyed by the project regardless of the success of a preconstruction survey.

Lastly, the mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine the buffer area for any given species. This measure lacks objective criteria, and it is therefore unenforceable.

RR BIO-2: *…the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project*. …

The obtaining of a necessary permit is not a legitimate mitigation measure, as it does not necessarily avoid, minimize, rectify, reduce, or compensate for impacts.

RR BIO-3: *The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan*.

This measure defers its own formulation to an unspecified later date that arrives after the public has had the opportunity to participate with the environmental review of the

project. It fails to suggest that any of the landscaping would be intended to benefit wildlife.

RECOMMENDED MEASURES

Guidelines on Building Design to Minimize Bird-Window Collisions: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce

collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

The City of Arcadia should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

Landscaping: If the project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

_____
Shawn Smallwood, Ph.D.

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EXHIBIT B

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

WI #24-002.xx

December 18, 2024

Hayley Uno
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

SUBJECT: Arcadia Town Center Project
City of Arcadia, CA
Review and Comment on Noise Study

Dear Ms. Uno,

Per your request, Wilson Ihrig has reviewed the information and noise impact analysis in the following documents:

Arcadia Town Center Project
Initial Study / Mitigated Negative Declaration, November 2024 (IS / MND)
Appendix G Noise Calculations (Appendix G)

The Proposed Arcadia Town Center Project (Project) would result in the construction of a mixed-use development consisting of a five-story building with subterranean and ground level parking. The project is surrounded by residential uses to the northwest and southeast, a park to the south, and commercial uses.

This letter reports our comments on the Noise Analysis in Section 3.13 of the Initial Study / Mitigated Negative Declaration and the Noise Calculations included in Appendix G. Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://www.who.int/docstore/peh/noise/Comnoise-1.pdf)

Baseline Noise is Not Properly Established

The manner in which the IS/MND has determined the existing noise environment is unsupported. The IS/MDN does not show ambient measurement locations. Table 20 [pg. 3-71] indicates the measurements were taken at the project boundary, rather than at sensitive receivers, such as nearby residences on Santa Clara (410 ft from site) and residences on Santa Anita S. (280ft from site). The ambient levels presented in Table 20 are based on short-term 20-minute measurements. As acknowledged in the IS/MDN, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site" [pg. 3-79]. The measurements used account for neither fluctuation over the course of the day nor adjustment with distance from the sources captured. Further, as stated in Table 20, the measurement closer to Santa Clara residences was dominated by HVAC noise directly adjacent to the Project site.

The Project must conduct properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet period of the day and night to determine the impact of construction and operational noise.

Figure 1 Project Site and Noise Sensitive Receivers

Potentially Significant Construction Noise Impacts

The IS/MND fails to disclose and mitigate the Project's potentially significant construction noise impacts. The report claims that "no sensitive receptors occur near the project" [3-78], even though earlier it identifies residences as close as 280 feet from the site [pg. 3-72]. No construction noise predictions are shown at these residences. Using the activity reference levels presented in the IS/MND Table 25 [pg. 3-78] and Appendix G, construction noise would range from 60 dBA to 69 dBA at these Santa Anita residences and 56 dBA to 65 dBA at further residences on Santa Clara Street, as shown in Table 1 below.

Table 1 Estimated Construction Noise Levels

Construction Phase	Noise Levels (Leq, dBA)			
	95 feet – Arcadia County Park[1]	10 feet – Elk Lodge[1]	280 feet – Santa Anita Residences [2]	410 feet – Santa Clara Residences [2]
Ground Cleaning / Demolition	78	98	69	65
Excavation	73	93	64	60
Foundation Construction	72	92	63	59
Building Construction	69	89	60	56
Paving and Site Cleanup	69	89	60	56

1. From Table 25 in IS/MND
2. Calculated based on distance using 20*log(distance / 95 feet)

The IS/MND does not explicitly establish construction noise criteria. It references the City of Arcadia Noise Ordinance limits [pg. 3-75], but omits Section 5610.3 (b), which includes corrections to noise limits for impulsive sounds.[2] The City daytime limit for residential land uses, according to Table 25 in the IS/MND is 55 dBA. The predicted noise levels at the Santa Anita residences would exceed this City limit by 5 to 9 dB, not including any penalty for impulsive sources (such as jackhammers).

Table 25 does show predictions for the Elk Lodge located directly adjacent to the Project site but does not discuss how it is categorizing the property or what criteria is being applied. The predictions shown in the IS/MND exceed commercial land use limits in Noise Ordinance,

The City of Arcadia Interior/Exterior Noise Standards presented in Table 22 of the IS/MND include CNEL exterior limits for passive recreation areas. Table 25 shows Leq levels at Arcadia Conty Park but does not provide CNEL predictions to compare to this criterion. Community Noise Equivalent Level (CNEL) is a weighted average of noise level over time and can be calculated using a properly measured ambient and anticipated construction hours.

California Environmental Quality Act Guidelines cited in the IS/MND state that impacts to noise would be significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels" [p. 3-70]. The IS/MND lacks a significance threshold for "substantial increase" for Project noise. Short-term ambient levels used by the IS/MND are 54 to 66 dBA for daytime hours [pg. 3-71]. As discussed above, the measurements used were not at sensitive receivers and too short to characterize local sources. As shown in Table 1, the predicted level for demolition at Santa Clara Residences is 65 dBA, 11 dBA above the ambient measured at the western Project boundary. A 10-dB increase is subjectively heard as an approximate doubling in loudness.

The IS/MND does not discuss construction mitigation measures for any of these potentially significant noise impacts. Noise barriers at the parameter of the site could provide 10 to 15 dB of

[2] https://library.municode.com/ca/arcadia/codes/code_of_ordinances?nodeId=ARTIVPUWEMOPO_CH6NORE_PT1GEPR_4610.3NOLI

reduction, depending on site geometry and barrier construction, however, contractors are often reluctant to employ barriers because they slow production**.**

The Project must properly evaluate construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. If the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant.

Operational Analysis Incomplete

The IS/MND claims with no evidence that there is no operational noise impact. The report identifies HVAC noise as a potential operational noise source [pg. 3-79] but does not provide any quantitative analysis of predicted levels from mechanical noise. Further, the report does not address noise from the parking garage entrance or ventilation system.

Conclusion

The Project may result in potentially significant construction noise impacts. The IS/MND relies on an inadequate baseline, based on short-term measurement not located at sensitive receivers. Finally, the IS/MDN fails to consider ambient-based significance criteria for noise impacts.

Please feel free to contact me with any questions on this information.

Very truly yours,
Ani Toncheva, Senior Consultant, WILSON IHRIG

EXHIBIT C

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December 18, 2024

Hayley Uno
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1939 Harrison Street, Suite 150
Oakland, CA 94618

Subject: Comments on the Arcadia Town Center Mixed Use Project (SCH No. 2024110749)

Dear Ms. Uno,

We have reviewed the November 2024 Initial Study/Mitigation Negative Declaration ("IS/MND") for the Arcadia Town Center Mixed Use Project ("Project") located in the City of Arcadia ("City"). The Project proposes to construct 440,938-square-feet ("SF") of residential space, including 181 dwelling units and 378 parking spaces on the 2.27-acre site.

Our review concludes that the IS/MND fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas ("GHG") impacts. Emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. An Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment.

Air Quality

Failure to Provide Complete CalEEMod Output Files

Land use development projects under the California Environmental Quality Act ("CEQA") typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod").[1] CalEEMod uses default values tailored to site-specific details such as land use type, meteorological data, lot size, project type, and typical equipment associated with that type. If project-specific details are available, users can modify these defaults, but CEQA requires substantial evidence to justify such changes. Once the inputs are finalized, the model calculates the

[1] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide.

project's construction and operational emissions and generates "output files." These output files disclose to the reader what parameters are used in calculating the Project's air pollutant emissions and demonstrate where default values are changed. Justifications are provided for the values selected.

Review of the Project's CalEEMod output files in Appendix A of the IS/MND reveals that the "Arcadia Town Center v2" includes land use inputs but omits all other qualitative outputs regarding the Project's construction-related and operational emission (pp. 38, 39).

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	181	Dwelling Unit	2.27	173,760	2,000	—	536	—
Enclosed Parking with Elevator	378	Space	0.00	151,200	0.00	—	—	—
Strip Mall	4.00	1000sqft	0.00	4,000	800	—	—	—
City Park	1.00	Acre	0.00	0.00	21,825	21,825	—	Private/Public Open Space
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.00	5,000	1,000	—	—	—
General Office Building	5.00	1000sqft	0.00	5,000	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

Year
Daily - Summer (Max)
Daily - Winter (Max)
Average Daily
Annual

Note: Only sections 1.2, 1.3, 2.1, and 2.2 are included for reader clarity.

Without access to specific emissions values, we are unable to verify the potential significance or accuracy of the Project's model. Furthermore, the "Arcadia Town Center v2" model does not include the "User Changes to Default" table. (Appendix A, pp. 54)

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Without access to the "User Changes to Default Data" table, we are unable to verify whether changes were made to the model's default values. CEQA requires public disclosure of environmental impacts to

ensure transparency with regards to potential environmental impacts of land use developments.[2] An EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines.

Diesel Particulate Matter Emissions Inadequately Evaluated

The IS/MND determines that the Project would result in a negligible health risk impact without conducting a construction health risk analysis ("HRA"). CEQA requires all proposed projects to connect their emissions with potential adverse impacts on human health caused by those emissions.[3] As the IS/MND does not establish a connection between the Project's construction-related diesel particulate matter ("DPM") emissions and potential health risks to nearby sensitive receptors, the Project violates CEQA's requirement. Additionally, the IS/MND does not compare the Project's excess cancer risk to the South Coast Air Quality Management District's ("SCAQMD") threshold of 10 in one million.[4]

An assessment of the health risk posed to nearby existing receptors due to Project construction should be conducted to comply with the most relevant guidance.

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

We conducted an HRA using AERSCREEN, a screening-level air quality dispersion model that estimates maximum potential concentrations of air contaminants affecting nearby sensitive receptors.[5] If AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval. [6]

To conduct a preliminary, screening-level construction HRA, it is necessary to have an estimate of the Project's annual particulate matter 10 ("PM_{10}") exhaust emissions.[7] However, as detailed in the section of this letter titled *Failure to Provide Complete CalEEMod Output Files,* the Project's CalEEMod files exclude the projected values for construction-related emissions. In the absence of this requisite information, we created a model using the Project-specific details provided in the IS/MND and related documents to estimate PM_{10} emissions.

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[2] "Environmental Review Guidelines." San Diego County Air Pollution Control District, September 2024*, available at*: https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/ceqa/DRAFT-SDAPCD-CEQA-Guidelines.pdf#:~:text=It%20is%20intended%20to%20require%20public%20disclosure,under%20what%20circumstances%20to%20approve%20such%20projects.&text=In%20accordance%20with%20Section%2015063%20of%20the,have%20a%20significant%20effect%20on%20the%20environment.

[3] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

[4] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, March 2023, *available at*: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

[5] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.

[6] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

[7] "Inhalable Particulate Matter and Health (PM2.5 and PM10)." CARB, *available at:* https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health.

Our analysis included 173,760-SF of "Apartments Mid Rise," 151,200-SF of "Enclosed Parking with Elevator," 4,000-SF of "Strip Mall," 1-acre of "City Park," 5,000-SF of "User Defined Commercial," and 5,000-SF of "General Office Building," consistent with the Project's original model. Additionally, as the Project's construction duration was not properly justified or disclosed, we developed a proportionately altered construction schedule to match the total construction duration of 29 months (IS/MND, p. 2-11).[8] All other values were left as default.[9]

Following Office of Environmental Health Hazard Assessment's ("OEHHA") recommendations, we began residential exposure at the third trimester of life. Our CalEEMod emissions indicate that construction will produce approximately 380 pounds of diesel particulate matter ("DPM") over the 730-day period.[10] The AERSCREEN model simulates maximum concentrations from emission sources using an average emission rate. We calculated this average DPM emission rate to account for variations in equipment usage and truck trips during construction using the following equation:

$$\text{Emission Rate } \left(\frac{\text{grams}}{\text{second}}\right) = \frac{380 \text{ lbs}}{730 \text{ days}} \times \frac{453.6 \text{ grams}}{\text{lbs}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3{,}600 \text{ seconds}} = \mathbf{0.00144\ g/s}$$

We estimated a construction emission rate of 0.00144 grams per second ("g/s"). Construction was simulated as a 2.27-acre rectangular area source in AERSCREEN, with approximate dimensions of 136- by 68-meters. A release height of 3 meters was selected to represent the height of stacks of heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of the city of Arcadia was obtained from U.S. 2023 Census data.[11]

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. U.S. Environmental Protection Agency ("U.S. EPA") guidance suggests that in screening procedures, the annualized average concentration of an air pollutant to be estimated by multiplying the single-hour concentration by 10%.[12] According to the AERSCREEN output files the maximally exposed individual receptor would be located 75 meters from the Project site. However, the IS/MD states that the nearest sensitive receptors are residences located approximately 280 feet, or 85 meters, from the Project site (p. 3-10). The single-hour concentration estimated by AERSCREEN for Project construction is 2.670 µg/m^3 DPM at around 100 meters downwind.[13] Multiplying this single-hour

[8] See Attachment A for the proportionately altered construction phases' calculations.
[9] See Attachment B for SWAPE's CalEEMod output files.
[10] See Attachment C for health risk calculations.
[11] "Arcadia" U.S. Census Bureau, 2023, *available at:* https://datacommons.org/place/geoId/0602462?q=arcadia.
[12] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* https://www.epa.gov/sites/default/files/2020-09/documents/epa-454r-92-019_ocr.pdf.
[13] *Note:* AERSCREEN output files come in increments of 25 meters, so our emissions calculations are slightly underestimated.

concentration by 10%, we get an annualized average concentration of 0.2670 µg/m^3 for Project construction at the nearest sensitive receptor.[14]

The excess cancer risk to the nearest sensitive receptor was calculated using applicable HRA methodologies as prescribed by OEHHA, in accordance with SCAQMD recommendation. [15] Guidance from OEHHA and California Air Resources Board ("CARB") suggests utilizing a standard point estimate approach, with high-point estimate breathing rates and age sensitivity factors ("ASF") to accurately assess risk, especially for susceptible populations like children. The residential exposure parameters considered in our screening-level HRA include daily breathing rates, exposure duration, ASFs, fraction of time at home, and exposure frequency for different age groups (see table below).

Exposure Assumptions for Residential Individual Cancer Risk

Age Group	Breathing Rate (L/kg-day)[16]	Age Sensitivity Factor[17]	Exposure Duration (years)	Fraction of Time at Home[18]	Exposure Frequency (days/year)[19]	Exposure Time (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 – 2)	1090	10	2	1	350	24
Child (2 – 16)	572	3	14	1	350	24
Adult (16 – 30)	261	1	14	0.73	350	24

The procedure requires the incorporation of several discrete variates to effectively quantify dose per age group for the inhalation pathway. Contaminate dose is then multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day^{-1}) to derive the cancer risk estimate. The following dose algorithm was used to assess exposure assumptions:

[14] See Attachment D for AERSCREEN output files.
[15] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[16] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[17] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.
[18] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[19] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 5-24.

$$\text{Dose}_{\text{AIR,per age group}} = \text{C}_{\text{air}} \times \text{EF} \times \left[\frac{\text{BR}}{\text{BW}}\right] \times \text{A} \times \text{CF}$$

where:

Dose_{AIR} = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

We used the following equation to calculate the overall cancer risk per appropriate age group:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{\text{AT}}$$

where:

Dose_{AIR} = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(\text{mg/kg/day})^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 730-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and the first 1.75 years of the infantile stage of life (0 – 2 years). The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction

Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	0.2670	3.63E-06
Infant (0 - 2)	1.75	0.2670	7.67E-05
Construction	**2**		**8.04E-05**

The excess cancer risks for the 3rd trimester of pregnancy and infant stage of life at the nearest sensitive receptor, over the course of Project construction are approximately 3.63 and 76.7 in one million, respectively. The excess cancer risk over just the course of the Project construction is approximately

80.4 in one million, which exceeds the SCAQMD threshold of 10 in one million. This results in a potentially significant impact not previously addressed or identified in the IS/MND.

Our analysis represents a conservative screening-level HRA, which prioritizes public health. It is used to show the potential correlation between Project emissions and adverse health risks. The U.S. EPA recommends the use of a screening-level analysis as the first phase of a tiered approach to conducting exposure assumptions, as outlined in their Exposure Assessment Guidelines.[20] Screening-level analyses require further evaluation with more developed modeling. Our initial HRA demonstrates that Project construction could lead to significant health risks. An EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The IS/MND estimates that the Project will produce a net annual GHG emissions of 2,181-metric-tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. 3-50, Table 17).

TABLE 17
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

The IS/MND indicates that the GHG emission values are included in Appendix A. However, as previously addressed, the IS/MND's CalEEMod output files do not provide the emissions estimates or include any relevant inputs beyond the land uses. We are therefore unable to verify the legitimacy of the estimates presented in the table above and, as such, the Project's GHG emissions could be underestimated. Until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon for Project significance.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

As the Project would result in a potentially significant health risk impact to individuals in the community surrounding the Project site, the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks. According to CEQA Guidelines § 15096(g)(2):

[20] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

"When an updated EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

The IS/MND should evaluate the following mitigation measures to reduce the DPM emissions associated with Project construction (see list below).

The Southern California Association of Governments' 2020 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report provides the following mitigation measures:[21]

- Minimize unnecessary vehicular and machinery activities.
- Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project.
- Ensure all construction equipment is properly tuned and maintained.
- Minimizing idling time to 5 minutes or beyond regulatory requirements —saves fuel and reduces emissions.
- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- Develop a traffic plan to minimize community impacts due to traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). If construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and

[21] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." SCAG, May 2020, *available at:* https://scag.ca.gov/peir.

remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.

The CalEEMod User's Guide confirms that the methods for mitigating DPM emissions include the use of "alternative fuel, electric equipment, diesel particulate filters (DPF), oxidation catalysts, newer tier engines, and dust suppression."[22]

The proposed mitigation measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, thereby minimizing emissions during construction. An EIR should be prepared to include all feasible mitigation measures and updated air quality, health risk, and GHG analyses. This will ensure that necessary mitigation measures are implemented to reduce emissions to the greatest extent possible.

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

[22] "Calculation Details for CalEEMod." CAPCOA, May 2021, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-a2020-4-0.pdf?sfvrsn=6, Appendix A, p. 60.

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Attachment D: AERSCREEN Output Files
Attachment E: Matt Hagemann CV
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Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	381	0.0525	891	47
Site Preparation	3	381	0.0079	891	7
Grading	6	381	0.0157	891	14
Construction	220	381	0.5774	891	514
Paving	10	381	0.0262	891	23
Architectural Coating	10	381	0.0262	891	23

	Total Default Construction Duration	Revised Construction Duration
Start Date	1/1/2026	1/1/2026
End Date	1/17/2027	6/10/2028
Total Days	381	891

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Arcadia Town Center Detailed Report

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Data Field	Value
Project Name	Arcadia Town Center
Construction Start Date	1/1/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	24.4
Location	34.140403578150526, -118.03194606892856
County	Los Angeles-South Coast
City	Arcadia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4922
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	181	Dwelling Unit	2.27	173,760	2,000	—	536	—

Enclosed Parking with Elevator	378	Space	0.00	151,200	0.00	—	—	—
City Park	1.00	Acre	0.00	0.00	21,825	21,825	—	—
User Defined Recreational	5.00	User Defined Unit	0.00	5,000	1,000	1,000	—	—
Strip Mall	4.00	1000sqft	0.09	4,000	800	—	—	—
General Office Building	5.00	1000sqft	0.11	5,000	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.71	1.95	45.7	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,843	29,843	1.62	4.38	61.6	31,250
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.67	1.95	47.0	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,847	29,847	1.62	4.38	1.60	31,194
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.62	1.33	10.4	16.5	0.03	0.31	2.16	2.47	0.28	0.59	0.87	—	4,825	4,825	0.22	0.34	4.01	4,936
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.24	1.89	3.01	0.01	0.06	0.40	0.45	0.05	0.11	0.16	—	799	799	0.04	0.06	0.66	817

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.71	1.95	45.7	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,843	29,843	1.62	4.38	61.6	31,250
2027	2.25	1.88	11.9	24.4	0.03	0.33	3.00	3.33	0.31	0.72	1.03	—	6,262	6,262	0.26	0.31	11.9	6,373
2028	0.79	0.66	5.58	9.02	0.01	0.20	0.52	0.54	0.19	0.12	0.23	—	1,440	1,440	0.05	0.02	1.48	1,447
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.67	1.95	47.0	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,847	29,847	1.62	4.38	1.60	31,194
2027	2.24	1.86	12.1	22.6	0.03	0.33	3.00	3.33	0.31	0.72	1.03	—	6,126	6,126	0.18	0.31	0.31	6,223
2028	2.15	1.78	11.5	21.9	0.03	0.30	3.00	3.29	0.27	0.72	0.99	—	6,049	6,049	0.17	0.31	0.28	6,145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.62	1.30	10.4	15.9	0.03	0.31	2.16	2.47	0.28	0.59	0.87	—	4,825	4,825	0.22	0.34	4.01	4,936
2027	1.60	1.33	8.68	16.5	0.02	0.24	2.11	2.34	0.22	0.51	0.72	—	4,402	4,402	0.13	0.22	3.68	4,474
2028	0.42	0.35	2.31	4.43	0.01	0.06	0.53	0.59	0.06	0.13	0.18	—	1,130	1,130	0.03	0.05	0.83	1,148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.30	0.24	1.89	2.90	0.01	0.06	0.40	0.45	0.05	0.11	0.16	—	799	799	0.04	0.06	0.66	817
2027	0.29	0.24	1.58	3.01	< 0.005	0.04	0.38	0.43	0.04	0.09	0.13	—	729	729	0.02	0.04	0.61	741
2028	0.08	0.06	0.42	0.81	< 0.005	0.01	0.10	0.11	0.01	0.02	0.03	—	187	187	0.01	0.01	0.14	190

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	62.8	57.1	7.13	142	0.32	13.0	7.62	20.7	12.8	1.94	14.7	1,788	14,202	15,990	14.9	0.43	23.9	16,513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.5	55.0	7.22	122	0.31	13.0	7.62	20.6	12.8	1.94	14.7	1,788	13,807	15,595	14.9	0.44	1.87	16,101
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.0	12.1	3.67	46.8	0.09	0.99	7.03	8.01	0.96	1.79	2.75	208	10,417	10,626	10.1	0.37	10.4	10,999
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.36	2.21	0.67	8.54	0.02	0.18	1.28	1.46	0.18	0.33	0.50	34.5	1,725	1,759	1.68	0.06	1.73	1,821

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.07	3.69	2.66	31.9	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	8,161	8,161	0.37	0.31	22.6	8,286
Area	58.7	53.4	3.91	110	0.24	12.9	—	12.9	12.7	—	12.7	1,695	3,296	4,992	5.06	0.06	—	5,137
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	62.8	57.1	7.13	142	0.32	13.0	7.62	20.7	12.8	1.94	14.7	1,788	14,202	15,990	14.9	0.43	23.9	16,513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	4.03	3.65	2.91	29.4	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	7,823	7,823	0.39	0.33	0.59	7,931
Area	56.5	51.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	60.5	55.0	7.22	122	0.31	13.0	7.62	20.6	12.8	1.94	14.7	1,788	13,807	15,595	14.9	0.44	1.87	16,101
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.75	3.39	2.75	28.2	0.07	0.04	7.03	7.07	0.04	1.79	1.83	—	7,411	7,411	0.36	0.31	9.14	7,522
Area	9.14	8.69	0.37	18.3	0.02	0.90	—	0.90	0.88	—	0.88	116	261	377	0.35	< 0.005	—	387
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	13.0	12.1	3.67	46.8	0.09	0.99	7.03	8.01	0.96	1.79	2.75	208	10,417	10,626	10.1	0.37	10.4	10,999
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.68	0.62	0.50	5.16	0.01	0.01	1.28	1.29	0.01	0.33	0.33	—	1,227	1,227	0.06	0.05	1.51	1,245
Area	1.67	1.59	0.07	3.33	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	43.2	62.4	0.06	< 0.005	—	64.1
Energy	0.01	0.01	0.10	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	440	440	0.03	< 0.005	—	442
Water	—	—	—	—	—	—	—	—	—	—	—	2.52	14.0	16.5	0.26	0.01	—	24.9
Waste	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21
Total	2.36	2.21	0.67	8.54	0.02	0.18	1.28	1.46	0.18	0.33	0.50	34.5	1,725	1,759	1.68	0.06	1.73	1,821

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	1.39	12.9	14.6	0.02	0.51	—	0.51	0.47	—	0.47	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.67	1.88	< 0.005	0.07	—	0.07	0.06	—	0.06	—	321	321	0.01	< 0.005	—	322
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.34	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.2	53.2	< 0.005	< 0.005	—	53.4
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.69	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	161	161	0.01	0.01	0.01	163
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	0.03	21.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.47	3.47	< 0.005	< 0.005	0.01	3.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.34	1.13	9.84	10.8	0.03	0.42	—	0.42	0.39	—	0.39	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	52.1	52.1	< 0.005	< 0.005	—	52.3
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.62	8.62	< 0.005	< 0.005	—	8.65
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.41	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.3	96.3	< 0.005	< 0.005	0.01	97.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.49	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	94.2	94.2	< 0.005	< 0.005	—	94.5
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.6
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	0.01	< 0.005	0.46	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.97	0.43	32.8	12.9	0.19	0.35	7.43	7.78	0.35	2.03	2.39	—	27,252	27,252	1.51	4.35	61.1	28,649
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.55	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.93	0.41	34.1	13.0	0.19	0.35	7.43	7.78	0.35	2.03	2.39	—	27,264	27,264	1.51	4.35	1.59	28,601
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.00	5.00	< 0.005	< 0.005	0.01	5.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.02	1.32	0.50	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,045	1,045	0.06	0.17	1.01	1,098
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.24	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	173	173	0.01	0.03	0.17	182

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.32	6.19	0.01	0.19	—	0.19	0.17	—	0.17	—	1,159	1,159	0.05	0.01	—	1,163
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.97	1.13	< 0.005	0.03	—	0.03	0.03	—	0.03	—	192	192	0.01	< 0.005	—	192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.73	0.77	12.8	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,694	2,694	0.11	0.09	9.11	2,734
Vendor	0.10	0.04	1.60	0.77	0.01	0.02	0.40	0.42	0.01	0.11	0.12	—	1,447	1,447	0.06	0.21	3.91	1,514
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.73	0.87	11.0	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,553	2,553	0.12	0.09	0.24	2,585
Vendor	0.10	0.04	1.67	0.79	0.01	0.02	0.40	0.42	0.01	0.11	0.12	—	1,448	1,448	0.06	0.21	0.10	1,511
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.38	0.50	6.04	0.00	0.00	1.35	1.35	0.00	0.32	0.32	—	1,364	1,364	0.06	0.05	2.08	1,382
Vendor	0.05	0.02	0.88	0.41	0.01	0.01	0.21	0.22	0.01	0.06	0.06	—	762	762	0.03	0.11	0.89	796
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.10	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	226	226	0.01	0.01	0.34	229
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	126	126	0.01	0.02	0.15	132
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	9.70	11.7	0.02	0.32	—	0.32	0.30	—	0.30	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	1.35	1.13	9.70	11.7	0.02	0.32	—	0.32	0.30	—	0.30	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.97	0.81	6.93	8.36	0.02	0.23	—	0.23	0.21	—	0.21	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.18	0.15	1.26	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.80	0.71	0.69	11.9	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,642	2,642	0.11	0.09	8.23	2,681
Vendor	0.09	0.04	1.53	0.73	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,419	1,419	0.06	0.20	3.70	1,483
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.69	0.86	10.1	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,505	2,505	0.04	0.09	0.21	2,534
Vendor	0.09	0.04	1.59	0.74	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,420	1,420	0.06	0.20	0.10	1,480
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.57	0.49	0.61	7.59	0.00	0.00	1.83	1.83	0.00	0.43	0.43	—	1,815	1,815	0.03	0.07	2.53	1,839
Vendor	0.07	0.03	1.14	0.53	0.01	0.01	0.28	0.29	0.01	0.08	0.08	—	1,014	1,014	0.04	0.14	1.14	1,058
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.39	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	301	301	< 0.005	0.01	0.42	304
Vendor	0.01	0.01	0.21	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	168	168	0.01	0.02	0.19	175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.08	9.23	11.7	0.02	0.28	—	0.28	0.26	—	0.26	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.52	1.92	< 0.005	0.05	—	0.05	0.04	—	0.04	—	362	362	0.01	< 0.005	—	363
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.04	0.03	0.28	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.77	0.67	0.77	9.53	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,460	2,460	0.03	0.09	0.19	2,489
Vendor	0.09	0.03	1.52	0.71	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,387	1,387	0.05	0.20	0.09	1,447
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.13	1.64	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	410	410	0.01	0.02	0.53	416
Vendor	0.02	0.01	0.25	0.12	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	228	228	0.01	0.03	0.25	238
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.30	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	67.9	67.9	< 0.005	< 0.005	0.09	68.8
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.7	37.7	< 0.005	0.01	0.04	39.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.73	0.61	5.53	8.18	0.01	0.20	—	0.20	0.19	—	0.19	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.61	5.53	8.18	0.01	0.20	—	0.20	0.19	—	0.19	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.4	78.4	< 0.005	< 0.005	—	78.6
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.0
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.85	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	196	196	< 0.005	0.01	0.56	198
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.01	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.02	12.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	1.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.41	8.41	< 0.005	< 0.005	—	8.44
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.39	1.39	< 0.005	< 0.005	—	1.40
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.14	2.24	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	519	519	0.01	0.02	1.48	526
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.5	31.5	< 0.005	< 0.005	0.04	31.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.21	5.21	< 0.005	< 0.005	0.01	5.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.30	2.99	2.15	25.8	0.06	0.04	6.14	6.18	0.04	1.56	1.60	—	6,574	6,574	0.30	0.25	18.2	6,675
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.04	15.5
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Strip Mall	0.60	0.54	0.40	4.80	0.01	0.01	1.15	1.16	0.01	0.29	0.30	—	1,233	1,233	0.06	0.05	3.42	1,252
General Office Building	0.16	0.15	0.11	1.32	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	339	339	0.02	0.01	0.94	344
Total	4.07	3.69	2.66	31.9	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	8,161	8,161	0.37	0.31	22.6	8,286
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.27	2.96	2.35	23.7	0.06	0.04	6.14	6.18	0.04	1.56	1.60	—	6,302	6,302	0.31	0.27	0.47	6,389
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	0.01	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	< 0.005	14.8
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.59	0.54	0.44	4.41	0.01	0.01	1.15	1.16	0.01	0.29	0.30	—	1,182	1,182	0.06	0.05	0.09	1,198
General Office Building	0.16	0.15	0.12	1.21	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	325	325	0.02	0.01	0.02	329
Total	4.03	3.65	2.91	29.4	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	7,823	7,823	0.39	0.33	0.59	7,931
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.56	0.51	0.41	4.22	0.01	0.01	1.05	1.06	0.01	0.27	0.27	—	1,003	1,003	0.05	0.04	1.24	1,018
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.28	1.28	< 0.005	< 0.005	< 0.005	1.30
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.10	0.09	0.07	0.76	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.05	—	181	181	0.01	0.01	0.22	184
General Office Building	0.02	0.02	0.02	0.17	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	41.2	41.2	< 0.005	< 0.005	0.05	41.8
Total	0.68	0.62	0.50	5.16	0.01	0.01	1.28	1.29	0.01	0.33	0.33	—	1,227	1,227	0.06	0.05	1.51	1,245

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	967	967	0.06	0.01	—	971
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.05	0.01	—	817
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	57.3	57.3	< 0.005	< 0.005	—	57.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,968	1,968	0.12	0.01	—	1,975
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	967	967	0.06	0.01	—	971
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.05	0.01	—	817
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	57.3	57.3	< 0.005	< 0.005	—	57.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,968	1,968	0.12	0.01	—	1,975
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	160	160	0.01	< 0.005	—	161
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.01	< 0.005	—	135

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	9.48	9.48	< 0.005	< 0.005	—	9.52
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	326	326	0.02	< 0.005	—	327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.06	0.03	0.51	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	644	644	0.06	< 0.005	—	646
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.67	7.67	< 0.005	< 0.005	—	7.70

General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.6	40.6	< 0.005	< 0.005	—	40.7
Total	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	693	693	0.06	< 0.005	—	694
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.06	0.03	0.51	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	644	644	0.06	< 0.005	—	646
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.67	7.67	< 0.005	< 0.005	—	7.70
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.6	40.6	< 0.005	< 0.005	—	40.7
Total	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	693	693	0.06	< 0.005	—	694
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	107	107	0.01	< 0.005	—	107
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.27
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.72	6.72	< 0.005	< 0.005	—	6.74
Total	0.01	0.01	0.10	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	115	115	0.01	< 0.005	—	115

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	52.4	47.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.22	2.08	0.16	17.5	< 0.005	0.02	—	0.02	0.01	—	0.01	—	57.0	57.0	< 0.005	< 0.005	—	57.2
Total	58.7	53.4	3.91	110	0.24	12.9	—	12.9	12.7	—	12.7	1,695	3,296	4,992	5.06	0.06	—	5,137
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	52.4	47.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080

Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	56.5	51.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.66	0.59	0.05	1.15	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	36.7	56.0	0.06	< 0.005	—	57.6
Consumer Products	0.74	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.28	0.26	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.46	6.46	< 0.005	< 0.005	—	6.49
Total	1.67	1.59	0.07	3.33	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	43.2	62.4	0.06	< 0.005	—	64.1

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	12.9	67.2	80.1	1.33	0.03	—	123
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.26	5.26	< 0.005	< 0.005	—	5.28
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.24	0.24	< 0.005	< 0.005	—	0.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.57	3.03	3.59	0.06	< 0.005	—	5.47
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.70	8.93	10.6	0.18	< 0.005	—	16.3
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	12.9	67.2	80.1	1.33	0.03	—	123
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.26	5.26	< 0.005	< 0.005	—	5.28
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.24	0.24	< 0.005	< 0.005	—	0.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.57	3.03	3.59	0.06	< 0.005	—	5.47
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.70	8.93	10.6	0.18	< 0.005	—	16.3
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2.14	11.1	13.3	0.22	0.01	—	20.3

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.87	0.87	< 0.005	< 0.005	—	0.87
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.04	0.04	< 0.005	< 0.005	—	0.04
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.09	0.50	0.60	0.01	< 0.005	—	0.91
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.28	1.48	1.76	0.03	< 0.005	—	2.69
Total	—	—	—	—	—	—	—	—	—	—	—	2.52	14.0	16.5	0.26	0.01	—	24.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.9	0.00	11.9	1.19	0.00	—	41.8

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	0.00	—	1.45
Total	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2026	3/6/2026	5.00	47.0	—

Site Preparation	Site Preparation	3/7/2026	3/17/2026	5.00	7.00	—
Grading	Grading	3/18/2026	4/6/2026	5.00	14.0	—
Building Construction	Building Construction	4/7/2026	3/24/2028	5.00	514	—
Paving	Paving	3/27/2028	4/26/2028	5.00	23.0	—
Architectural Coating	Architectural Coating	4/27/2028	5/29/2028	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45

Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	401	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—

Building Construction	Worker	199	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	46.4	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.8	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)

Demolition	0.00	0.00	0.00	0.00	—
Site Preparation	—	—	10.5	0.00	—
Grading	—	44,870	6.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Enclosed Parking with Elevator	0.00	100%
City Park	0.00	0%
User Defined Recreational	0.00	0%
Strip Mall	0.00	0%
General Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

Apartments Mid Rise	985	889	740	341,650	8,659	7,815	6,510	3,004,398
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.78	1.96	2.19	420	7.15	18.0	20.1	3,848
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	177	168	81.7	59,249	1,625	1,542	749	543,218
General Office Building	48.7	11.1	3.50	13,455	447	101	32.1	123,365

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	9
Gas Fireplaces	154
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	18
Conventional Wood Stoves	0
Catalytic Wood Stoves	9
Non-Catalytic Wood Stoves	9
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
—	—	—	—	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	663,516	532	0.0330	0.0040	2,010,339
Enclosed Parking with Elevator	558,144	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00
User Defined Recreational	0.00	532	0.0330	0.0040	0.00
Strip Mall	39,285	532	0.0330	0.0040	23,948
General Office Building	89,101	532	0.0330	0.0040	126,732

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	6,746,558	34,282
Enclosed Parking with Elevator	0.00	0.00
City Park	0.00	680,192

User Defined Recreational	0.00	31,166
Strip Mall	296,290	11,220
General Office Building	888,669	14,025

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	134	—
Enclosed Parking with Elevator	0.00	—
City Park	0.09	—
User Defined Recreational	0.00	—
Strip Mall	4.20	—
General Office Building	4.65	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat
Extreme Precipitation	9.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	16.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	70.7
AQ-DPM	57.7
Drinking Water	73.7
Lead Risk Housing	54.4
Pesticides	0.00
Toxic Releases	70.1
Traffic	80.3
Effect Indicators	—
CleanUp Sites	74.9
Groundwater	0.00

Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	6.04
Cardio-vascular	7.47
Low Birth Weights	7.29
Socioeconomic Factor Indicators	—
Education	42.7
Housing	10.2
Linguistic	80.2
Poverty	27.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	84.3320929
Employed	68.92082638
Median HI	57.88528166
Education	—
Bachelor's or higher	80.67496471
High school enrollment	100
Preschool enrollment	84.88387014
Transportation	—
Auto Access	70.20402926
Active commuting	5.915565251

Social	—
2-parent households	35.26241499
Voting	21.00603105
Neighborhood	—
Alcohol availability	87.47593995
Park access	34.12036443
Retail density	39.49698447
Supermarket access	46.73424868
Tree canopy	66.75221352
Housing	—
Homeownership	46.75991274
Housing habitability	43.07712049
Low-inc homeowner severe housing cost burden	33.1707943
Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	52.11086873
Arthritis	0.0
Asthma ER Admissions	94.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	97.0
Cognitively Disabled	87.2
Physically Disabled	80.2

Heart Attack ER Admissions	84.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	97.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	84.9
Elderly	16.5
English Speaking	18.2
Foreign-born	95.7
Outdoor Workers	60.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	34.1
Traffic Density	80.4
Traffic Access	23.0
Other Indices	—
Hardship	23.2
Other Decision Support	—
2016 Voting	20.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Consistent with IS/MND's model.
Construction: Construction Phases	Consistent with information provided by the IS/MND.

Construction			
2026		**Total**	
Annual Emissions (tons/year)	0.06	Total DPM (lbs)	380
Daily Emissions (lbs/day)	0.328767123	Total DPM (g)	90729.86301
Construction Duration (days)	365	Emission Rate (g/s)	0.001438513
Total DPM (lbs)	120	Release Height (meters)	3
Total DPM (g)	54432	Total Acreage	2.27
Start Date	1/1/2026	Max Horizontal (meters)	135.55
End Date	1/1/2027	Min Horizontal (meters)	67.77
Construction Days	365	Initial Vertical Dimension (meters)	1.5
2027		Setting	Arcadia
Annual Emissions (tons/year)	0.04	Population	54,157
Daily Emissions (lbs/day)	0.219178082	Start Date	1/1/2026
Construction Duration (days)	365	End Date	1/1/2028
Total DPM (lbs)	80	Total Construction Days	730
Total DPM (g)	36288	Total Years of Construction	2.00
Start Date	1/1/2027	Total Years of Operation	28.00
End Date	1/1/2028		
Construction Days	365		
2028			
Annual Emissions (tons/year)	0.01		
Daily Emissions (lbs/day)	0.054794521		
Construction Duration (days)	180		
Total DPM (lbs)	9.863013699		
Total DPM (g)	4473.863014		
Start Date	1/1/2028		
End Date	6/29/2028		
Construction Days	180		

The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction			
Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	0.2670	3.63E-06
Infant (0 - 2)	1.75	0.2670	7.67E-05
Construction	**2**		**8.04E-05**

AERSCREEN 21112 / AERMOD 21112 12/16/24
14:10:10

TITLE: ArcadiaTownCenter, Construction

********** AREA PARAMETERS **********

SOURCE EMISSION RATE:	0.144E-02	g/s	0.114E-01	lb/hr
AREA EMISSION RATE:	0.157E-06	g/(s-m2)	0.124E-05	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	135.55	meters	444.72	feet
AREA SOURCE SHORT SIDE:	67.77	meters	222.34	feet
INITIAL VERTICAL DIMENSION:	1.50	meters	4.92	feet
RURAL OR URBAN:	URBAN			
POPULATION:	54157			
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** FLOW SECTOR ANALYSIS **********

25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	4.341	20	75.0	WIN

* = worst case diagonal

```
**********  MAKEMET METEOROLOGY PARAMETERS  **********
--------------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                   0.35
BOWEN RATIO:              1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       ------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   310.0    2.0



--------------------------------------------------------------------------------
********** AERSCREEN AUTOMATED DISTANCES **********
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
--------------------------------------------------------------------------------


                    MAXIMUM                             MAXIMUM
           DIST     1-HR CONC                 DIST     1-HR CONC
            (m)      (ug/m3)                   (m)      (ug/m3)
         ---------------------               ---------------------
           1.00     3.331                   2525.00    0.3360E-01
```

25.00	3.828	2550.00	0.3315E-01
50.00	4.210	2575.00	0.3271E-01
75.00	4.341	2600.00	0.3228E-01
100.00	2.670	2625.00	0.3186E-01
125.00	1.980	2650.00	0.3145E-01
150.00	1.551	2675.00	0.3104E-01
175.00	1.260	2700.00	0.3065E-01
200.00	1.053	2725.00	0.3027E-01
225.00	0.8974	2750.00	0.2989E-01
250.00	0.7785	2775.00	0.2952E-01
275.00	0.6845	2800.00	0.2916E-01
300.00	0.6082	2825.00	0.2881E-01
325.00	0.5458	2850.00	0.2846E-01
350.00	0.4940	2875.00	0.2813E-01
375.00	0.4496	2900.00	0.2779E-01
400.00	0.4119	2925.00	0.2747E-01
425.00	0.3795	2950.00	0.2715E-01
450.00	0.3511	2975.00	0.2684E-01
475.00	0.3263	3000.00	0.2653E-01
500.00	0.3044	3025.00	0.2623E-01
525.00	0.2849	3050.00	0.2594E-01
550.00	0.2674	3075.00	0.2565E-01
575.00	0.2518	3100.00	0.2537E-01
600.00	0.2376	3125.00	0.2509E-01
625.00	0.2247	3150.00	0.2482E-01
650.00	0.2130	3175.00	0.2455E-01
675.00	0.2023	3200.00	0.2429E-01
700.00	0.1926	3225.00	0.2403E-01
725.00	0.1836	3250.00	0.2378E-01
750.00	0.1753	3275.00	0.2353E-01
775.00	0.1677	3300.00	0.2329E-01
800.00	0.1606	3325.00	0.2305E-01
825.00	0.1540	3350.00	0.2282E-01
850.00	0.1479	3375.00	0.2258E-01
875.00	0.1422	3400.00	0.2236E-01
900.00	0.1368	3425.00	0.2213E-01
925.00	0.1318	3450.00	0.2192E-01
950.00	0.1270	3475.00	0.2170E-01
975.00	0.1226	3500.00	0.2149E-01
1000.00	0.1185	3525.00	0.2128E-01
1025.00	0.1145	3550.00	0.2107E-01
1050.00	0.1108	3575.00	0.2087E-01
1075.00	0.1073	3600.00	0.2068E-01
1100.00	0.1040	3625.00	0.2048E-01
1125.00	0.1009	3650.00	0.2029E-01
1150.00	0.9792E-01	3675.00	0.2010E-01
1175.00	0.9510E-01	3700.00	0.1991E-01
1200.00	0.9242E-01	3725.00	0.1973E-01
1225.00	0.8986E-01	3750.00	0.1955E-01
1250.00	0.8742E-01	3775.00	0.1938E-01

1275.00	0.8570E-01	3800.00	0.1920E-01
1300.00	0.8344E-01	3825.00	0.1903E-01
1325.00	0.8129E-01	3850.00	0.1886E-01
1350.00	0.7923E-01	3875.00	0.1869E-01
1375.00	0.7726E-01	3900.00	0.1853E-01
1400.00	0.7538E-01	3925.00	0.1837E-01
1425.00	0.7357E-01	3950.00	0.1821E-01
1450.00	0.7184E-01	3975.00	0.1805E-01
1475.00	0.7017E-01	4000.00	0.1790E-01
1500.00	0.6857E-01	4025.00	0.1775E-01
1525.00	0.6704E-01	4050.00	0.1760E-01
1550.00	0.6556E-01	4075.00	0.1745E-01
1575.00	0.6414E-01	4100.00	0.1731E-01
1600.00	0.6277E-01	4125.00	0.1716E-01
1625.00	0.6145E-01	4150.00	0.1702E-01
1650.00	0.6017E-01	4175.00	0.1688E-01
1675.00	0.5895E-01	4200.00	0.1674E-01
1700.00	0.5776E-01	4225.00	0.1661E-01
1725.00	0.5662E-01	4250.00	0.1648E-01
1750.00	0.5551E-01	4275.00	0.1634E-01
1775.00	0.5444E-01	4300.00	0.1621E-01
1800.00	0.5341E-01	4325.00	0.1609E-01
1824.99	0.5241E-01	4350.00	0.1596E-01
1850.00	0.5144E-01	4375.00	0.1584E-01
1875.00	0.5050E-01	4400.00	0.1571E-01
1900.00	0.4960E-01	4425.00	0.1559E-01
1924.99	0.4871E-01	4450.00	0.1547E-01
1950.00	0.4786E-01	4475.00	0.1535E-01
1975.00	0.4703E-01	4500.00	0.1524E-01
2000.00	0.4623E-01	4525.00	0.1512E-01
2025.00	0.4545E-01	4550.00	0.1501E-01
2050.00	0.4469E-01	4575.00	0.1490E-01
2075.00	0.4396E-01	4600.00	0.1479E-01
2100.00	0.4324E-01	4625.00	0.1468E-01
2125.00	0.4255E-01	4650.00	0.1457E-01
2150.00	0.4187E-01	4675.00	0.1446E-01
2175.00	0.4121E-01	4700.00	0.1436E-01
2200.00	0.4057E-01	4725.00	0.1425E-01
2225.00	0.3995E-01	4750.00	0.1415E-01
2250.00	0.3934E-01	4775.00	0.1405E-01
2275.00	0.3875E-01	4800.00	0.1395E-01
2300.00	0.3818E-01	4825.00	0.1385E-01
2325.00	0.3761E-01	4850.00	0.1375E-01
2350.00	0.3707E-01	4875.00	0.1366E-01
2375.00	0.3653E-01	4900.00	0.1356E-01
2400.00	0.3601E-01	4925.00	0.1347E-01
2425.00	0.3551E-01	4950.00	0.1337E-01
2450.00	0.3501E-01	4975.00	0.1328E-01
2475.00	0.3453E-01	5000.00	0.1319E-01
2500.00	0.3406E-01		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	4.436	4.436	4.436	4.436	N/A
DISTANCE FROM SOURCE	72.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	3.331	3.331	3.331	3.331	N/A
DISTANCE FROM SOURCE	1.00 meters				

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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2656 29th Street, Suite 201
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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

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Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

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Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

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Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

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Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

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Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

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Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

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Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

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Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

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Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

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Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

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Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
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John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

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James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

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Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

EXHIBIT D

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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: Arcadia Town Center Project – Arcadia, CA.
(IEE File Reference: P-4950)

Pages: 19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 µg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 µg is 2 µg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m^3. The median indoor formaldehyde concentration was 36 µg/m^3, and ranged from 4.8 to 136 µg/m^3, which corresponds to a median exceedance of the 2 µg/m^3 NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the San Diego County Air Pollution Control District (SDAPCD, 2021).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 µg/m^3 to 28% for the Acute REL of 55 µg/m^3.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and

particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to the Arcadia Town Center project, Arcadia, CA, the buildings consist of residential and commercial spaces.

The residential occupants will potentially have continuous exposure (e.g. 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the residential occupants inhale 20 m^3 of air per day, the average 70-year lifetime formaldehyde daily dose is 482 µg/day for continuous exposure in the residences. This exposure represents a cancer risk of 120 per million, which is more than 12 times the CEQA cancer risk of 10 per million. For occupants that do not have continuous exposure, the cancer risk will be proportionally less but still substantially over the CEQA cancer risk of 10 per million (e.g. for 12/hour/day occupancy, more than 6 times the CEQA cancer risk of 10 per million).

The employees of the commercial spaces are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the employees of commercial spaces work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 µg/m^3, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures.

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifies an existing cancer risk at the Project site of 537 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (µg/h) from the product of the area-specific formaldehyde emission rate (µg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (µg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the

health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a

result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

The Arcadia Town Center project, Arcadia, CA is close to roads with moderate to high traffic (e.g., South Santa Anita Avenue, West Huntington Drive, East Huntington Drive, etc.). Thus, the Project is located in a sound impacted area.

According to the Initial Study/Mitigative Negative Declaration – Arcadia Town Center Project, Arcadia, CA there have been only four short-term (20 minute) measurements of the ambient noise levels on April 12, 2023, which ranged from 59.4 to 66.3 dBA Leq, and modeling of the future traffic noise levels which ranged from 59.4 to 73.5 dBA CNEL.

In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study with actual on-site measurements of the existing ambient noise levels and modeled future ambient noise levels needs to be conducted. The acoustic study of the existing ambient noise levels should be conducted over a minimum of a one-week period and report the dBA CNEL or Ldn. This study will allow for the selection of a building envelope and windows with a sufficient STC such that the indoor noise levels are acceptable. A mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors will also be required. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors.

$PM_{2.5}$ Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. The Arcadia Town Center Project, Arcadia, CA is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 537 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. at least MERV 13, or possibly MERV 14 or 15 depending on the results of the Project ambient $PM_{2.5}$ concentrations) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and

exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

Response to Comments Memorandum

Arcadia Town Center Project
SCH No. 2024110749

Submitted to

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January 2025

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SECTION 1.0 INTRODUCTION AND SUMMARY

Pursuant to Section 15072 of the State California Environmental Quality Act (CEQA) Guidelines, a Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) for the Arcadia Town Center Project (Project) was distributed on November 19, 2024, by the City of Arcadia (City) to the public, applicable responsible and trustee agencies, and other appropriate agencies and organizations. The Arcadia Town Center Project Initial Study/Mitigated Negative Declaration (IS/MND) was available for public review and comment for a 30-day period from Thursday, November 21, 2024, through Friday, December 20, 2024.

Section 15074(b) of the State CEQA Guidelines states that, prior to approving a project, the lead agency must consider a proposed IS/MND together with any comments received on that document during the public review period. Pursuant to Section 15367 of the State CEQA Guidelines, the City of Arcadia is the lead agency for the Project.

Written comments on the Arcadia Town Center Project IS/MND were received from a total of two parties during the 30-day public review period that closed on December 20, 2024. Although CEQA does not require written responses to comments on an IS/MND, the City–as the lead agency–has evaluated all comments received as well as prepared written responses. The City's responses to any significant environmental issues raised in comments on the IS/MND are provided in Section 2.0, Responses to Comments, of this document. When comments did not address the completeness or adequacy of the CEQA documentation or raise significant environmental issues, the receipt of the comment is noted, and no further response is provided.

1.1 CONCLUSION OF THE CEQA PROCESS

The City has reviewed all comments received to determine whether any significant environmental issues have been raised. Based on substantial evidence and in light of the whole record, including the evaluation in the IS/MND together with the comments received, the City has determined no significant new environmental issues have been raised that have not been adequately addressed in the IS/MND and/or this Responses to Comments Memorandum. All potential impacts associated with the Project were identified and found to be less than significant with the incorporation of identified mitigation measures, where applicable. Accordingly, the Arcadia Town Center Project would not result in any significant impacts, and an IS/MND is the appropriate environmental document in accordance with CEQA (*California Public Resources Code*, Section 21000 et. seq.) and the State CEQA Guidelines (*California Code of Regulations*, Title 14, Section 15000 et. seq.).

The City of Arcadia's Planning Commission will consider the IS/MND together with the comments received during the public review process and this Response to Comments Memorandum. The Planning Commission, as the decision-making body of the lead agency for this Project, will adopt the proposed IS/MND and approve the Project only if they find, on the basis of the whole record before it, that there is no substantial evidence that the Project would have a significant effect on the environment and that the IS/MND reflects the lead agency's independent judgment and analysis.

SECTION 2.0 RESPONSES TO COMMENTS

As described in Section 1.0, written comments on the Arcadia Town Center Project IS/MND were received from the two parties by December 20, 2024 (the close of the public review period), as follows:

Agencies

- California Department of Transportation (Caltrans), District 7 – December 19, 2024

Individuals and Organizations

- Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") – December 20, 2024

Each comment letter has been numbered and then divided into sequential numbered comments (e.g., Letter 1, comments 1.1, 1.2, and so forth). The numbered comment letter is immediately followed with correspondingly numbered responses.

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Insert Caltrans letter (3 pages)

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Response to Comment Letter 1

California Department of Transportation (Caltrans), District 7
December 19, 2024

Response 1.1: This comment is acknowledged. The summary of the Project provided in the comment letter is accurate. No further response is required.

Response 1.2: This comment related to Caltrans' mission and reminder that vehicle miles traveled (VMT) is the required metric for the CEQA analysis of transportation impacts is acknowledged. The IS/MND analyzes transportation impacts consistent with the requirements of Senate Bill (SB) 743 and Section 15064.3 et. seq. of the State CEQA Guidelines.

Specifically, refer to Section 3.17, Transportation, on pages 3-95 through 3-100 of the IS/MND, which summarizes the *Traffic Impact Study for the Arcadia Town Center Project* (Traffic Study), dated September 2024 and provided as Appendix H to the document. The Traffic Study was prepared in accordance with the *City of Arcadia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* and the Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*. No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Response 1.3: This comment providing Caltrans' suggestions for additional features supporting multi-modal transportation and reduction in VMT beyond the current scope and/or footprint of the Project is acknowledged. As demonstrated in the Traffic Study prepared for the Project and summarized in the IS/MND, in accordance with both City and State guidelines, the Project would result in less than significant impacts related to VMT and conflict with circulation system programs, plans, ordinances, or policies, and no mitigation is required (see pages 3-96 through 3-98 of the IS/MND).

Regarding the statement that "the IS/MND does not provide information on nearby bike lane connectivity", the Project does not propose features that extend from the Project site to connect to bike lanes and therefore this information is beyond the scope of the proposed Project and this IS/MND. Also, note that the relevant threshold from Appendix G of the State CEQA Guidelines asks if a project would "**conflict with** (emphasis added) a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities". Accordingly, the Traffic Study and IS/MND address the proposed features of the Project against applicable planning directives. The IS/MND analyzes the Project as designed; the Project's features that support bicyclist and pedestrian activity and accessibility are analyzed to determine whether they conflict with any applicable circulation system directives (see pages 3-97 and 3-98 of the IS/MND). As noted previously, the IS/MND concluded the Project would have less than significant impacts. The cited lack of information on bike lane connectivity does not, therefore, represent an inadequacy of the CEQA documentation.

As stated on page 2-9, of the IS/MND, in Section 2.0, Environmental Setting and Project Description, it is noted the City's Development Code requires that long-term bicycle parking includes one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bike rooms with permanently anchored racks; or
- Lockable, permanently anchored bicycle lockers.

Therefore, the Project would include "secure bicycle parking". Caltrans' other suggested additions to the Project design related to bicycling are acknowledged.

Regarding the statements that "additional measures are necessary to mitigate VMT impacts" notwithstanding the Project's "advantageous" location in a Transit Priority Area [TPA] and "we recommend that strategies…should also be explored" after acknowledging "the IS/MND identifies the project as consistent with regional VMT goals", the Traffic Study prepared as part of the IS/MND concluded the Project–as designed and described in the IS/MND–would result in less than significant impacts related to VMT pursuant to Section 15064.3(b) of the State CEQA Guidelines, and no mitigation is required. To reiterate, the Traffic Study was prepared in accordance with the City's adopted VMT guidelines, which were in turn prepared and adopted in accordance with SB 743. This comment does not substantiate the assertion that (1) there is a significant VMT impact and (2) mitigation measures for this impact are required. Specifically, Caltrans identification of additional VMT-reducing features that could conceivably be included in the Project is not equivalent to identifying an undisclosed significant transportation impact that requires additional mitigation.

In summary, this comment does not provide evidence of significant and/or undisclosed transportation impacts nor the need for additional mitigation measures. No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Response 1.4: This comment relates to transportation of heavy construction equipment and/or materials that require use of oversized transport vehicles on State highways. The City of Arcadia would ensure the contractor acquires all necessary permits, as required by Caltrans, including a Caltrans transportation permit, if applicable. Additionally, short-term and long-term emergency access is fully addressed in Section 3.17, Transportation, of the IS/MND, beginning on page 3-99. As presented beginning on pages 1-5 and 3-99 of the IS/MND, mitigation measure (MM) TRANS-1 requires the preparation of a Construction Management Plan, which would ensure "clear and continuous emergency access routes during construction". The comment related to the commenter's contact information is acknowledged. No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Insert Lozeau Drury letter (16 pages from main body of letter only, remaining 156 pages comprising Exhibits A through D will be included in Appendix A to this document)

Response to Comment Letter 2

Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER")
December 19, 2024

Response 2.1: This comment states the letter is submitted by Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") and provides a brief summary of the Project and is acknowledged. The comment is noted for the record and will be forwarded to the decision-makers.

Response 2.2: This comment states there is a fair argument the Project may result in significant impacts related to biological resources, noise, air quality, and indoor air quality. The commenter requests that an Environmental Impact Report (EIR) be prepared to analyze and mitigate these impacts under the California Environmental Quality Act (CEQA).

The commenter is referred to the entirety of the IS/MND and its appendices, which provides a full analysis of the Project including a detailed description of the Project's elements and an evaluation of both construction and operation activity on- and off-site, as applicable. Section 3.0, Environmental Checklist Form, of the IS/MND evaluates impacts associated with 20 environmental resources and includes analysis of mandatory findings of significance, consistent with Appendix G of the State CEQA Guidelines (2024). The IS/MND also identifies multiple mitigation measures related to Cultural Resources, Hazards and Hazardous Materials, Noise and Vibration, Transportation, Tribal Cultural Resources, and Utilities and Service Systems, which are required to reduce potential impacts to less than significant levels. The Project's IS/MND was prepared consistent with CEQA (*California Public Resources Code*, Section 21000 et. seq.) and the State CEQA Guidelines (*California Code of Regulations*, Title 14, Section 15000 et. seq.) The IS/MND adequately addresses the potential environmental impacts associated with Project implementation. Specifically, in accordance with Section 15063(a)(3) of the State CEQA Guidelines, the environmental analysis and all conclusions presented in the IS/MND relied upon facts, expert opinion supported by facts, technical studies, and other substantial evidence to support the determination that, with implementation of identified mitigation measures, the Project would not have a significant impact on the environment.

An EIR is not required for the Project because (1) all potentially significant impacts would be mitigated to a less than significant level and (2) the commenter does not provide any substantial evidence supporting the numerous and varied assertions regarding the adequacy and accuracy of the IS/MND analysis presented in the remainder of the comment letter and attached exhibits. Section 15384 of the State CEQA Guidelines states, in part, that substantial evidence "means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached".

The commenter's assertions are based on evidence that is inaccurate and/or irrelevant, which results in unreasonable inferences from the information utilized. As such, the commenter has not provided substantial evidence for the record and as such does meet the fair argument standard pursuant to CEQA and the CEQA Guidelines to legally assert that the Project would result in significant adverse environmental impacts.

The comment stating that SAFER's review of the IS/MND was assisted by Shawn Smallwood, Phd.; Wilson Ihrig; Soil/Water/Air Protection Enterprises (SWAPE); and Francis Offermann, PE, CIH (of Indoor Environmental Engineering [IEE]) is acknowledged.

No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Response 2.3: This comment provides a summary of the Project and is acknowledged. The comment is noted for the record and will be forwarded to the decision-makers for review. No further response is required.

Response 2.4: This comment provides a discussion of CEQA case law decisions related to legal standard for negative declarations and is acknowledged. The comment is noted for the record and will be forwarded to the decision-makers. No further response is required.

Response 2.5: This comment states that generally the IS/MND's methodology for and analysis of impacts to biological resources is insufficient and not supported by substantial evidence. The comment states the IS/MND failed to accurately characterize the wildlife community on the Project site, including the presence of "at least six special-status species". A predicted number of vertebrate species and special status species present on site as well as annual bird deaths from window collisions and vertebrate wildlife fatalities from vehicle collisions are purported; however, there are no methodologies provided for these calculations, so the validity of these claims is not verifiable. It is noted that the calculation of predicted vehicle collisions is based on the IS/MND estimating over 1.3 million annual employee VMTs; however, this is categorically inaccurate, not least because this Project would be predominantly residential. It is also noted that the commentary of Dr. Smallwood is limited to and focused on vertebrate wildlife and does not address the many other issues relevant to the topic of biological resources.

The comment asserts the Project would result in significant impacts to biological resources due to interference with aerial (i.e., not ground level) wildlife movement, bird-window collision mortality, traffic mortality, and cumulative impacts. The analysis of mortality of vertebrate wildlife due to bird-window and traffic collisions is not specified nor required by the State CEQA Guidelines or the California Fish and Game Code to be considered the Biological Resources section of Appendix G of the CEQA Guidelines. Similarly, wildlife movement through airspace is irrelevant to the analysis of biological resources pursuant to the State CEQA Guidelines or the California Fish and Game Code.

The comment states the IS/MND's mitigation measures are insufficient to reduce significant biological resources impacts, specifically citing "Mitigation Measure RR BIO-3" and characterizing this as the deferred development of landscape plans. In no location in the IS/MND are regulatory requirements or RRs written as or referred to as "Mitigation Measure RR" nor in any way could it be implied these are mitigation measures. As stated repeatedly in the IS/MND, there would be no significant impacts to biological resources and no mitigation measures are required. The abbreviation "RR" stands for regulatory requirements, which is both defined on page 1-1 of the IS/MND and is the text of the sub-header immediately preceding the list of applicable RRs in every topical analysis section of the IS/MND. As stated on page 1-1, "RRs are based on local, State, and/or federal regulations or laws that are **required independent of CEQA review** [emphasis added], yet also serve to offset or prevent certain impacts". Because the referenced requirement of the Project is not a mitigation measure, the remainder of the comment regarding the sufficiency of said requirement is immaterial, and further response is not necessary.

These opinions of biological resources impacts are interesting in that development of this same project on a greenfield site or even an urban location with half the density of Arcadia would have vastly greater potential for significant biological resources impacts under CEQA, the State CEQA Guidelines, the California Fish and Game Code, and possibly other regulations. An urban infill redevelopment project on a site that is completely developed, almost devoid of pervious surfaces,

with only sparse and ornamental vegetation, and adjoining two of the main thoroughfares through the City of Arcadia is a setting that inherently serves to minimize biological resources impacts.

Section 3.4, Biological Resources, of the IS/MND includes a full analysis of the Project's potential impacts to biological resources, including wildlife species and wildlife movement, and concludes there would be less than significant impacts and no mitigation was required (see pages 3-28 through 3-31 of the IS/MND). Section 3.21, Mandatory Findings of Significance, of the IS/MND addresses cumulative impacts under Threshold 3.21(b) and concludes there would be less than significant impacts and no mitigation was required (see page 3-114 of the IS/MND). The IS/MND thoroughly reviewed and discussed the potential biological resources impacts from construction and operation of the Project based on established best practices for such analyses. This includes, but is not limited to, accepted definitions of special-status species and wildlife corridors in the context of CEQA assessment; use of the checklist questions provided in Appendix G of the State CEQA Guidelines; and consideration of the purpose and intent of environmental review pursuant to CEQA. As part of an academic exercise, an expansive array of definitions, methodologies, and impacts can be asserted as fact and evidence without the functional and legal parameters provided by the CEQA statute and CEQA Guidelines, and relevant case law, which are necessary to facilitate a consistent, equitable, reasonable, and meaningful analysis of any of the 20 environmental topics addressed pursuant to CEQA.

No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Response 2.6: This comment states there is a fair argument that the Project may result in significant adverse noise and vibration impacts. It is noted that, apart from this statement, no supplementary comments regarding the vibration analysis in the IS/MND are provided. The comment states the IS/MND relies on an inadequately established noise baseline; that construction noise impacts will be significant; and that the operational noise analysis is incomplete.

The comment states "she [Ms. Toncheva] found that the MND's ambient noise measurements were taken at the Project boundaries rather than at sensitive receptors…"; and "Moreover, the noise measurements close to the Santa Clara residences were dominated by HVAC noise directly next to the Project site". This is correct. As discussed on page 3-71 of the IS/MND, 20-minute measurements were taken along each of the Project site boundaries (north, south, east, west). Ambient noise levels are primarily influenced by vehicle traffic on the eastern and southern Project site boundaries, the Heating Ventilation and Air Conditioning (HVAC) unit at the Mercedes Benz dealership on the western site boundary, and pressure washer use and the HVAC unit at the dealership on the northern site boundary. Given that Santa Clara Street is generally to the west of the Project site, albeit hundreds of feet away, and is equally proximate to the dealership building, it makes sense the ambient noise environment is also dominated by the HVAC unit, though this was not stated in Table 20 of the IS/MND; Table 20 explicitly states the location is "Western Project Boundary". Regardless, this is not germane to the determination of on-site ambient noise levels.

CEQA requires a disclosure of potential project-related impacts on the environment due to the change in existing conditions at the site of a proposed action. Therefore, the Project site itself is the appropriate location to measure baseline noise levels and is the industry standard practice. Off-site noise levels are then calculated based on the distance from noise source to off-site receptor, which is the industry standard practice. Short-term, on-site measurements were selected because they provide the magnitude of noise under existing conditions experienced at the Project site and this methodology is the industry standard practice for most projects. Long-

term measurements (24-hour) would be useful for projects that have substantial effects on a 24-hour basis or to assess how existing ambient noise levels would affect the Project site. Since CEQA does not require analyses of potential impacts from the environment onto a project, 24-hour noise measurements were not necessary for this Project to prepare a legally adequate analysis of noise pursuant to CEQA and the State CEQA Guidelines.

Regarding statements regarding ambient measurements not capturing noise level fluctuations over the day, adjustment of noise with distance from the source, and that measurements must be near sensitive receptors to capture baseline levels during quiet periods of day and night, it is a fact that ambient noise levels vary depending on the time of day, location of the measurement, and day of the year. It is neither feasible nor necessary to capture noise levels over extended periods to adequately analyze noise impacts pursuant to CEQA.

Regarding sensitive receptor proximity, it is a statement of fact that "no sensitive receptors occur near the Project construction site…" (page 3-78 of the IS/MND). The nearest noise-sensitive receptors–which in this case are residences–are located at least 280 feet to the southeast and 345 feet to the northwest (Excelsior School). Therefore, since the noise-sensitive receptors are hundreds of feet away, they would not be considered located "near", even without considering the presence of intervening structures and roadways with related traffic activity typical of a dense urban environment that act to attenuate and generate noise, respectively. As stated on page 3-78, "The degree to which noise-sensitive receptors are affected by construction activities depends heavily on their proximity".

The estimated construction noise levels at the nearest residential locations (280 feet and 410 feet) purported by the commenter are fundamentally inaccurate and inapplicable for several reasons. First, while the commenter's methodology to calculate these noise levels is appropriately based on the inverse square law[1]–same as the IS/MND– the calculations are not based on the source noise level on the Project site. These calculations use the noise level calculated for receptors at the edge of Arcadia County Park at a distance of 95 feet per Table 25 in the IS/MND. This is a non-linear noise propagation that does not follow the inverse square law arithmetically. Further, in Table 25, the maximum noise level of 98 dBA L_{eq} (equivalent noise level in A-weight decibels) at the Elks Lodge at 10 feet from the noise source attenuates to 78 dBA L_{eq} at 95 feet, or a 20 dBA L_{eq} reduction. In this context, construction noise levels of 69 dBA L_{eq} at 280 feet and 65 dBA L_{eq} at 410 feet are clearly illogical.

The commenter also neglects to mention their calculations are derived from the estimated maximum construction noise levels. Both maximum and average noise levels are presented in Table 25 and discussed in the IS/MND analysis. In reality, the construction noise levels will vary between these ranges that in themselves are worst-case levels. Most notably because noise attenuation under the inverse square law is based on free field conditions, a free field is a region where the acoustic waves can propagate free from obstructions that would otherwise interfere with the sound path. The Project site environment is not a free field in any direction, even more so in the areas between the site and the nearest noise-sensitive receptors. Also, these noise levels are the worst-case scenario in that they represent the outdoor conditions at the given distance. As such, the experienced noise levels would be lower than estimated at any location and even lower within any structures, including commercial structures and homes.

The commenter states the MND fails to establish construction noise criteria. The comments correctly state that the IS/MND references the "noise limits of the City of Arcadia Noise Ordinance"

[1]The inverse square law controls the propagation of noise waves in a free field wherein the doubling of distance from a noise source reduces the resulting noise level by six decibels.

and then asserts the "adjustment to noise limits for impulsive sounds…§5610.3(b)" was omitted. The commenter asserts their predicted noise levels at the Santa Anita residences would exceed the "Ordinance limit". It is assumed this refers to Section 4610.3 "Noise Limits" of the Arcadia Municipal Code (AMC).

The City, as lead agency, determines which significance thresholds are used in CEQA analyses. The City has adopted ordinances or standards within its municipal code and uses these as the basis for noise impact analyses, where applicable. Sections 4261 through 4265 of the AMC relate to construction activity and Section 4610 through 4630.2 of the AMC relate to operation and maintenance of land uses. All applicable sections of the AMC pertaining to noise are presented in the IS/MND. Section 4310.3(b) is not presented because it is not applicable; operation of the proposed land uses would not involve generation of impulsive sounds as defined in Section 4610.1(f) of the AMC. Similarly, exceedance of the noise limits specified in Section 4310 due to construction-generated noise levels is not applicable. The commenter states the IS/MND lacks a significance threshold for generation of substantial temporary or permanent increase in ambient noise levels. However, on page 3-79 of the IS/MND the applicable standards for assessing construction noise are clearly stated. For reasons discussed above, the commenter's predicted construction noise levels, and by extension conflating these levels to a finding regarding a substantial noise level increase – are wholly inaccurate and illogical. As there are no significant construction noise impacts, no mitigation is required.

It is noted most municipalities in California do not have numeric construction noise level limits nor a definition of "substantial" ambient noise level increase and those that do recognize that construction activity will generate higher noise levels than would be acceptable from operation of permanent land uses. Just as operation of a lawn mower, leaf blower, or a circular saw would generate noise levels above the ambient noise level, the Project's construction activities would likewise increase noise levels above the ambient. The City is aware that construction tools and activities generate noise. As such, the City is focused on limiting noise from these activities to the least noise sensitive portions of the day. For the purpose of providing a construction noise analysis per CEQA, the comparison of construction noise against ambient noise levels is not useful because it will almost always be higher than the ambient. This approach would lead to all projects large and small that involve construction vehicles or power tools in developed areas to have to prepare an EIR. As such, comparison of project construction noise levels solely to ambient noise levels does not provide a useful analysis of potential noise nuisance associated with construction activities.

The commenter states the IS/MND "claims, without evidence, that the Project will have no operational noise impact, and goes on to assert the HVAC system was inadequately addressed and the proposed parking garage's entrance and ventilation system must be addressed as potential noise sources. On the contrary, page 3-79 of the IS/MND states the Project would have a less than significant impact related to noise generated by on-site sources. Under CEQA, no impact and a less than significant impact are distinct findings. Regarding on-site stationary source noise, the analysis clearly provides actionable performance standards in Sections 4310.3(c) and 4630.2 of the AMC. The IS/MND properly used the City's codified noise limit as the basis for the stationary source impact finding. As such, the conclusion that on-site stationary noise sources, including those not expressly discussed such as parking garage-related sounds, would be less than significant is based on substantial evidence and this analysis is therefore complete.

Section 3.13, Noise, of the IS/MND includes a full analysis of the Project's potential impacts to noise and vibration during construction and operation both on- and off-sit, as applicable and concludes there would be less than significant impacts with implementation of mitigation MM NOI-1, related to vibration. No significant impacts related to noise are identified and no mitigation is

required (see pages 3-70 through 3-85 of the IS/MND). The IS/MND thoroughly and logically reviewed and discussed the potential noise impacts from construction and operation of the Project based on established best practices for such analyses in the context of CEQA assessment. No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Response 2.7: This comment states there is a fair argument that the Project may result in significant adverse air quality and greenhouse gas (GHG) emissions impacts. The comment states the IS/MND relies on inadequate air quality and GHG emissions analyses, the Project may result in significant air pollutant health risks not adequately addressed in the IS/MND, and the IS/MND does not include all feasible air quality mitigation measures.

Though not disclosed in commenter's remarks, the close of the comments from SWAPE, provided in Exhibit C to commenter's letter, provides perhaps the most relevant observation regarding the comments provided on the IS/MND's air quality and GHG emissions analyses [emphasis added]:

> "**Disclaimer**
>
> SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties."

It is noted this disclaimer is consistently provided in SWAPE's comment letters. The commenter is correct in that CalEEMod provides default model inputs that are used across the industry and that it could be changed if more accurate or project-specific information is available. The default model inputs were developed based on a set of information that may or may not be representative of any given project. As such, the SCAQMD allows users to modify these computer model inputs if there is better available data that is more representative of any given project.

Accordingly, the air quality and GHG emissions modeling prepared for the Project were based on detailed, Project-specific information derived through a specialized data needs form and extensive coordination with the Applicant. CalEEMod inputs were changed where appropriate and warranted, as is typical to ensure an accurate result and is industry standard practice.

Commenter states that "SWAPE found that the MND and its air quality technical reports in Appendix A [of the IS/MND] failed to provide complete CalEEMod output files. Its files included land use input but omitted all other qualitative [sic] outputs regarding the Project's construction and operational emissions, and they also omitted details on changes to the model's default values.

Upon review of the Appendix A files, pursuant to this comment, Psomas discovered that there were some sections of the .PDF output by CalEEMod that did not populate with the modeled data used in the IS/MND for the proposed conditions; however, all data was populated in the output

files for the existing conditions. Other than a software glitch, Psomas cannot define why these values did not populate in the output file and it had never been observed prior to or since this event. Specifically, the following sections of the CalEEMod .PDF output for the proposed conditions were not populated:

- Section 2-Emissions Summary
- Section 3-Construction Emissions Details
- Section 4-Operations Emissions Details
- Section 5-Activity Data
- Section 8-User Changes to Default Data

Nevertheless, all relevant inputs and all quantitative outputs were provided in the body of the IS/MND. Specifically, the quantitative "outputs regarding the Project's construction and operational emissions" (e.g., Sections 2 through 4) were provided in Table 8, Estimated Maximum Daily Regional Construction Emissions, on page 3-23 of the IS/MND; Table 9, Existing Daily Operational Emissions, on page 3-24; Table 10, Peak Daily Net Operational Emissions, on page 3-25; Table 13, Energy Use During Construction, on page 3-38; Table 14, Energy Use During Operations, on page 3-38; Table 15, Estimated Annual Greenhouse Gas Emissions From Construction, on page 3-49; Table 16, Estimated Annual Greenhouse Gas Emissions From Existing Use, on page 3-50; Table 17, Estimated Annual Greenhouse Gas Emissions From Project Operation, on page 3-50; and Table 18, Estimated Total Annual Greenhouse Gas Emissions, on page 3-51. Project-specific inputs, including gross and net values where applicable, are provided throughout Section 2.0, Environmental Setting and Project Description, and in the text of Section 3.3, Air Quality; Section 3.6, Energy; Section 3.8, Greenhouse Gas Emissions; Section 3.10, Hydrology and Water Quality; and Section 3.19, Utilities and Service Systems, among others.

Commenter states "without access to this data, SWAPE was unable to verify the potential significance and accuracy of the MND air quality modeling". "SWAPE concluded that "[a]n EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines". The implication that, absent the commenter's verification, the IS/MND's air quality and GHG emissions analyses are necessarily inaccurate is without merit implicitly and unsubstantiated, as discussed further below. The sole reason an EIR is required under CEQA is when a project will have a significant, adverse environmental impact that cannot be feasibly mitigated to below a level of significance. Ergo, disclosure of the "complete CalEEMod output files" is irrelevant to the determination of appropriate CEQA documentation. Additionally, provision of the CalEEMod outputs is not required under CEQA or the State CEQA Guidelines–it is assumed this is what is meant by "CEQA's formal guidelines"–it is simply the industry standard practice.

As noted, Appendix A, Air Quality and Greenhouse Gas Emissions Calculations, of the IS/MND dated November 2024 contained the output files for (1) the existing land uses and operations on the site, and (2) the proposed Project's construction and operational air quality and GHG emissions. The output file for the proposed conditions was downloaded from CalEEMod on August 4, 2023. The corresponding .JSON[2] output file that was created in August 2023; and used to quantify the emissions presented in the IS/MND; was uploaded into CalEEMod on January 6, 2025, to generate the resulting .PDF output files. This .PDF has been included as Appendix B of this Response to Comments Memorandum.

[2] CalEEMod files are output in both .PDF and .JSON (JavaScript Object Notation) formats; the .JSON file is what is used during preparation of technical analyses of air quality and GHG emissions, as well as energy.

It is noted that the Project's emissions were originally quantified with CalEEMod Version 2022.1.1.13 and the current software is CalEEMod Version 2022.1.1.29; as such, several updates to CalEEMod have been made since preparation of the air quality and GHG emissions analysis. Therefore, the resulting output values include a small number of changes to the values originally presented in the IS/MND; however, the differences are nominal in magnitude and do not represent a new or more significant impact related to air quality or GHG emissions than disclosed in the IS/MND. Additionally, the changes in values are solely the result of periodic updates to the software and are not related to the accuracy of the analysis or veracity of the resulting conclusions in the IS/MND. Presented beginning on the next page are side-by-side comparisons of the values presented in the air quality and GHG emissions sections of the IS/MND and the values generated in the current CalEEMod run presented in Appendix B.

As shown in the comparison of IS/MND Table 8, the mass (regional) construction emissions of volatile organic compounds (VOCs), nitrogen oxides (NOx), and carbon monoxide (CO) are slightly lower, with values ranging from one to five pounds per days (lbs/day) less emissions. All other values are identical. Consistent with the conclusions in the IS/MND, all maximum daily construction emissions would be well below the South Coast Air Quality Management District (SCAQMD) significance thresholds for all criteria air pollutants.

As shown in the comparison of IS/MND Table 10, the peak daily net operational emissions are identical. Consistent with the conclusions in the IS/MND, all net daily operational emissions would be well below the SCAQMD significance thresholds for all criteria air pollutants.

As shown in the comparisons of IS/MND Tables 15, 17, and 18, the construction GHG emissions are slightly higher for construction year 2024 and slightly lower for years 2025 and 2026. On balance, the total construction GHG emissions are 36 metric tons of carbon dioxide equivalent per year ($MTCO_2e/yr$) higher. When amortized, consistent with SCAQMD recommendations, the annual construction GHG emissions are 2 $MTCO_2e/yr$ higher. The total and net operational GHG emissions are identical. Therefore, as shown in the comparison of Table 18, the net total annual GHG emissions are 2 $MTCO_2e/yr$ higher, or approximately 0.1 percent. Consistent with the conclusions in the IS/MND, this value would remain below the draft SCAQMD Tier 3 screening threshold (e.g., 3,000 MTCO2e/yr for all land use types).

IS/MND TABLE 1
ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS
(CALEEMOD VERSION 2022.1.1.13)

Year[a]	Emissions (lbs/day)					
	VOC	NO_x	CO	SOx	PM10	PM2.5
2024	3	27	23	<1	5	2
2025	2	13	22	<1	3	1
2026	23	20	35	<1	3	1
Maximum	23	27	36	<1	5	2
SCAQMD Thresholds (Table 7)	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS
(CALEEMOD VERSION 2022.1.1.29)

Year[a]	Emissions (lbs/day)					
	VOC	NO_x	CO	SOx	PM10	PM2.5
2024	2	22	23	<1	5	2
2025	2	13	22	<1	2	1
2026	22	19	33	<1	3	1
Maximum	22	22	33	<1	5	2
SCAQMD Thresholds (Table 7)	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

IS/MND TABLE TABLE 2
PEAK DAILY NET OPERATIONAL EMISSIONS
(CALEEMOD VERSION 2022.1.1.13)

Source	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
Mobile sources	5	4	43	<1	9	2
Area sources	4	<1	<1	<1	<1	<1
Energy sources	<1	1	1	<1	<1	<1
Total Operational Emissions*	**9**	**5**	**44**	**<1**	**10**	**3**
Less: Existing Emissions (Table 9)	**3**	**1**	**16**	**<1**	**1**	**<1**
Net Increase in Emissions	**6**	**4**	**28**	**<1**	**9**	**3**
SCAQMD Significance Thresholds (Table 7)	***55***	***55***	***550***	***150***	***150***	***55***
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Source: CalEEMod model data sheets are included in Appendix A.

PEAK DAILY NET OPERATIONAL EMISSIONS
(CALEEMOD VERSION 2022.1.1.29)

Source	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
Mobile sources	5	4	43	<1	9	2
Area sources	4	<1	<1	<1	<1	<1
Energy sources	<1	1	1	<1	<1	<1
Total Operational Emissions*	**9**	**5**	**44**	**<1**	**10**	**3**
Less: Existing Emissions (Table 9)	**3**	**1**	**16**	**<1**	**1**	**<1**
Net Increase in Emissions	**6**	**4**	**28**	**<1**	**9**	**3**
SCAQMD Significance Thresholds (Table 7)	***55***	***55***	***550***	***150***	***150***	***55***
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

IS/MND TABLE TABLE 3
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS
FROM CONSTRUCTION
(CALEEMOD VERSION 2022.1.1.13)

Year	Emissions ($MTCO_2e$)
2024	631
2025	642
2026	301
Total	**1,574**
Annual GHG Emissions*	**52**

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS
FROM CONSTRUCTION
(CALEEMOD VERSION 2022.1.1.29)

Year	Emissions ($MTCO_2e$)
2024	705
2025	619
2026	286
Total	**1,610**
Annual GHG Emissions*	**54**

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

IS/MND TABLE TABLE 4
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION (CALEEMOD VERSION 2022.1.1.13)

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION (CALEEMOD VERSION 2022.1.1.29)

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

IS/MND TABLE TABLE 5
ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS
(CALEEMOD VERSION 2022.1.1.13)

Source	Emissions $MTCO_2e/yr$
Construction (amortized) (from Table 15)	52
Operations (from Table 17)	2,181
Net Reduction: Existing Emissions (from Table 16)	-504
Total	***1,729***
$MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year.	

ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS
(CALEEMOD VERSION 2022.1.1.29)

Source	Emissions $MTCO_2e/yr$
Construction (amortized) (from Table 15)	54
Operations (from Table 17)	2,181
Net Reduction: Existing Emissions (from Table 16)	-504
Total	***1,731***
$MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year.	

Similar to the remarks provided above, the commenter states that because the "CalEEMod output files did not provide the emission estimates or any relevant inputs aside from land uses", commenter is "unable to verify the legitimacy of the GHG emissions estimates" and, as a result, the GHG emissions estimates "could be under estimated". Commenter states that they cannot ensure the Project's GHG emissions are accurately calculated and as such the IS/MND's analysis should not be relied upon. However, as discussed, all assertions made by SWAPE regarding the adjustments made to the default CalEEMod inputs are unsupported. Accordingly, the commenter's assertion that the IS/MND's GHG emissions analysis and conclusions cannot be relied upon without their full review is also incorrect and unsupported. As established above, the IS/MND thoroughly reviewed and discussed the potential for GHG emissions from the Project's construction and operation based on established best practices for such analyses.

Commenter states the Project violates CEQA by not connecting the construction-related emissions of diesel particulate matter (DPM) to potential health risks to nearby sensitive receptors through preparation of a health risk "analysis" [sic] (HRA). The comment continues with description of commenter's preparation of an HRA using their own CalEEMod results, which as discussed are incorrect and unsupported. Please refer to the analysis in Section 3.3, Air Quality, of the IS/MND, under Threshold 3.3(c) (page 3-27) that states that there would be relatively few pieces of off-road, heavy-duty diesel equipment in operation, and the total construction period would be relatively short when compared to a 40-year exposure period. This fact, combined with the highly dispersive properties of DPM, the relatively large distance between the Project site and the nearest sensitive land uses, and additional reductions in particulate emissions from newer construction equipment as required by federal and State regulations, construction emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. Impacts were determined to be less than significant, and no mitigation is required.

In summary, there is no evidence to support any of commenter's assertions regarding the IS/MND's air quality and GHG emissions analyses as the evidence provided is unsubstantiated or inaccurate. Section 3.3, Air Quality, and Section 3.8, Greenhouse Gas Emissions, of the IS/MND include a full analysis of the Project's potential impacts to air quality and GHG emissions, respectively, and concluded there would be less than significant impacts and no mitigation was required (see pages 3-9 through 3-28 and pages 3-46 through 3-52 of the IS/MND). No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Response 2.8: This comment states there is a fair argument that the Project may result in significant adverse indoor air quality impacts, specifically cancer risk related to formaldehyde emissions from building materials.

There is no evidence to support the assertion that operation of the Project would expose people to a significant health risk related to indoor air quality from formaldehyde in building materials. Even if the assertions regarding the health risk of future residents and visitors to the Project had merit, this does not represent an impact of the Project on the environment nor an exacerbation of an existing impact and as such is not relevant to the CEQA process. Accordingly, the Project's indoor air quality is not a legitimate environmental impact that is appropriate to address in the IS/MND nor does the Project exacerbate an existing impact. Therefore, these assertions are irrelevant to the CEQA process; and commenter's assertions this represents a new significant environmental impact and must be addressed in an EIR, are unsupported by the requirements of CEQA and the State CEQA Guidelines as well as case law (*Baird v. County of Contra Costa*, 32 Cal.App.4th 1464; *California Building Industry Association v Bay Area Air Quality Management District* [S213478, December 17, 2015]). No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

Response 2.9: The remaining portions of the comment letter are noted for the record and will be forwarded to the decision-makers. Exhibits A through D of this comment letter can be found in Appendix A to this Response to Comments Memorandum.

Attachment No. 3

Architectural Plans and TTM 21-02 (83325)

Arcadia Town Center, Mixed-use

ARCADIA, CALIFORNIA

ARCHITECTURAL DESIGN REVIEW-Resubmittal

Date : 11/ 1/ 2022
Job # 18158

Ownership: **NEW WORLD INTERNATIONAL INVESTMENT. LLC**

Architect: **HUMPHREYS & PARTNERS** ARCHITECTS, L.P.
5339 Alpha Rd., Suite 300, Dallas, TX 75240 | 972.701.9636 | www.humphreys.com

01

VINCITY MAP

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Project Info

Address:	5W, 11W, 15W, 19W Huntington Dr. & 25-75 N Santa Anita Ave		
Current Zoning:	Central Business District (CBD), Downtown Mixed Use (DMU)		
Proposed Zoning:	Central Business District (CBD), Downtown Mixed Use (DMU)		no change
Site Area (TOTAL):	98,880 SF	2.27 AC	
Dedication:	3,463 SF	0.08 AC	
Site Area (Net):	95,417 SF	2.19 AC	
Max Height Proposed:	67'		
Proposed Units:	181		
Proposed Density:	79.7 DU/AC TOTAL	80 du/AC max.	

Setbacks Required:		**Setbacks Proposed:**	
Front (Santa Anita Ave)	10' Dedication	Front (Santa Anita Ave / Huntington)	3' min
Side (+ adjoining nonresidential or mixed-use zone):	0'	Side (Huntington Dr.):	0'-6" min
Side - Huntington Dr.	1'-6" Dedication	Side - adjacent Dr. / Setback to:	0'-6" min @ retail level
Rear (adjoining nonresidential or mixed-use zone):	0'		1'-0" min

Floor Area Ratio - Allowed:		**Floor Area Ratio - Proposed:**	
Net Site Area:	98,880 sf		
Max FAR:* Per AMC 9102.05.030	1.0	**Nonresidential Floor Area:**	0.13
Max Nonresidential Floor Area:	98,880 sf	**Nonresidential Floor Area Ratio (FAR):**	13,130 sf
*note: Max FAR is applicable only to non residential component of a development		*note: FAR is measured as Gross floor area (less parking) divided by Net lot area.	

Unit Summary

ARCADIA TOWN CENTER	Arcadia, CA		RESUBMITTAL		#18158
PROJECT SUMMARY					1-Nov
RESIDENTIAL	#	NET SF*	deck	total NSF	Ave NSF	Mix
1-bedroom:						
A1	4	808	0	3,232		
A2	6	842	0	5,052		
A3	4	709	0	2,836		
A3-alt1	6	788	0	4,728		
A4	8	796	58	6,368		
A5	6	713	58	4,278		
A6	4	791	76	3,164		
A7	2	930	0	1,860		
A8	1	1,030	0	1,030		
Subtotal 1-bedroom	41			32,548	794	22.7%
2-bedroom:						
B1	2	1,108	58	2,216		
B1-alt1	6	1,207	58	7,242		
B1-alt2	8	1,236	58	9,888		
B1-alt3	8	1,170	36	9,360		
B1-alt4	8	999	58	7,992		
B2	50	1,128	58	56,400		
B3	4	1,180	61	4,720		
B4	16	1,157	58	18,512		
B5 TH1	2	1,398	267	2,796		
B6 TH1	4	1,529	188	6,116		
Subtotal 2-bedroom	108			125,242	1,160	59.7%
3-bedroom:						
C1	4	1,724	130	6,896		
C2	20	1,443	52	28,860		
C3	4	2,014	0	8,056		
C4	2	1,329	0	2,658		
C4-alt1	2	1,246	0	2,492		
Subtotal 3-bedroom	32			48,962	1,530	17.7%
Total	**181**		**9,714**	**206,752**	**1,142**	

*NOTE: sf taken to outside of walls and CL of part wall
*NOTE: sf is approx. and subject to change as more information is know

COMMERCIAL			total NSF
Commercial 1:	Small Restaurant	Morlan & Santa Anita Ave.	4,850
Commercial 2:	Large Restaurant	Santa Anita Ave.	-
Commercial 3:	Office Professional	Huntington Dr.	4,800
Commercial 4:	Retail Sales-General	Santa Anita Ave.	3,480
Total Commercial:			**13,130**

Residential Floor Area. The floor area for buildings in single-family residential zones shall be measured as the total horizontal floor area of all the floors of a building from the outside walls. The total horizontal floor area shall include: the residential floor area of any building(s) located on the lot including the main dwelling, detached accessory structures, accessory dwelling units, all garage area except as exempted in Subsection a. below, enclosed patios, and high volume ceilings (all interior areas above 14 feet in height). The following shall be excluded from the floor area for the purposes of calculating floor area ratio

a. For houses less than 5,000 square feet in size, floor area shall exclude required parking spaces (450 square feet for a two-car garage and 650 square feet for three-car garage). For houses 5,000 square feet or larger, floor area shall exclude up to four parking spaces (850 square feet maximum).
b. Floor area shall exclude basements.
c. Floor area shall exclude non-enclosed covered structures such as covered patios or porches, decks, and balconies.

Amenity Provided:			
Amenity 1:	REC CENTER @ PODIUM	1,500	sf
Amenity 2:	FITNESS Above PLAZA C	640	sf
Amenity 3:	CLUB-HOUSE Above PLAZA A	720	sf
Amenity 4:	CLUB-HOUSE @ LEVEL 4	1,030	sf
			sf
Total Amenity Provided:		**3,890**	sf

Gross Floor Area Provided:	
Level 5:	61,815 sf
Level 4:	61,345 sf
Level 3:	63,047 sf
Level 2:	60,394 sf
Level 1:	17,544 sf
Level B1:	1,364 sf
Total Gross Floor Area Provided:	**265,729** sf

*note: excludes basement, non-enclosed decks, mechanic'l equip., parking

	Building Area**	MVP**	Deck	Loading Dock	Parking	Lobby/ Amenity	GRSF ***	Circulation	RETAIL	NRSF
Level 5:	66,294	1,317	324	2,986	169	248	61,418	8,049	-	53,369
Level 4:	67,231	1,317	324	4,225	169	1,000	60,146	8,065	-	52,081
Level 3:	67,995	1,317	324	2,407	169	1,118	61,760	7,933	-	53,827
Level 2:	63,938	1,317	324	1,903	955	1,524	57,915	8,768	-	49,147
Level 1:	83,583	1,317	806	-	3,200	64,100	1,214	-	13,130	-
Level B1:	92,497	1,317	2,772	-	1,564	87,021	-	-	-	-
	440,938	**7,902**	**4,804**	**11,521**	**6,226**	**155,573**	**5,134**	**241,239**	**32,815**	**13,130**	**208,424**

* note: Including Unit Deck & Garage **Major Vertical Penetrator
***Gross Residential Floor Area

Parking Summary

Note: Floor Area is the total gross dimensions (in square feet) of all the floors below the roof and within the outer surface of the walls of a building or structure
See below for definitions for Residential Floor Area and Non-Residential Floor Area.

Parking Required:	per AMC Sect. 9103.07		
Residential:	# du	Ratio	Total
Studio:	0	1.5	0.0
1-bed:	41	1.5	61.5
2-bed:	108	1.5	162.0
3-bed:	32	1.5	48.0
Subtotal:			**272.0**
	# du	Ratio	Total
Guest:	181	0.33	**59**

Commercial:	sf	Ratio**		Total
Commercial 1:	4,850	1:200	Small Restaurant	24.25
Commercial 2:	-	1:100	Large Restaurant	0.00
Commercial 3:	4,800	1:250	Office Professional	19.20
Commercial 4:	3,480	1:200	Retail Sales-General	17.40
Total Commercial:	13,130			
Subtotal:				60.85
Subtotal after 25% reduction:				46
Total Stalls Required:				**377**

*note: a 25 percent reduction will be applied to the off-street parking requirement fo any commercial use that is located within 1,320 feet (¼ mile) of a light rail station. per AMC 9103.07.060.D
**note: per AMC 9103.07.060.C

Parking Provided:	Standard 9'x18'	Tandem* 10'x18'	T-Rear* 10'x19'	Handicap 9'x18'	Total	EV PARKING EV CAPABLE
Level B1:	156	36	36	7	235	24
Level 1:	16	11	11	-	38	4
Total:	172	47	47	7	**273**	**28**
	63.0%	17.2%	17.2%	2.6%		
Guest:	56	-	-	3	**59**	**6**
	94.9%	0.0%	0.0%	5.1%		
Total	228	47	47	10	**332**	**34**
	68.7%	14.2%	14.2%	3.0%		

*note: tandem parking 10' width x 19' depth stalls 20% maximum, & no guest parking allowed per AMC Sect. 9103.07.030.13

	Standard 9'x18'	T-Front* 10'x18'	T-Rear* 10'x19'	Handicap 9'x18'	Total	EV PARKING EV CAPABLE
Level B1:	-	-	-	-	-	-
Level 1:	42	-	-	4	46	5
Total:	42	-	-	4	**46**	**5**
	91.3%	0.0%	0.0%	8.7%		
Total Stalls Provided:					**378**	**39**

*note: Minimum stall width for stalls adjacent to a wall shall be 11'-6" per AMC 9103.07.060.J.

Open Space & Bike Parking

Bike Parking Required:	per AMC Sect. 9103.07.150			
	#	Ratio		Total
Resident:	181	0.20	# du	37
Retail:	46	0.05	# vehicles	3
Subtotal Long Term:				40
	#	Ratio		Total
Retail:	46	0.05	# vehicles	3
Subtotal Short Term:				3
Total Stalls Required:				**43** stalls

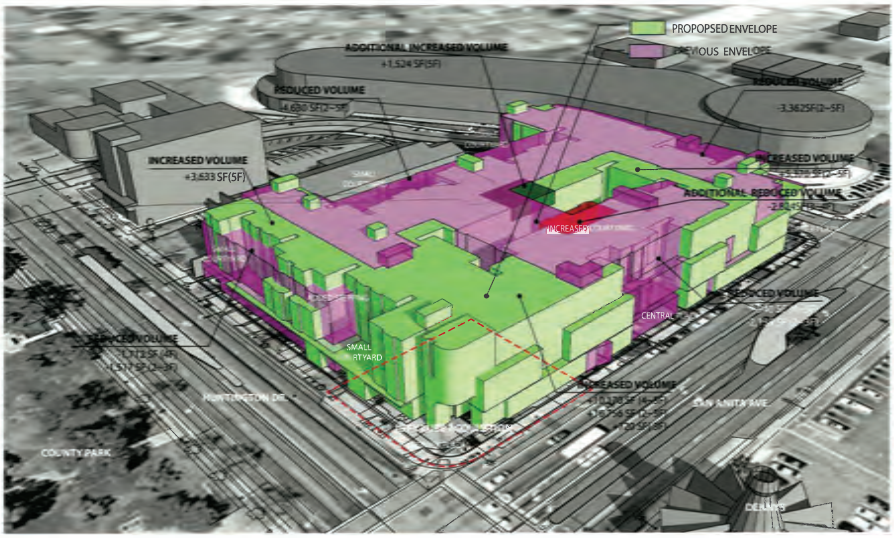
Bike Parking Provided:	
Subtotal Long Term:	40
Subtotal Short Term:	3
Total Stalls Provided:	**43** stalls

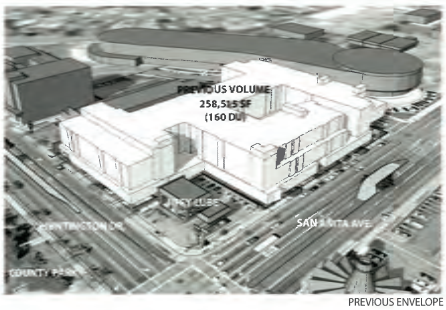
Open Space Required:	per AMC Sect. 9102.05.130		
	du	sf	Total
1-bed:	41	100	4,100 sf
2-bed:	108	100	10,800 sf
3-bed:	32	100	3,200 sf
Total Open Space Required:			**18,100** sf

Open Space Provided:	
Ground Level:	6,211 sf
Podium Level:	21,825 sf
Private Open Space:	9,714 sf
Skydeck (Level 4):	324 sf
Skydeck (Level 5):	639 sf
Total Open Space Provided:	**38,713** sf

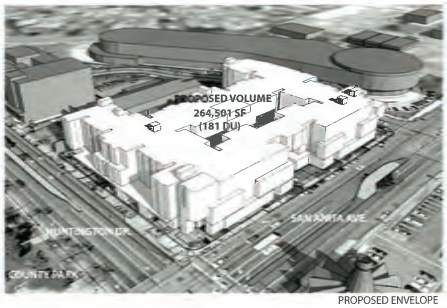
Non-Residential Floor Area: The floor area shall include the total horizontal floor area of all the floors of a building measured from the outside walls, exclusive of vents, shafts, courts, elevators, stairways, mechanical, electrical, and communications equipment, and similar facilities. Floor area shall include mezzanine and lofts. The following shall be excluded from the floor area for the purposes of calculating floor area ratio.

a. Floor area shall exclude required parking areas in the garage (with each required parking space not exceeding 200 square feet) but shall include any additional enclosed parking spaces provided on the addition to the minimum requirements.
b. Floor area shall exclude fully subterranean garage and basement.
c. Exclude non-enclosed covered structures such as decks, patios, porches, and balconies enclosed on three or fewer sides.





PREVIOUS ENVELOPE



PROPOSED ENVELOPE

03-A

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

ZONING ENVELOPE
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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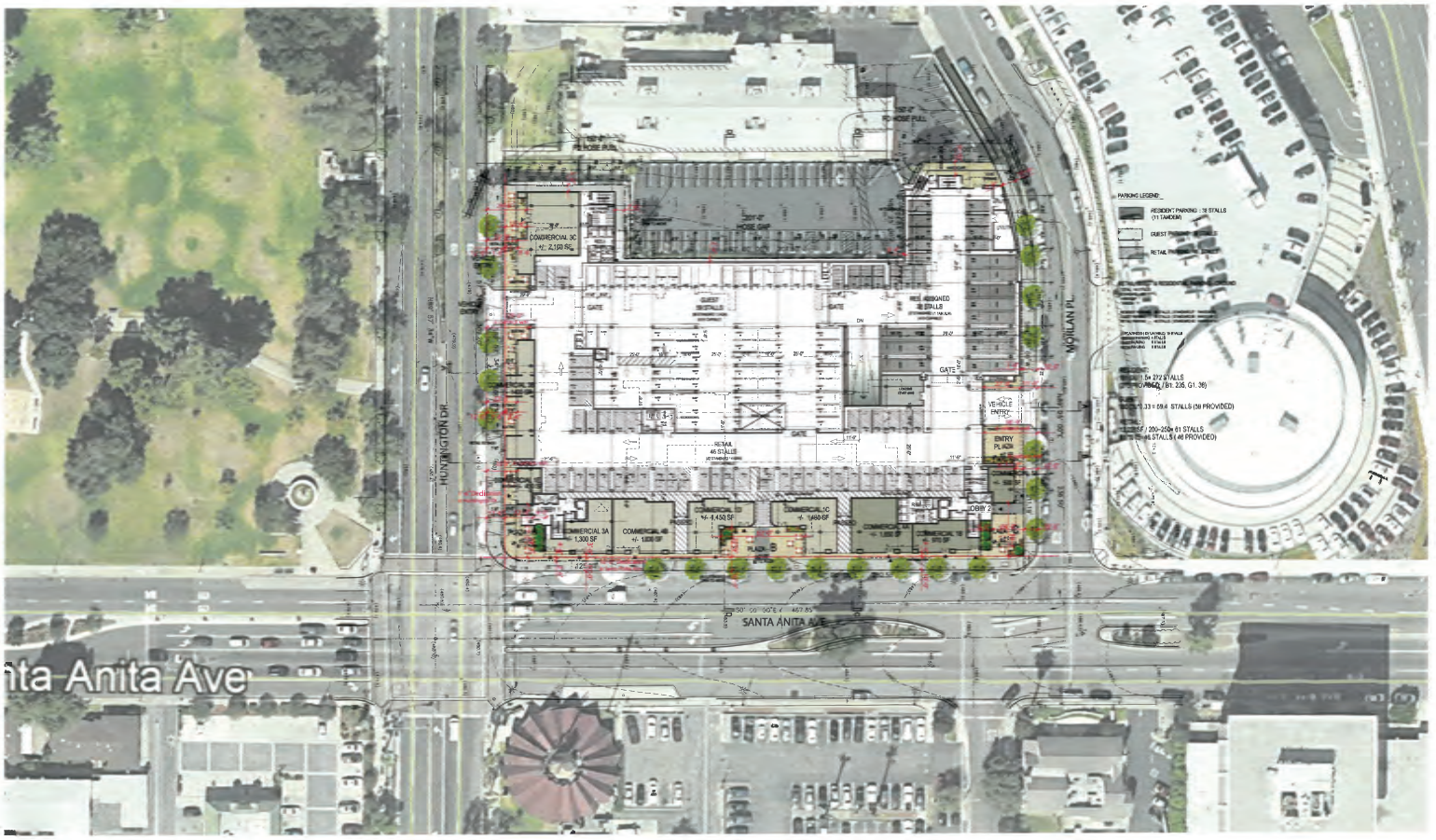

SCALE : 1/30" = 1'-0"
NOT TO SCALE @ 11 X 17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

ILLUSTRATIVE SITE PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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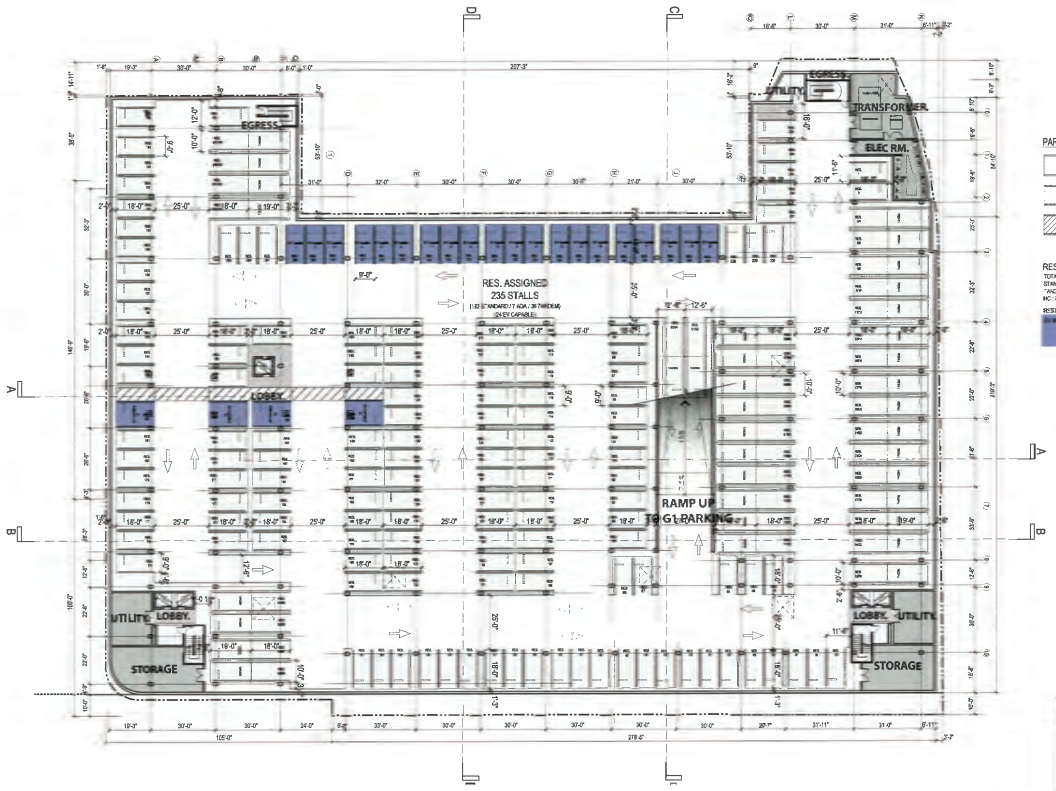

PARKING LEGEND:

- RESIDENT PARKING : 235 STALLS
- GUEST PARKING
- RETAIL PARKING

RESIDENTIAL PARKING - BASEMENT 1

TOTAL : 235 STALLS
STANDARD : 182
ANDEP : 36
HC : 7

RESIDENTIAL PARKING : 235 STALLS (8'ANDARD : 182 , TANDEM: 36 HANDICAP: 7)

LEVEL B1		
BUILDING AREA:	92,497	SF
MVP:	1,160	SF
MEP:	2,702	SF
LOADING/ TRASH/ STORAGE:	1,564	SF
PARKING	87,071	SF
GRSF:	-	SF
NRSF:	-	SF
TOTAL PARKING:	235	SPACES

SCALE : 1/20" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

LEVEL B1 (SUB-T PARKING) PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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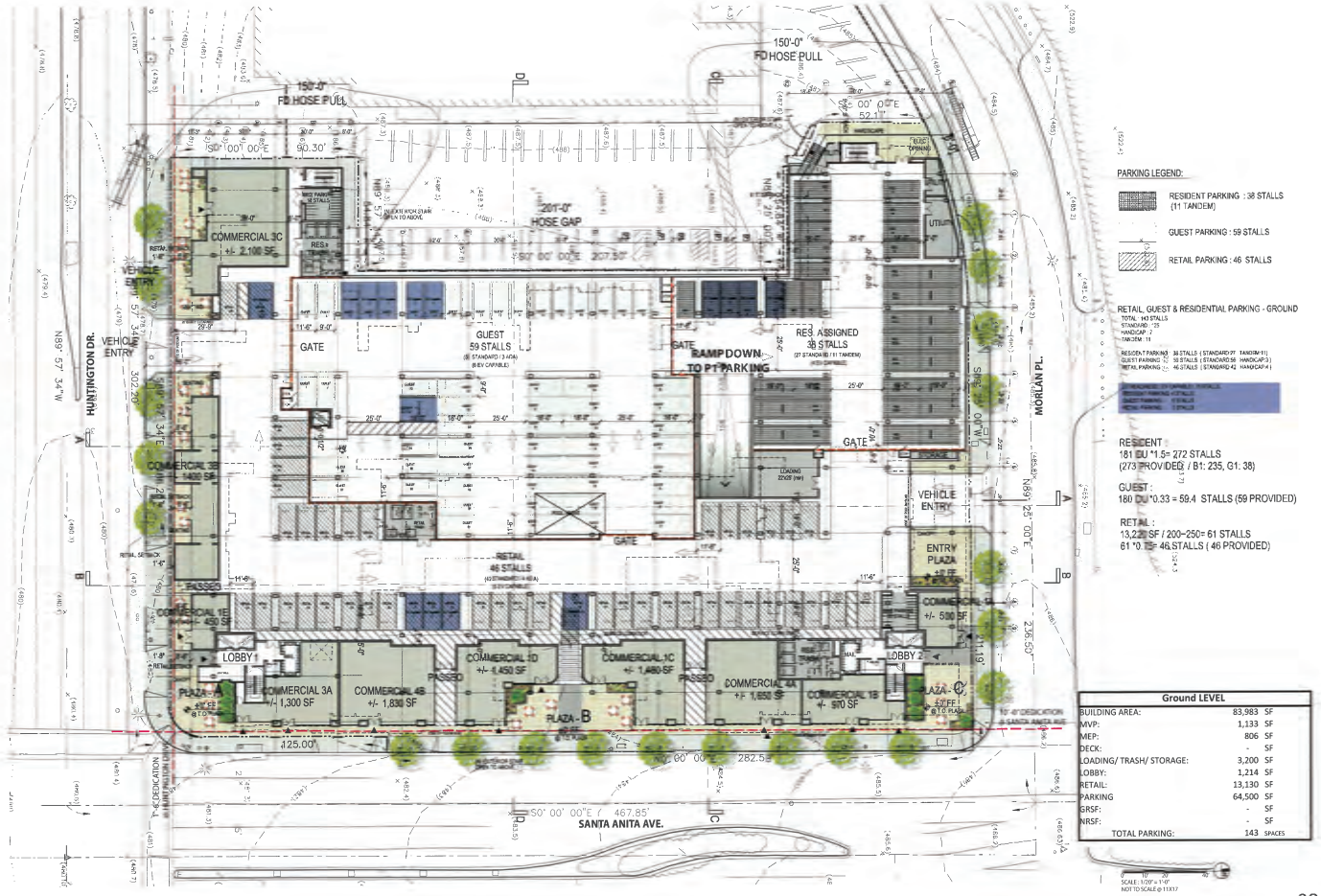

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

LEVEL 1 (GROUND LEVEL) PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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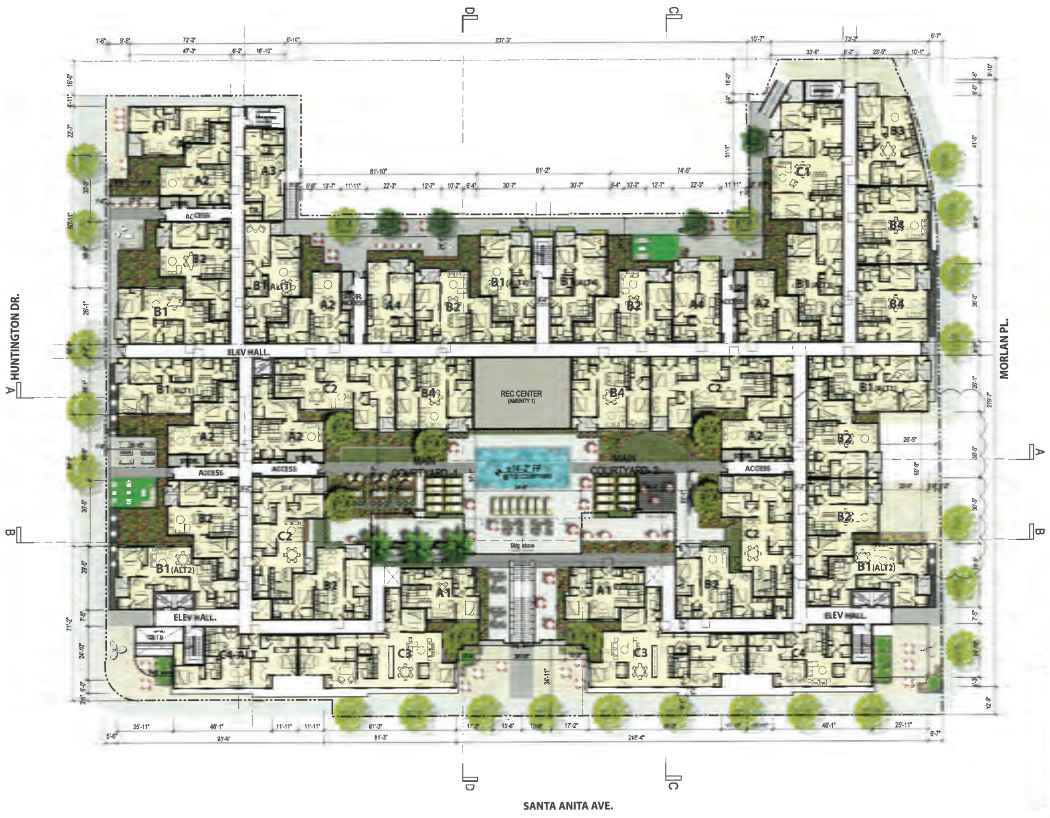

LEVEL 2		
BUILDING AREA:	63,938	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	1,903	SF
AMENITY:	1,524	SF
TRASH/ STORAGE:	955	SF
SRSF:	57,915	SF
CIRCULATION:	8,768	SF
NRSF (FOR SALE):	49,147	SF
EFFICIENCY:	84.9%	
TOTAL CONDO UNITS:	43	UNITS

SCALE: 1/20" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

LEVEL 2 PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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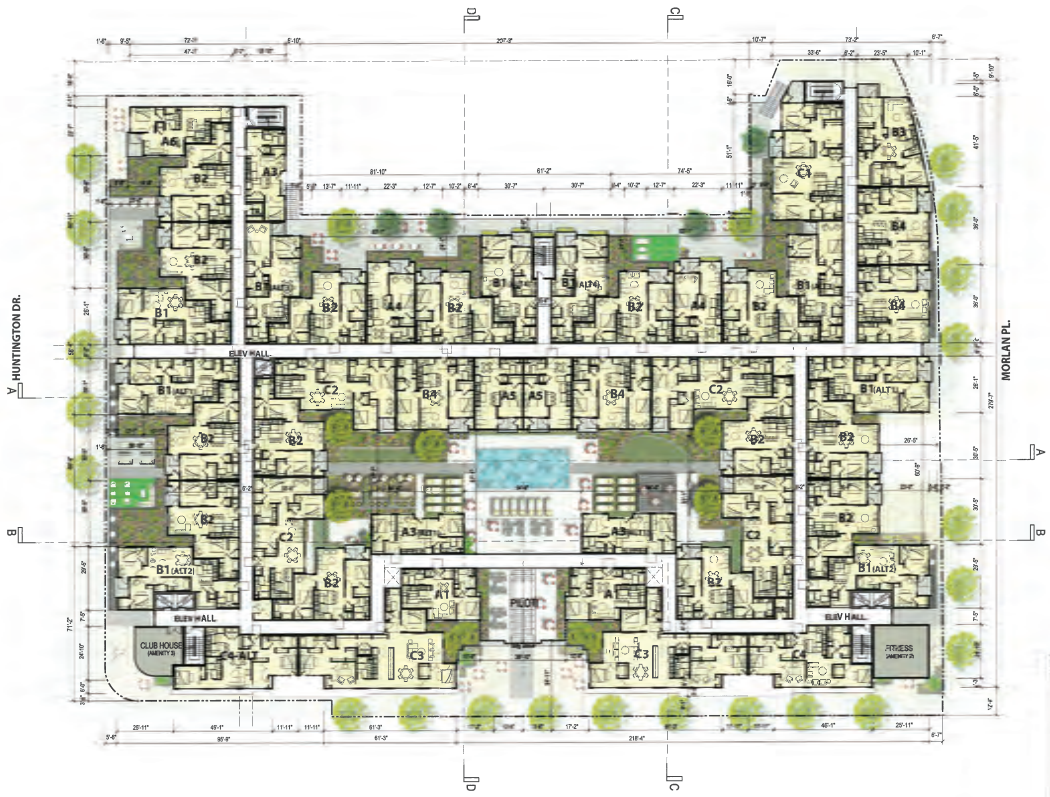

LEVEL 3		
BUILDING AREA:	67,095	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	2,407	SF
AMENITY:	1,118	SF
TRASH/ STORAGE:	169	SF
GRSF:	61,760	SF
CIRCULATION:	7,933	SF
NRSF (FOR SALE):	53,827	SF
EFFICIENCY:	87.2%	
TOTAL CONDO UNITS:	47	UNITS

SCALE : 1/20" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

LEVEL 3 PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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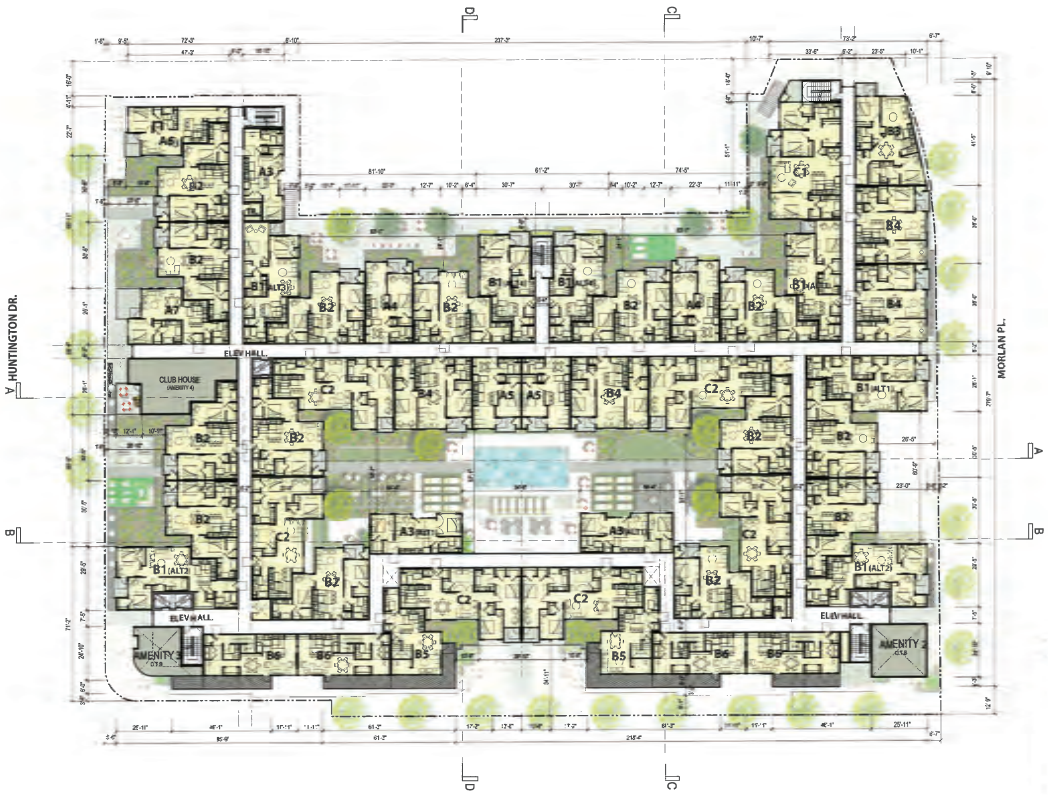

LEVEL 4		
BUILD. NG AREA:	67,211	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	4,225	SF
AMENITY:	1,030	SF
TRASH/ STORAGE:	169	SF
GRSF:	60,146	SF
CIRCULATION:	8,065	SF
NRSF (FOR SALE):	52,081	SF
EFFICIENCY:	86.6%	
TOTAL TOWN UNITS:	6	UNITS
TOTAL CONDO UNITS	42	UNITS

SCALE: 1/20"= 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

LEVEL 4 PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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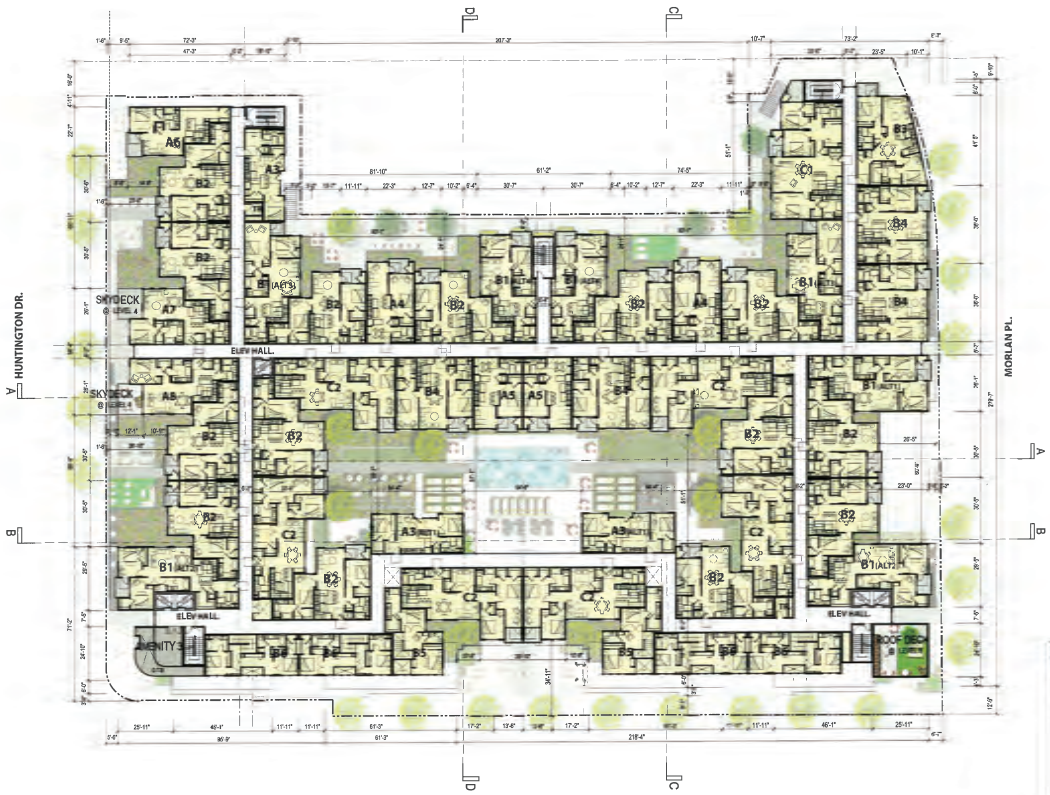

LEVEL 5		
BUILDING AREA:	66,234	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	2,986	SF
AMENITY:	248	SF
TRASH/ STORAGE:	109	SF
GRSF:	61,418	SF
CIRCULATION:	8,049	SF
NRSF (FOR SALE):	53,369	SF
EFFICIENCY:	86.9%	
TOTAL TOWN UNITS:	-	UNITS
TOTAL CONDO UNITS:	43	UNITS

SCALE: 1/20" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

LEVEL 5 PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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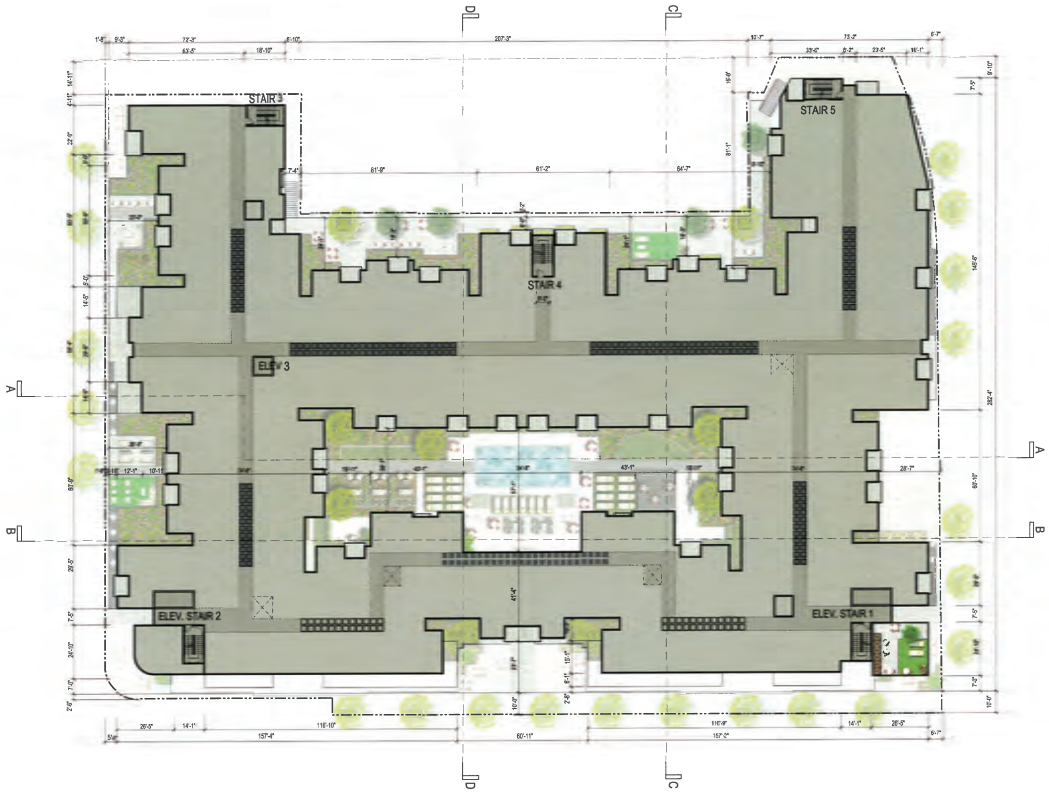

SCALE : 1/20" = 1'-0"
NOT TO SCALE @ 11X17

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ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

ROOF PLAN
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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1 : AERIAL PERSPECTIVE VIEW

2 : AERIAL PERSPECTIVE VIEW

3 : CORNER AERIAL PERSPECTIVE VIEW

4 : VIEW FROM ARCADIA COUNTY PARK

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1 : MAIN CORNER VIEW FROM SANTA ANITA AVE. & MORLAN PL.

2 : CORNER VIEW FROM SANTA ANITA AVE. & HUNTINGTON DR.

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1 : VIEW OF SANTA ANITA AVE. CENTRAL PLAZA AND STREET SCAPE

2 : LOOKING WEST FROM SANTA ANITA / MID-BLOCK PODIUM CONNECTION

3 : LOOKING NORTH FROM SANTA ANITA AVE. RETAIL & STREET SCAPE

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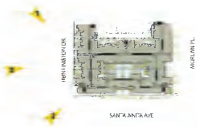
1 : LOOKING EAST FROM HUNTINGTON DR.



2 : LOOKING WEST FROM HUNTINGTON DR. MAIN ENTRY

3 : VIEW OF HUNTNGTON DR. FROM ARCADIA COUNTY PARK

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1 : LOOKING SOUTH FROM SANTA ANITA / MORLAN PL. : CORNER PLAZA

2 : LOOKING EAST FROM MORLAN PL.

3 : VIEW OF MORLAN PL. RESIDENTIAL FACADE.

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

PERSPECTIVE VIEWS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

HUMPHREYS & PARTNERS ARCHITECTS, L.P.
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1. EAST ELEVATION : VIEW SANTA ANITA AVE.

2. NORTH ELEVATION : VIEW FROM MORLAN PL.

SCALE : 1/150" = 1'
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

ELEVATIONS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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3. SOUTH ELEVATION : VIEW HUNTINGTON DRIVE.

4. WEST ELEVATION : FACING NEIGHBOR RESTAURANT

SCALE : 1/16"=1'
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

ELEVATIONS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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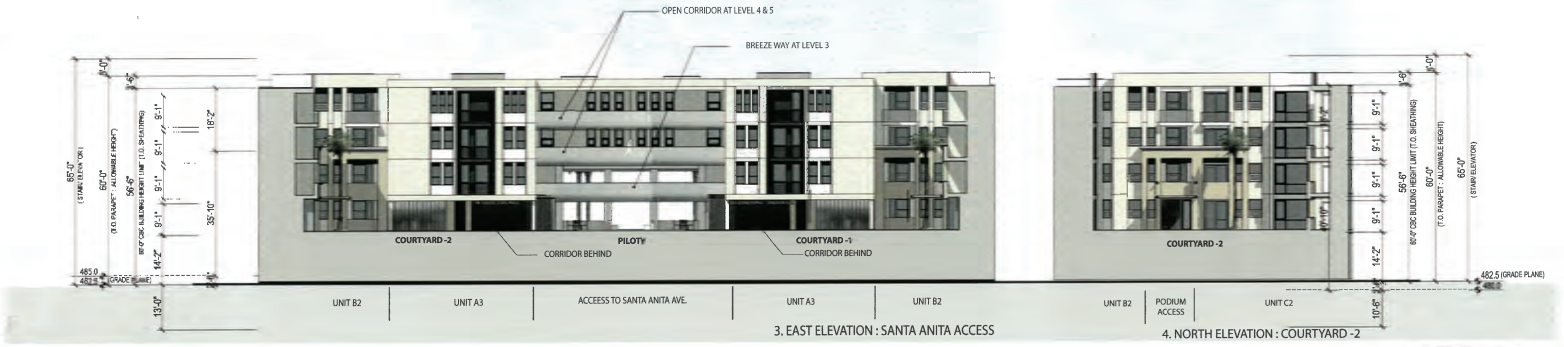
1. WEST ELEVATION : REC CENTER/ SKY DECK

2. SOUTH ELEVATION : COURTYARD -1



3. EAST ELEVATION : SANTA ANITA ACCESS

4. NORTH ELEVATION : COURTYARD -2

SCALE : 1/10"= 1'
NOT TO SCALE @ 11X17

21

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

ELEVATIONS (COURTYARD)
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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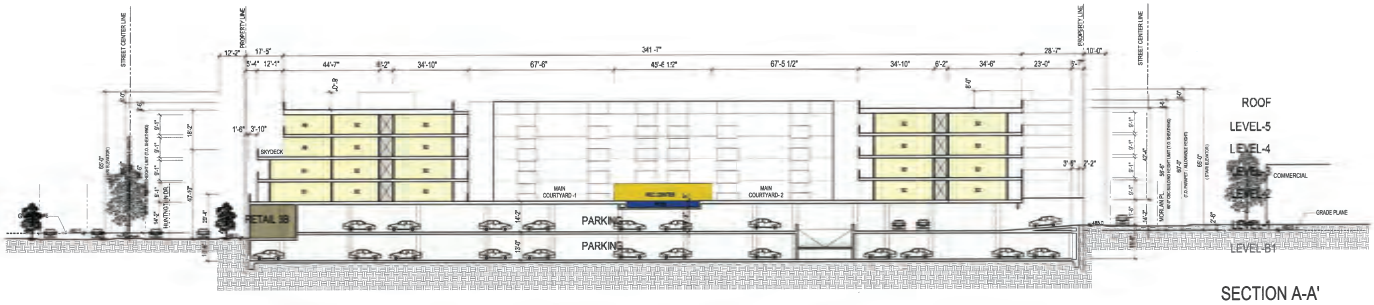
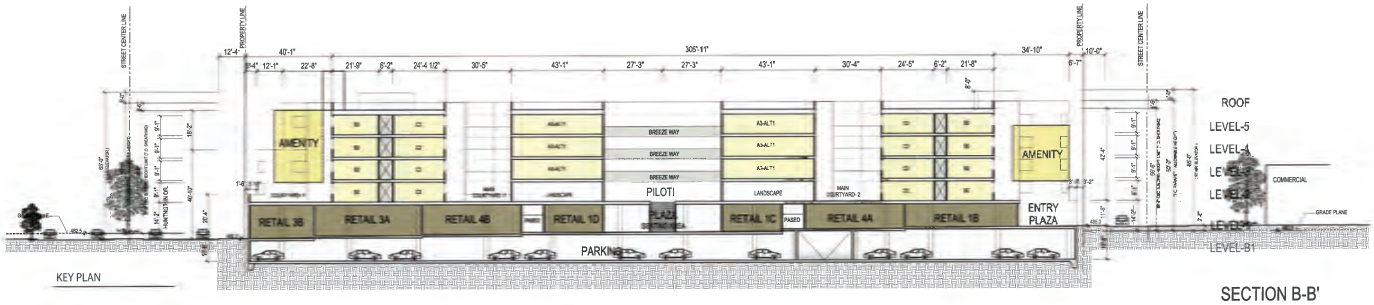


SECTION A-A'



SECTION B-B'

KEY PLAN

SCALE: 1/20" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

SECTIONS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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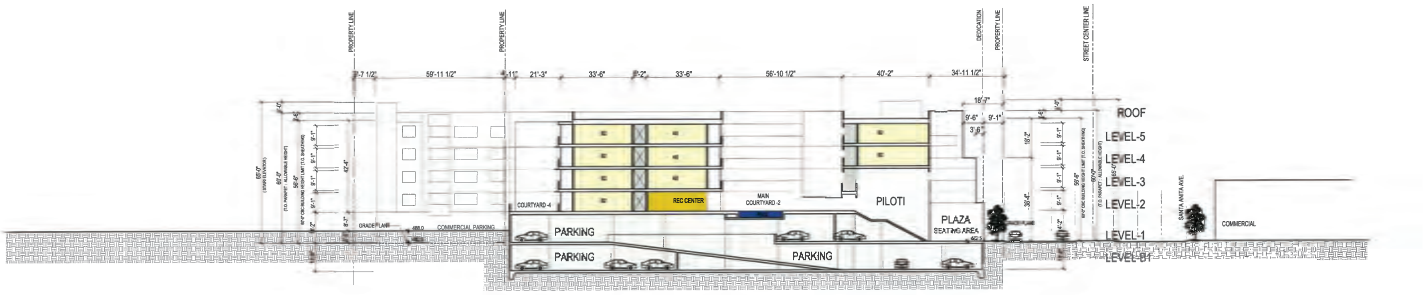
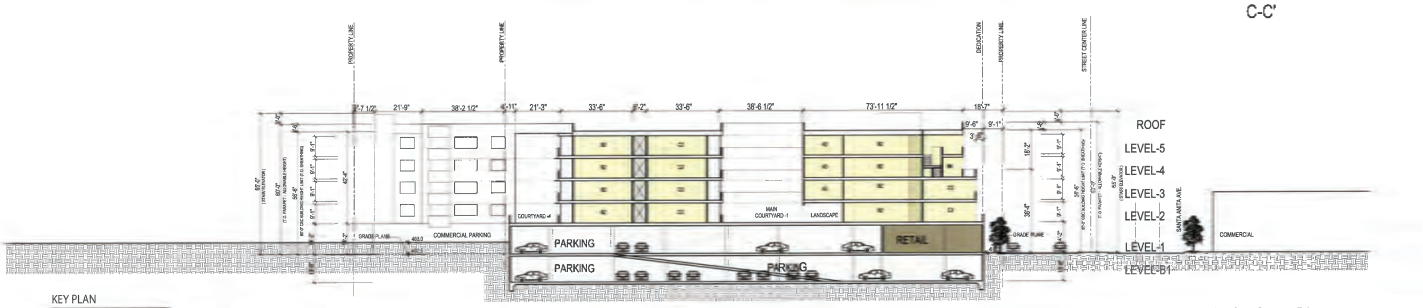


SECTION C-C'



SECTION D-D'

KEY PLAN

SCALE: 1/20" = 1'-0"
NOT TO SCALE @ 11X17

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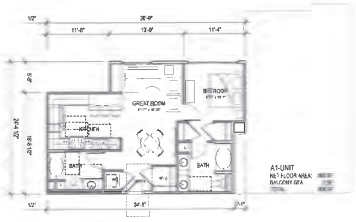

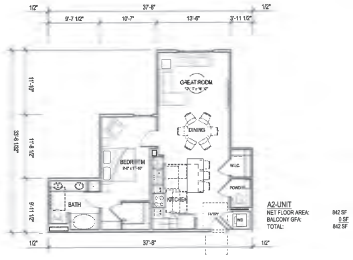

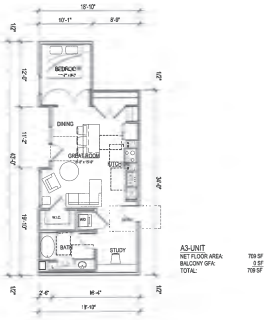

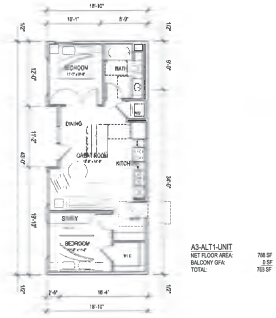

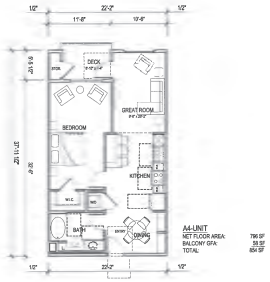

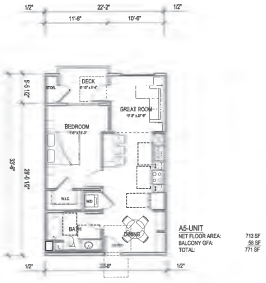

SCALE: 1/8" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

UNIT PLANS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

HUMPHREYS & PARTNERS ARCHITECTS, L.P
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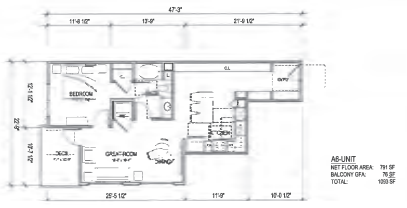
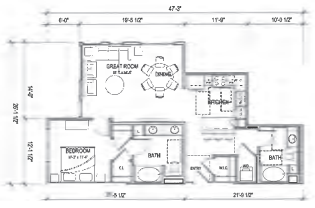
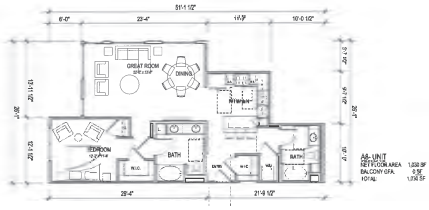


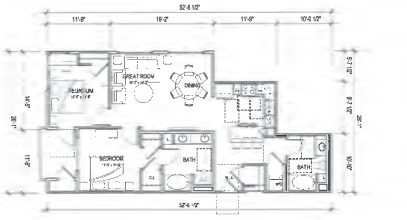
A6-UNIT
NET FLOOR AREA: 791 SF
BALCONY GFA: 76 SF
TOTAL: 1003 SF



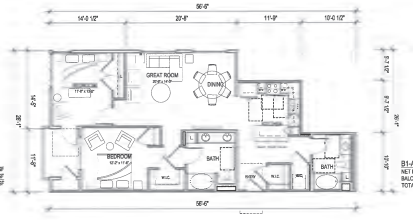
A7 UNIT
NET FLOOR AREA: 690 SF
BALCONY GFA: 0 SF
TOTAL: 690 SF



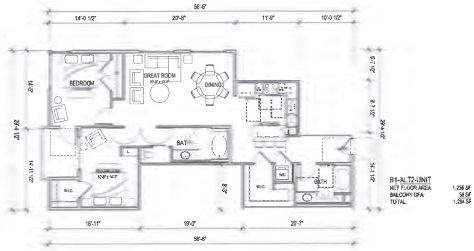
A8- UNIT
NET FLOOR AREA 1,038 SF
BALCONY GFA 6 SF
TOTAL 1,314 SF



B1-UNIT
NET FLOOR AREA: 1,109 SF
BALCONY GFA 55 SF
TOTAL 1,164 SF



B1-ALT1-UNIT
NET FLOOR AREA: 1,207 SF
BALCONY GFA: 58 SF
TOTAL: 1,265 SF



B1-ALT2-UNIT
NET FLOOR AREA: 1,236 SF
BALCONY GFA 58 SF
TOTAL 1,294 SF

SCALE : 1/8" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

UNIT PLANS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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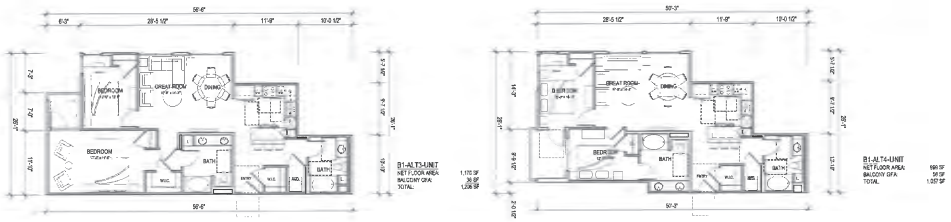

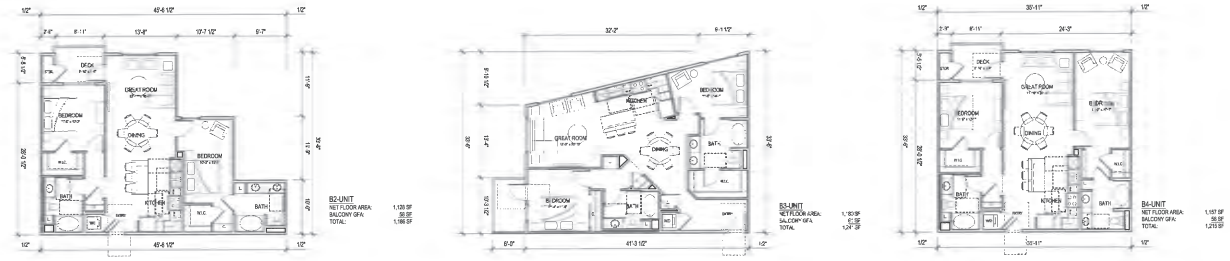

SCALE: 1/8" = 1'-0"
NOT TO SCALE @ 11X17

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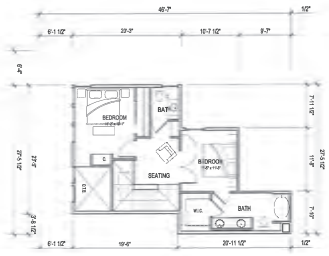
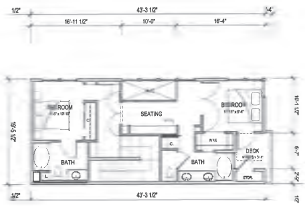
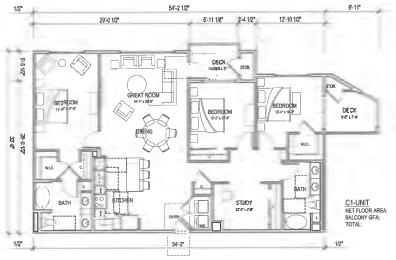


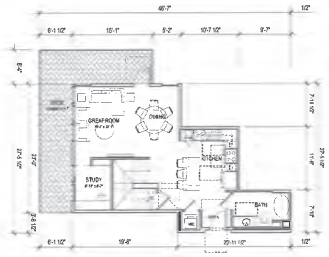
B5-TOWN UPPER UNIT
NET FLOOR AREA: 634 SF
BALCONY GFA: 0 SF
TOTAL: 691 SF



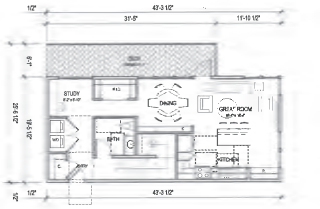
B6-TOWN UPPER UNIT
NET FLOOR AREA: 684 SF
BALCONY GFA: 46 SF
TOTAL: 730 SF



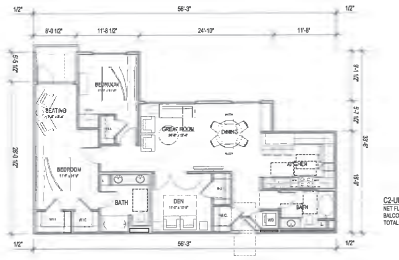
C1-UNIT
NET FLOOR AREA: 1,724 SF
BALCONY GFA: 130 SF
TOTAL: 1,854 SF



B5-TOWN LOWER UNIT
NET FLOOR AREA: 787 SF
BALCONY GFA: 261 SF
TOTAL: 1,004 SF



B6-TOWN LOWER UNIT
NET FLOOR AREA: 843 SF
BALCONY GFA: 188 SF
TOTAL: 1,033 SF



C2-UNIT
NET FLOOR AREA: 1,443 SF
BALCONY GFA: 52 SF
TOTAL: 1,495 SF

SCALE: 1/8" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

UNIT PLANS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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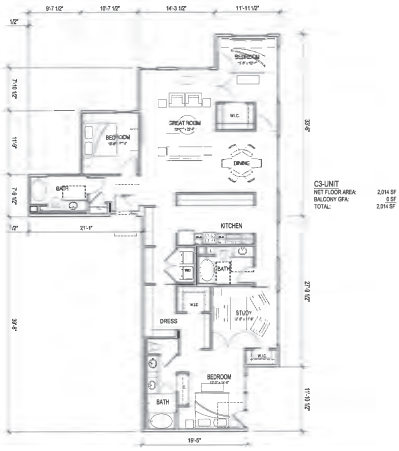
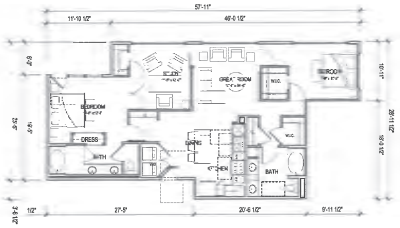
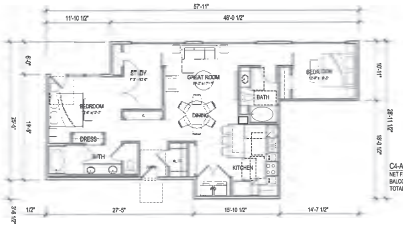


C3-UNIT
NET FLOOR AREA: 2,014 SF
BALCONY GFA: 0 SF
TOTAL: 2,014 SF



C4-UNIT
NET FLOOR AREA: 1,309 SF
BALCONY GFA: 0 SF
TOTAL: 1,309 SF



C4-ALT-UNIT
NET FLOOR AREA: 1,246 SF
BALCONY GFA: 0 SF
TOTAL: 1,246 SF

SCALE: 1/8" = 1'-0"
NOT TO SCALE @ 11X17

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NUMBERS DENOTE MATERIALS

1. EXT. PLASTER SAND FINISH

2. STAMPED CONCRETE

3. CROWN MOULDING

4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET

5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE

7. PAINTED AWNING

8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

11. METAL EXTRUDED OPENING

12. FIBER CEMENT FACADE PANEL

13. FIBER CEMENT FACADE PANEL

14. HIGH PERFORMANCE GARAGE DOOR

15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM (U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS

A. DUNN EDWARDS CRYSTAL WHITE

B. DUNN EDWARDS ASPEN

C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

VIEW OF HUNTINGTON DRIVE.

NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

ARCADIA TOWN CENTER
Arcadia, CA
HPA # : 19158

CONCEPT DETAILS AND MATERIALS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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NUMBERS DENOTE MATERIALS

1. EXT. PLASTER SAND FINISH

2. STAMPED CONCRETE

3. CROWN MOULDING

4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET

5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE

7. PAINTED AWNING

8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

11. METAL EXTRUDED OPENING

12. FIBER CEMENT FACADE PANEL

13. FIBER CEMENT FACADE PANEL

14. HIGH PERFORMANCE GARAGE DOOR

15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM (U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS

A. DUNN EDWARDS CRYSTAL WHITE

B. DUNN EDWARDS ASPEN

C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

VIEW OF SANTA ANITA AVE.
NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

ARCADIA TOWN CENTER
Arcadia, CA

CONCEPT DETAILS AND MATERIALS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

HUMPHREYS & PARTNERS ARCHITECTS, L.P
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NUMBERS DENOTE MATERIALS

1. EXT. PLASTER SAND FINISH

2. STAMPED CONCRETE

3. CROWN MOULDING

4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET

5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE

7. PAINTED AWNING

8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

11. METAL EXTRUDED OPENING

12. FIBER CEMENT FACADE PANEL

13. FIBER CEMENT FACADE PANEL

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15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM (U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS

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B. DUNN EDWARDS ASPEN

C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

VIEW OF MORLAN PL.
NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

CONCEPT DETAILS AND MATERIALS
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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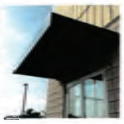
5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE



7. PAINTED AWNING

8. VINYL WINDOW COLOR: BRONZE COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

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ALL MATERIALS AS SHOWN OR APPROVED EQUAL

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C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

VIEW OF NORTH COURTYARD
NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

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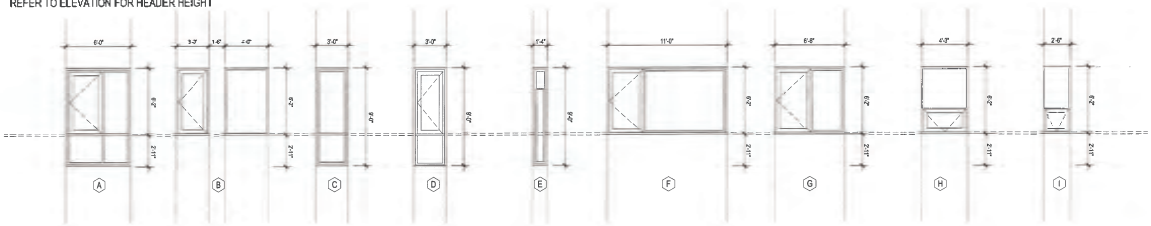
WINDOW TYPES

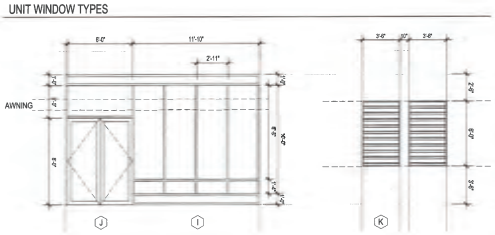
REFER TO ELEVATION FOR HEADER HEIGHT



T=DENOTED TEMPERED GLASS REFER TO ELEVATIONS & UNITS PLANS FOR LOCATIONS

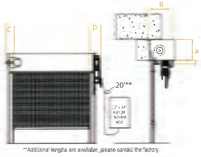
WINDOW SCHEDULE (UNITS)

UNIT WINDOW TYPES



GARAGE DOOR TYPE

STINLESS STEEL CURTAIN: MICRO-COIL GRILLE-500K CYCLES



**Additional lengths are available, please contact the factory

CURTAIN DESIGNS Straight and Brick

Straight Brick

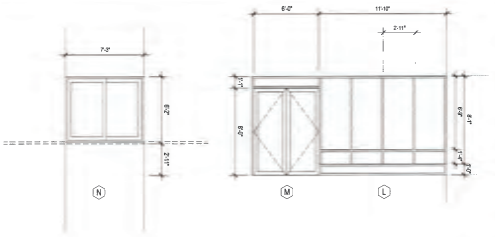
*The dimensions featured on this sheet are provided as a rough guide for planning purposes. Exact dimensions cannot be provided until field conditions and all options are confirmed. Once field conditions are confirmed, please visit our website at www.cookseydoor.com/drawings to generate custom drawings on demand for your specific opening.

EXTERIOR - ROLLER SHUTTER

INTERIOR - ROLL UP COIL

RETAIL WINDOW TYPES

PARKING WINDOW TYPES



STAIR WINDOW TYPES

AMENITY WINDOW TYPES

T=DENOTES TEMPERED GLASS REFER TO ELEVATIONS & UNIT PLANS FOR LOCATIONS

WINDOW SCHEDULE (UNITS)

DENOTES WINDOW

MARK	WINDOW SIZE	TYPE	DESCRIPTION	REMARKS	HEADER HEIGHT
A	6'-0" X 9'-1"	CSMT & FIXED	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
B	3'-0" X 6'-2"	CSMT & FIXED	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
C	3'-0" X 9'-0"	FIXED	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
D	3'-0" X 9'-0"	CSMT & FIXED	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
E	1'-4"X 9'-0"	FIXED	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
F	11'-0" X 6'-2"	CSMT & FIXED	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
G	6'-8" X 6'-2"	CSMT & FIXED	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
H	4'-3"X 6'-2"	AWNING w/TRANSOMS	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION
I	2'-6"X 6'-2"	AWNING w/TRANSOMS	VINYL WINDOW	U-VALUES.68 AND SHGC .26. *NOTE	REF. ELEVATION

WINDOW SCHEDULE (RETAIL)

DENOTES WINDOW

MARK	WINDOW SIZE	TYPE	DESCRIPTION	REMARKS	HEADER HEIGHT
J	11'-10"X 11'-0"	FIXED	STOREFRONT ALUMINUM WINDOW	*NOTE	REF. ELEVATION
J	6'-0"X 3-0"	FIXED OVER DOOR	STOREFRONT ALUMINUM WINDOW	*NOTE	REF. ELEVATION
K	3'-6"X 6'-0"	FIXED LOUVER	STEEL	*NOTE	REF. ELEVATION

* ALL WINDOWS ARE ALUMINUM DUAL GLAZED PER TITLE 24 REPORT AND MANUFACTURE'S SPECS.

WINDOW SCHEDULE (PUBLIC)

DENOTES WINDOW

MARK	WINDOW SIZE	TYPE	DESCRIPTION	REMARKS	HEADER HEIGHT
L	11'-10"X 8'-0"	FIXED	STOREFRONT ALUMINUM WINDOW	*NOTE	REF. ELEVATION
M	6'-0"X 1-0"	FIXED OVER DOOR	STOREFRONT ALUMINUM WINDOW	*NOTE	REF. ELEVATION
N	7'-3"X 6'-2"	SLIDERS	VINYL WINDOW	*NOTE	REF. ELEVATION

* ALL WINDOWS ARE ALUMINUM DUAL GLAZED PER TITLE 24 REPORT AND MANUFACTURE'S SPECS.

SAFETY GLAZING NOTES

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

WINDOW SCHEDULE
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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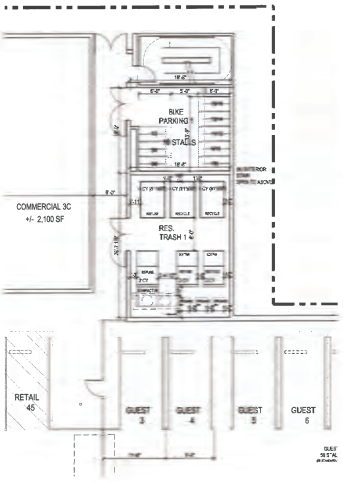
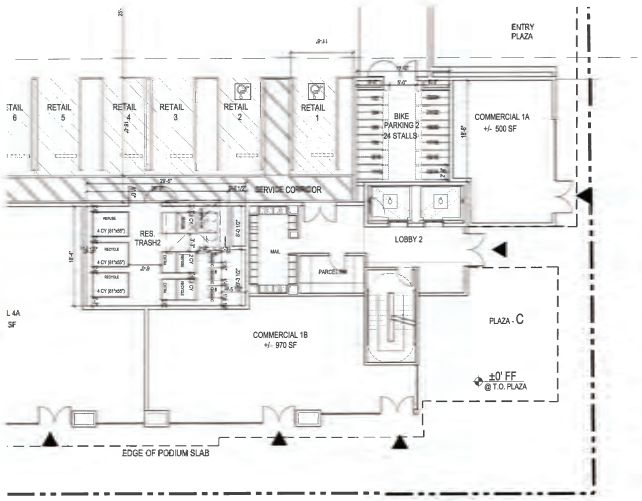
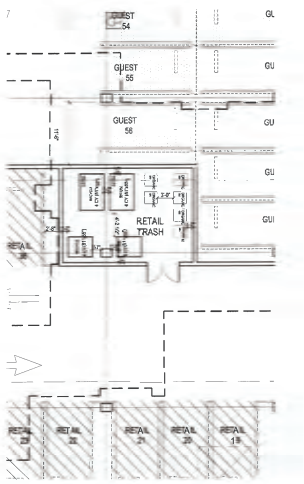


TRASH ROOM 1 & BICYCLE PARKING 1



TRASH ROOM 2 & BICYCLE PARKING 2



TRASH ROOM 3 : RETAIL TRASH

KEY MAP

RESIDENTIAL TRASH	Food	Recycle	Trash
Total Generation (yd3/week)	9.9	99.2	99.2
Options	9	11375	11366
Container Size	65 gallon cart	4 yd3 dumpster	4 yd3 dumpster
Quantity	2	4	4
Frequency (pickups per week)	2	3	3

RETAIL TRASH ENCLOSURE	Food	Recycle	Trash
Total Generation (yd3/week)	5.4	23.2	21.0
Options	1309	4676	4145
Container Size	65 gallon cart	4 yd3 dump cart	4 yd3 dumpster
Quantity	6	2	2
Frequency (pickups per week)	6	3	3

Bike Parking Required:	per AMC Sect. 9103.07.150			Bike Parking Provided:	
	#	Ratio	Total		
Resident:	181	0.20 # ea	37		
Retail:	46	0.05 # each	3		
Subtotal Long Term:			40	Subtotal Long Term:	40
	#	Ratio	Total		
Retail:	46	0.05 # each	3		
Subtotal Short Term:			3	Subtotal Short Term:	3
Total Stalls Required:			43 stalls	Total Stalls Provided:	43 stalls

SCALE : 1/8" = 1'-0"
NOT TO SCALE @ 11X17

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

TRASH ROOM / BICYCLE PARKING
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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1. BIRD'S VIEW FROM HUNTINGTON DRIVE AND SANTA ANITA AVE.

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

PERSPECTIVE
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

NEW WORLD INTERNATIONAL INVESTMENT LLC

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1..VIEW OF SOUTH CORNER AMENITY & RETAIL

2. VIEW OF NORTH CORNER AMENITY AND PARKING ENTRY

ARCADIA TOWN CENTER
Arcadia, CA
HPA # 18158

PERSPECTIVE
ARCHITECTURAL DESIGN REVIEW - RESUBMITTAL
November 1, 2022

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1. VIEWING WEST FROM HUNTINGTON DRIVE

2. VIEW OF CENTRAL PLAZA PODIUM ACCESS

3. VIEW FROM ARCADIA STATE PARK

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1. STREETSCAPE OF HUNTINGTON DRIVE AND SANTA ANITA AVE.

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1. MAIN COURTYARD VIEWING SOUTH

2. BIRD'S EYE VIEW OF LINEAR GARDEN & POOL DECK

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2. VIEW OF CENTRAL POOL COURTYARD FROM BRIDGE WAY

1. MAIN POOL DECK VIEWING MAIN ENTRY WAY

1. STREETSCAPE OF HUNTINGTON DRIVE AND SANTA ANITA AVE.

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ARCADIA TOWN CENTER

ENTITLEMENTS PACKAGE

ARCADIA, CA

28 | 04 | 2022

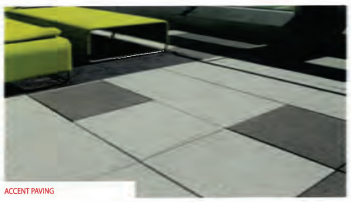
hpla studio

SHEET INDEX

01. Cover Sheet
02. Inspirational Images
03. Ground Level Site Plan
04. Streetscape North
05. Streetscape South
06. Level 2 Site Plan
07. Pool Deck 1
08. Pool Deck 2
09. Courtyard 1 & 2
10. Courtyard 3 & 4
11. Sky Deck - Level 4
12. Level 5 Site Plan
13. Roof Deck
14. Existing Tree Site Plan

100% DESIGN DEVELOPMENT

EVENT / ACTIVITY LAWN



ACCENT PAVING

OUTDOOR BBQ

ORNAMENTAL PLANTING

OUTDOOR FURNITURE

CUSTOM CAST IN PLACE CONCRETE BENCH

PALM TREE PREFAB PLANTER

HAMMOCK ON TURF

CAFE

PREFAB FIRE FEATURE

MULTI-TONE LINEAR PAVERS

ARCADIA TOWN CENTER

INSPIRATIONAL IMAGES

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 2 OF 15
SCALE: NTS

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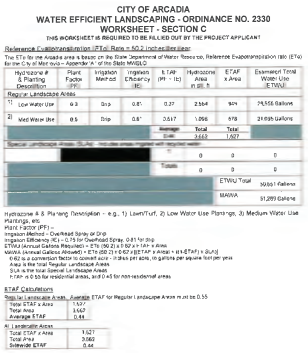


CITY OF ARCADIA
WATER EFFICIENT LANDSCAPING - ORDINANCE NO. 2330
WORKSHEET - SECTION C

THIS WORKSHEET IS REQUIRED TO BE FILLED OUT BY THE PROJECT APPLICANT

Reference Evapotranspiration (ETo) Rate = 50.2 inches/liner/year

The ETo for the Arcadia area is based on the State Department of Water Resource, Reference Evapotranspiration rate (ETo) for the City of Monrovia – Appendix "A" of the State MWELO

	Hydrozone # & Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF ÷ IE)	Hydrozone Area in sq. ft.	ETAF x Area	Estimated Total Water Use (ETWU)
Regular Landscape Areas								
1)	Low Water Use	0.3	Drip	0.81	0.37	2,564	924	74,556 Gallons
2)	Med Water Use	0.5	Drip	0.81	0.617	1,056	678	21,895 Gallons
					Average	Total	Total	
					0.46	3,668	1,601	
Special Landscape Areas (Not to exceed one-third of total landscape area)								
3)						0	0	0
					Totals	0	0	0
							ETWU Total	96,451 Gallons
							MAWA	91,269 Gallons

Hydrozone # & Planting Description – e.g., 1) Lawn/Turf, 2) Low Water Use Planting, 3) Medium Water Use Planting, etc.
Plant Factor (PF) –
Irrigation Method – Overhead Spray or Drip
Irrigation Efficiency (IE) – 0.75 for Overhead Spray, 0.81 for Drip
ETWU (Annual Gallons Required) = ETo (50.2) x 0.62 x [(PF x HA) ÷ IE]
MAWA (Annual Gallons Allowed) = ETo (50.2) x 0.62 x [(ETAF x Area) + (1-ETAF) x SLA)]
0.62 is a conversion factor to convert acre – inches per acre, to gallons per square foot per year
Area is the total Regular Landscape Areas
SLA is the total Special Landscape Areas
1 = 1 in a 0.55 for residential areas, and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas	Average ETAF for Regular Landscape Areas must be 0.55
Total ETAF x Area	1,601
Total Area	3,668
Average ETAF	0.44

All Landscape Areas	
Total ETAF x Area	1,601
Total Area	3,668
Sitewide ETAF	0.44

PLANTING NOTES

1. All landscape planting improvements shall follow the city and/or county of Arcadia's guidelines.

2. The selection of plant material is based on cultural, aesthetic, water effciency, and maintenance considerations.

3. All planting areas shall be prepared with appropriate soil amendments, fertilizers, and appropriate supplements based upon a soils report from a sample taken from the project site.

4. Groundcovers or bark mulch shall fil in between the shrubs to shield the soil from the sun, evapotranspiration, and runoff. All shrub beds shall be mulched to a 3" depth to help conserve water, lower the soil temperature, and reduce weed growth.

5. Trees and shrubs shall be allowed to grow to their natural forms.

6. Final landscape plans shall accurately show placement of trees, shrubs, and groundcovers.

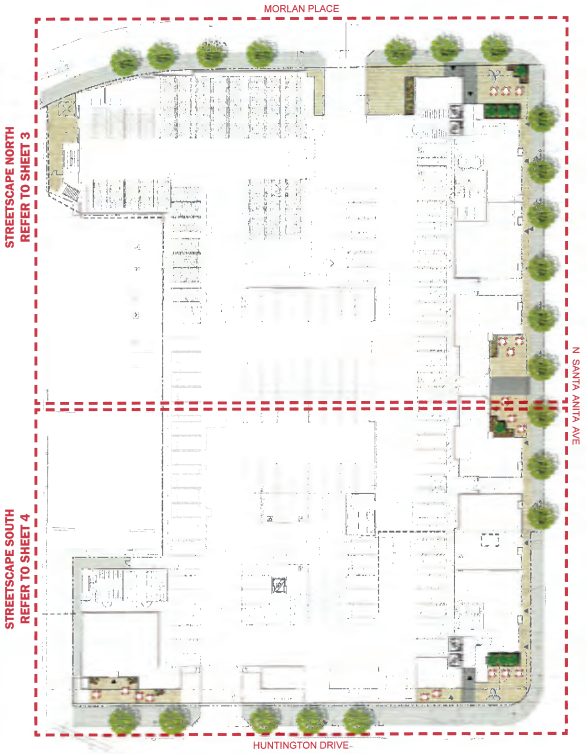
7. All required landscape planting areas shall be maintained by owner per the City's requirements.

8. The landscape architect shall be aware of utility, sewer, and storm drain easements and place plantings accordingly.

9. Prior to the start of landscaping operations, the Landscape Architect and Landscape Constractor shall provide a sample of the weed fabric barrier to the Project Planner, City of Arcadia Planning Department.

10. All shrubs shall be installed at 5 gallons or 15 gallons.

11. All trees shall be installed at 24" box, 36" box, and/or 48" box.



CONCEPTUAL PLANT PALETTE

TREES:	SIZE:
ARBUTUS UNEDO STRAWBERRY TREE	36"
LAGERSTROEMIA INDICA CRAPE MYRTLE	36"
OLEA EUROPAEA OLIVE TREE	36"
PARKINSONIA FLORIDA PALO VERDE	36"
TRISTANIA CONFERTA BRISBANE BOX	36"
SHRUBS AND GROUNDCOVERS:	
ASCLEPIAS CURA. ' RED BUTTERFLIES' RED BUTTERFLIES MILKWEED	5 GAL.
BUDDLEJA 'BLUE CHIP' DWARF SUMMER LILAC	5 GAL.
CARISSA MACROCARPA NATAL PLUM	3 GAL.
CEANOTHUS GRIS. HORIZ. 'YANKEE POINT' YANKEE POINT CEANOTHUS	5 GAL.
DIANELLA REVOLUTA 'CLARITY BLUE' CLARITY BLUE FLAXLILY	3 GAL.
ECHINOCACTUS GRUSONII BARREL CACTUS	3 GAL.
LANTANA CAMARA 'MISS HUFF' MISS HUFF HARDY LANTANA	5 GAL.
LEUCOPHYLLUM SPP. TEXAS RANGER	5 GAL.
RHAPHIOLEPIS INDICA INDIAN HAWTHORNE	5 GAL.
ROSMARINUS OFF. 'LOCKWOOD DE FOREST' PROSTRATE ROSMARY	1 GAL.
SALVIA SPP. SAGE	5 GAL.

HEDGES:	SIZE:
LIGUSTRUM JAPONICUM JAPANESE PRIVET	5 GAL.
PITTOSPORUM TOBIRA 'MOJO' MOJO PITTOSPORUM	3 GAL.
PODOCARPUS ELONGATUS 'MONMAL' ICEE BLUE YELLOWWOOD	5 GAL.
PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	5 GAL.
SUCCULENTS:	
AGAVE AMERI. VAR. MEDIO-PICTA 'ALBA' WHITE STRIPED CENTURY PLANT	3 GAL.
AGAVE 'BLUE GLOW' BLUE GLOW AGAVE	1 GAL.
AGAVE DESMETTIANA SMOOTH AGAVE	5 GAL.
AGAVE WEBERI WEBER'S AGAVE	5 GAL.
ALOE STRIATA CORAL ALOE	1 GAL.
ECHEVERIA SPP. HEN AND CHICKS	1 GAL.
SEDUM SPP. STONECROP	1 GAL.
SENECIO MANDRALISCAE BLUE CHALKSTICKS	1 GAL.
GRASSES:	
MUHLENBERGIA LINDHEIMERI AUTUMN GLOW MUHLY	3 GAL.
PENNISETUM ALOPECUROIDES 'HAMELN' DWARF FOUNTAIN GRASS	3 GAL.
VINES:	
BOUGAINVILLEA SPP. BOUGAINVILLEA	5 GAL.
CLYTOSTOMA CALLISTEGIODES VIOLET TRUMPET VINE	5 GAL.

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ARCADIA TOWN CENTER
STREETSCAPE SITE PLAN

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 3 OF 15
SCALE: NTS

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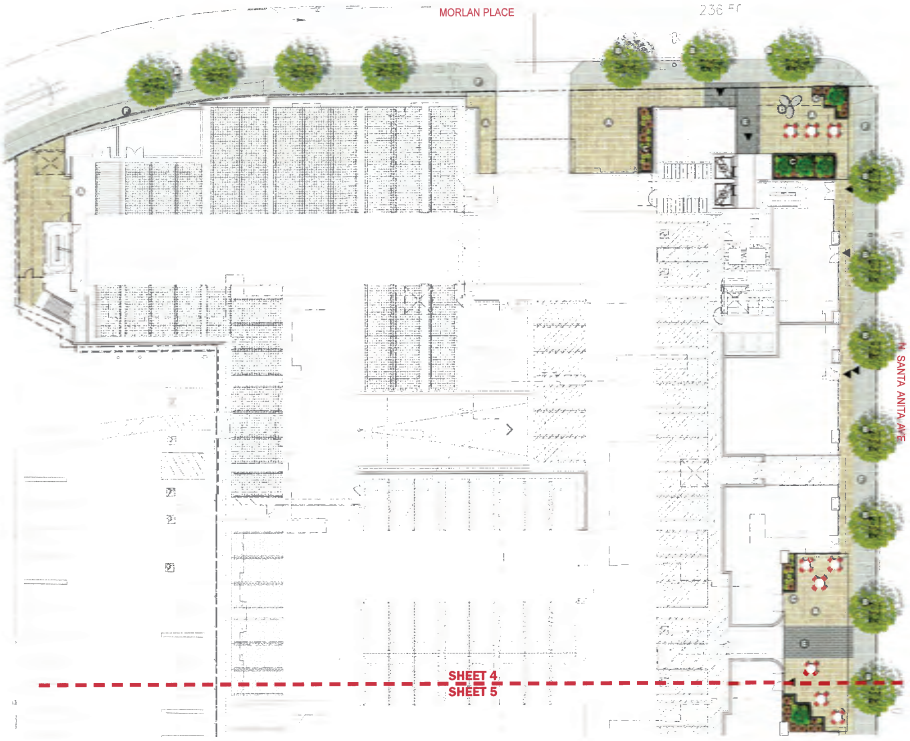

STREETSCAPE NORTH

Legend

- A 2' x 2' Concrete Pavers
- B 4' x 8' Tree Well w/ Shade Tree
- C Ornamental Planting
- D Pebble Seating
- E Accent Linear Pavers
- F Existing Sidewalk

GROUND LEVEL KEY MAP

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ARCADIA TOWN CENTER

STREETSCAPE NORTH

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 4 OF 15
NTS

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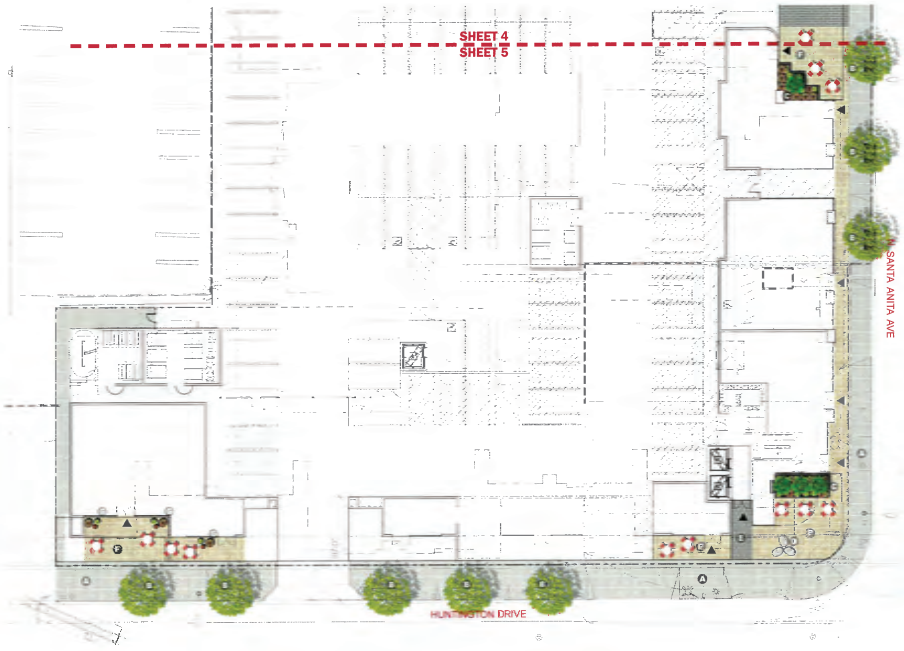
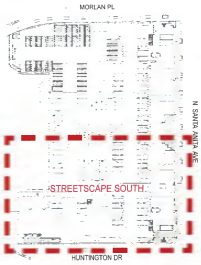


STREETSCAPE SOUTH

Legend

- A Existing Sidewalk
- B 4' x 8' Tree Well w/ Shade Tree
- C Ornamental Planting
- D Pebble Seating
- E Accent Linear Pavers
- F 2' x 2' Concrete Pavers
- G Circular Planting Pots

GROUND LEVEL KEY MAP



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ARCADIA TOWN CENTER
STREETSCAPE SOUTH

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 5 OF 15
NTS

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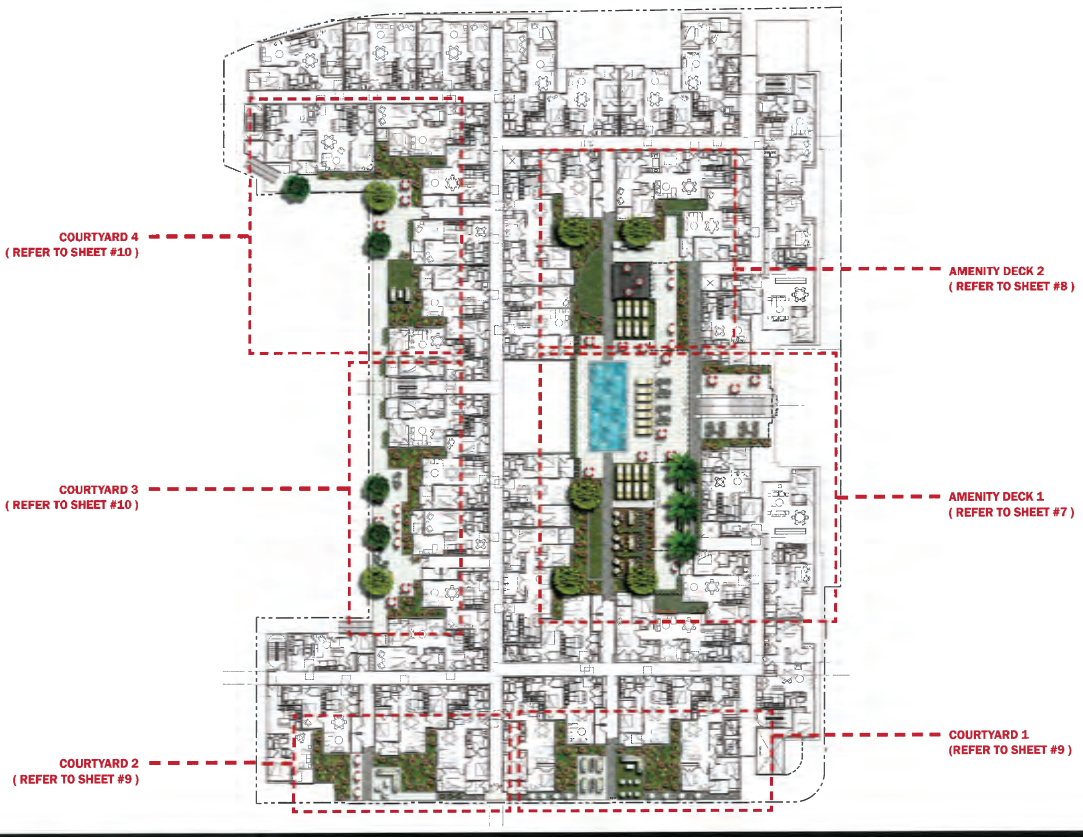

ARCADIA TOWN CENTER

PODIUM 2nd LEVEL SITE PLAN

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 6 OF 15
NTS

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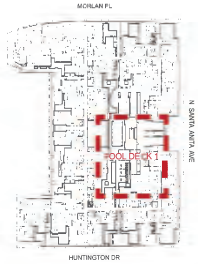
AMENITY DECK 1

Legend

- A Swimming Pool
- B Lounge Seating without Artificial Turf
- C Artificial Turf w/ Lounge Seating
- D Pre-Fab Planter w/ Shade/Palm Tree
- E 12" Tall Built-In Planter
- F Circular Ornamental Planting Pot
- G Rectangular Pre-Fab Planter
- H Accent Linear Pavers
- I 2' x 2' Concrete Pavers
- J Pool Fence & Gate
- K Decorative Rock
- L Wood Decking
- M Pre-Fab Fire Trough
- N Bocce Ball Court
- O String Lighting

2ND LEVEL KEY MAP



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ARCADIA TOWN CENTER

AMENITY DECK 1

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 7 OF 15
NTS

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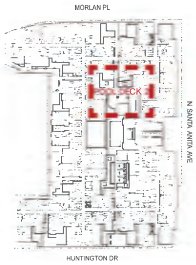
AMENITY DECK 2

Legend

- A Custom Steel Shade Structure
- B Wood-Cap Planter Bench
- C Artificial Turf Area
- D Raised Planter w/ Ornamental Planting
- E Circular Ornamental Planting Pot
- F 4' x 4' Pre-Fab Planter w/ Shade Tree
- G 2' x 2' Concrete Pavers
- H Accent Linear Pavers
- I Barbeque Grill & Counter
- J Pool Fence & Gate

2ND LEVEL KEY MAP



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ARCADIA TOWN CENTER
AMENITY DECK 2

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 8 OF 15
NTS

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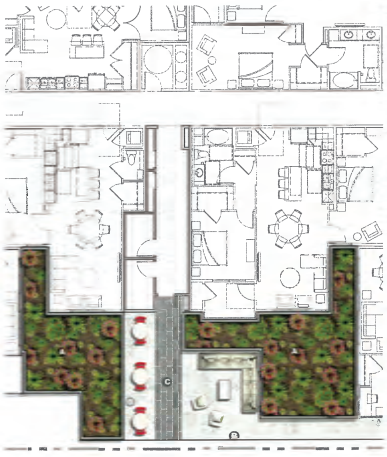
COURTYARD 2

Legend

- Raised Planter w/ Ornamental Planting (A)
- 2' x 2' Concrete Pavers (B)
- Accent Linear Pavers (C)

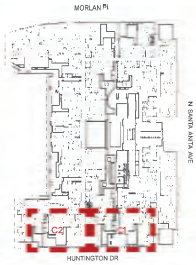


COURTYARD 1

Legend

- (A) Contemporary Fire Trough
- (B) Decorative Rock
- (C) Accent Linear Pavers
- (D) Raised Planter w/ Ornamental Planting
- (E) Artificial Turf
- (F) 2' x 2' Two-Tone Accent Pavers
- (G) Decorative Light Spheres

2ND LEVEL KEY MAP



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ARCADIA TOWN CENTER

COURTYARDS 1 & 2

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 9 OF 15

NTS

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COURTYARD 3

Legend

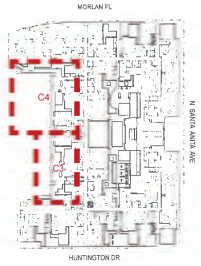
- A Built-In Wood Bench
- B Rectangular Pre-Fab Planter
- C Raised Planter w/ Ornamental Planting
- D 4' x 4' Pre-Fab Planter w/ Shade Tree
- E 2' x 2' Two-Tone Accent Pavers

COURTYARD 4

Legend

- A Artificial Turf Area
- B Rectangular Pre-Fab Planter
- C Ornamental Planting Pots
- D Raised Planter w/ Ornamental Planting
- E Built-In Concrete Bench Seating
- F 4' x 4' Pre-Fab Planter w/ Shade Tree
- G 2' x 2' Two-Tone Accent Pavers

2ND LEVEL KEY MAP



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ARCADIA TOWN CENTER
COURTYARD 3 & 4

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 10 OF 15
NTS

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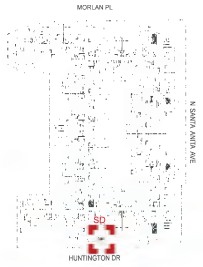
SKY DECK (4TH LEVEL)

Legend

- A Ornamental Planting Pots
- B 2' x 2' Concrete Pavers

4TH LEVEL KEY MAP



ARCADIA TOWN CENTER
SKY DECK (4TH LEVEL)

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 11 OF 15
NTS

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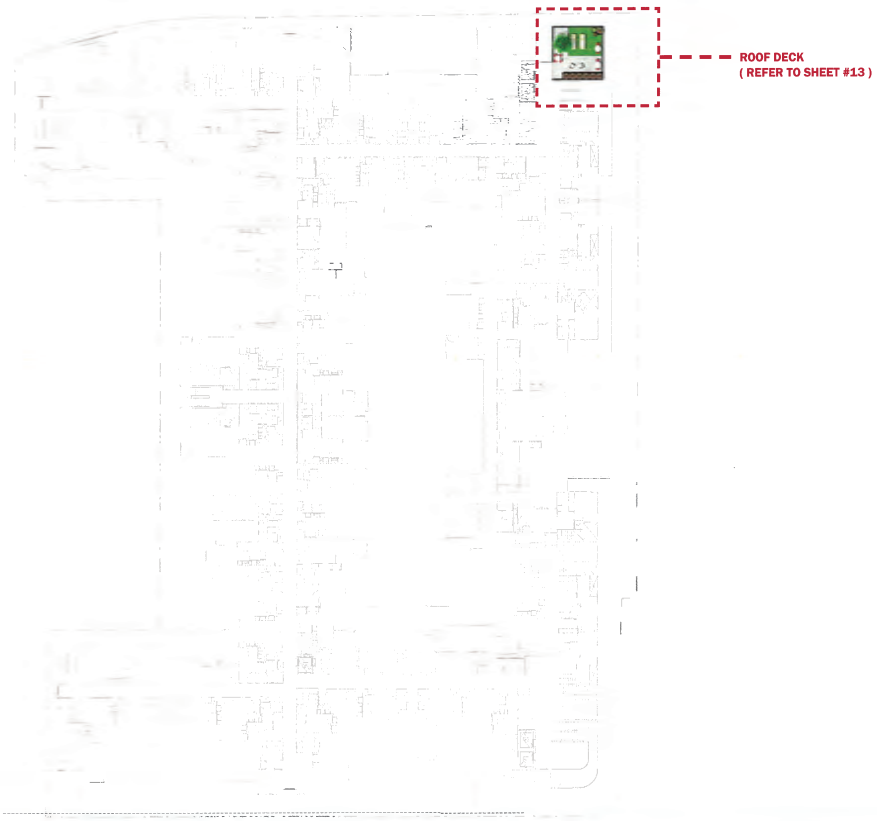

ARCADIA TOWN CENTER

ROOF DECK SITE PLAN (5TH LEVEL)

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 12 OF 15
NTS

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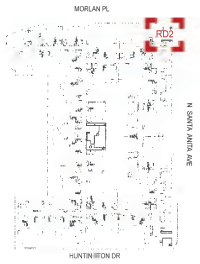
ROOF DECK (5TH LEVEL)

Legend

- A Ornamental Planting Pots
- B Raised Planter w/ Ornamental Planting
- C Artificial Turf Area
- D 4' x 4' Pre-Fab Planter w/ Shade Tree
- E 2' x 2' Two-Tone Accent Pavers

5TH LEVEL KEY MAP



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ARCADIA TOWN CENTER

ROOF DECK 2 & 3 (5TH LEVEL)

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 14 OF 15
NTS

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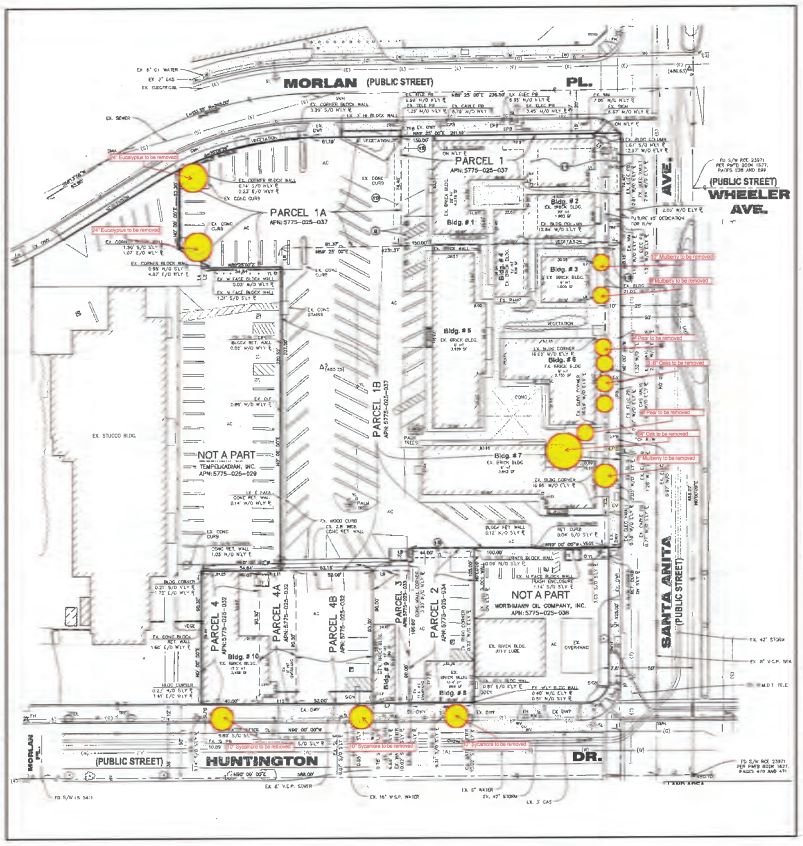

ARCADIA TOWN CENTER

EXISTING TREE PLAN INVENTORY

ARCADIA, CA

NEW WORLD INTERNATIONAL INVESTMENT, LLC

HPA: #18158

SHEET: 15 OF 15
NTS

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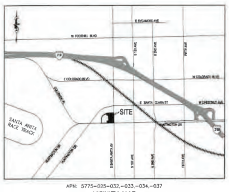
TENTATIVE TRACT No. 83325

IN THE CITY OF ARCADIA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

BEING A SUBDIVISION OF LOT 8 AND PORTION OF LOTS 9 AND 10 OF TRACT NO. 13768, RECORDED IN BOOK 273, PAGES 37 AND 38 OF MAPS, ALSO THAT PORTION OF LOT 3 OF TRACT NO. 949 AS PER MAP RECORDED IN BOOK 17, PAGE 13 OF MAPS, IN THE OFFICE OF THE RECORDER OF SAID COUNTY

FOR COMMERCIAL AND RESIDENTIAL CONDOMINIUM USE

COORY ENGINEERING

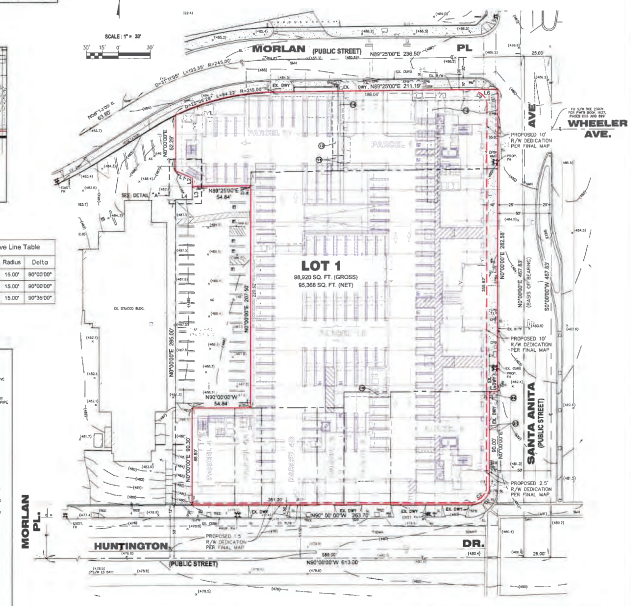


Property Line Table		
Line #	BEARING	DISTANCE
L1	N67°32'00"W	17.32'
L2	N0°00'00"E	8.02'
L3	S0°00'00"E	12.24'
L4	N90°00'00"E	16.00'
L5	N67°32'00"W	7.50'
L6	S89°29'00"W	25.10'

Property Curve Line Table			
Curve #	Length	Radius	Delta
C1	23.56'	15.00'	90°00'00"
C2	23.56'	15.00'	90°00'00"
C3	23.71'	15.00'	90°35'00"

ABBREVIATIONS

AB	ASPHALTIC BASE	FH	FUNNING WATER POST
AC	ASPHALTIC CONCRETE	FL	FLOW LINE
ACP	ASBESTOS CEMENT PIPE	FOC	POINT OF CONNECTION
BCP	BEGINNING CURVE	FOC	POINT OF COMPOUND CURVE
BFP	BACK FLOW PREVENTER	FOR	POINT OF REVERSE
BLDG	BUILDING	FS	FINISH SURFACE
BM	BENCH MARK	FW	FIRE WALL
BOW	BACK OF WALK	G	GRADE
BVC	BEGIN OF VERTICAL CURVE	GAR	GARAGE
BW	BACK OF WALK	GB	GRADE BREAK
CB	CATCH BASIN	GI	GRATE INLET
CBC	CATCH BASIN CONNECTION	GM	GAS METER
CF	CURB FACE	GV	GATE VALVE
CIP	CAST IRON PIPE	HB	HOSE BIB
CL	CENTER LINE	HC	HANDICAP
CLF	CHAIN LINK FENCE	HP	HIGH POINT
CMP	CORRUGATED METAL PIPE	HT	HEIGHT
CO	CLEAN OUT	INV	INVERT
CONC	CONCRETE	IP	IRON PIPE
CP	CONCRETE PIPE	IRR	IRRIGATION
CPP	CORRUGATED PLASTIC PIPE	JB	JUNCTION BOX
CT	CURB TOP	JT	JOINT TRENCH
CTV	CABLE TELEVISION	LP	LIGHT POLE
DF	DRINKING FOUNTAIN	MB	MAIL BOX
DI	DRAIN INLET	MH	MANHOLE
DW	DRIVEWAY	MW	MONUMENT WELL
E	EAST	N	NORTH
EC	END OF CURVE	NIC	NOT IN CONTRACT
EG	EXISTING GRADE	NTS	NOT TO SCALE
EL	ELEVATION	OC	ON CENTER
ELEC	ELECTRICAL	OH	OVERHEAD
EM	ELECTRICAL MANHOLE	P	PAVEMENT
EP	EDGE OF PAVEMENT	PB	PULL BOX
EV	ELECTRICAL VAULT	PC	POINT OF CURVE
EW	EACH WAY	PCC	POINT OF COMPOUND CURVE
FDN	FIRE ALARM FUEL SOV	PE	POOL EQUIP.
FF	FINISH FLOOR	PI	POINT OF INTERSECTION
FG	FINISH GRADE	PL	PROPERTY LINE
FH	FIRE HYDRANT	PLT	PLANTER
FL	FLOW LINE	PP	POWER POLE
FOC	FACE OF CURB	PRC	POINT OF REVERSE CURVE
FOW	FACE OF WALL	PT	POINT OF TANGENT
FP	FIRE POST	PVC	POLYVINYL CHLORIDE PIPE
FS	FINISH SURFACE	R	RADIUS
FW	FIRE WALL	RCP	REINFORCED CONCRETE PIPE
G	GRADE	RD	ROOF DRAIN
GAR	GARAGE	RE	RADIUS POINT
GB	GRADE BREAK	RET	RETAINING
GI	GRATE INLET	RW	RETAINING WALL
GM	GAS METER	S	SOUTH
GV	GATE VALVE	SAN	SANITARY SEWER
HB	HOSE BIB	SCO	SEWER CLEAN OUT
HC	HANDICAP	SD	STORM DRAIN
HP	HIGH POINT	SDMH	STORM DRAIN MANHOLE
HT	HEIGHT	SHT	SHEET
INV	INVERT	SL	STREET LIGHT
IP	IRON PIPE	SMH	SEWER MANHOLE
IRR	IRRIGATION	SQ FT	SQUARE FEET
JB	JUNCTION BOX	SS	SANITARY SEWER
JT	JOINT TRENCH	STA	STATION
LP	LIGHT POLE	STD	STANDARD
MB	MAIL BOX	SW	SIDEWALK
MH	MANHOLE	TB	TOP OF BERM
MW	MONUMENT WELL	TC	TOP OF CURB
N	NORTH	TEL	TELEPHONE
NIC	NOT IN CONTRACT	TF	TOP OF FOOTING
NTS	NOT TO SCALE	TG	TOP OF GRATE
OC	ON CENTER	TP	TOP OF PAVEMENT
OH	OVERHEAD	TS	TOP OF SLOPE
P	PAVEMENT	TW	TOP OF WALL
PB	PULL BOX	TYP	TYPICAL
PC	POINT OF CURVE	UG	UNDERGROUND
PCC	POINT OF COMPOUND CURVE	VC	VERTICAL CURVE
PE	POOL EQUIP.	W	WEST
PI	POINT OF INTERSECTION	WM	WATER METER
PL	PROPERTY LINE	WV	WATER VALVE
PLT	PLANTER		
PP	POWER POLE		
PRC	POINT OF REVERSE CURVE		
PT	POINT OF TANGENT		
PVC	POLYVINYL CHLORIDE PIPE		
R	RADIUS		
RCP	REINFORCED CONCRETE PIPE		
RD	ROOF DRAIN		
RE	RADIUS POINT		
RET	RETAINING		
RW	RETAINING WALL		


SCALE: 1" = 30'
MORLAN (PUBLIC STREET)
PL
WHEELER AVE.
SANTA ANITA AVE.
MORLAN PL.
HUNTINGTON DR. (PUBLIC STREET)
LOT 1
95,929 SQ. FT. (GROSS)
85,368 SQ. FT. (NET)
SEE DETAIL "A"
PROPOSED 10' R/W DEDICATION PER FINAL MAP
PROPOSED 2.5' R/W DEDICATION PER FINAL MAP
PROPOSED 1' R/W DEDICATION PER FINAL MAP
EX. STUCCO BLDG.
EX. BLOCK WALL
EX. CONC. BLDG.
EX. BRICK BLDG.
EX. WOOD FENCE
EX. CHAIN LINK FENCE
EX. BLOCK WALL

Attachment No. 4

Planning Commission Minutes, Staff Report, dated January 14, 2025 (Without Attachments), and Letters of Support dated, January 9, 2025, and January 14, 2025

ARCADIA PLANNING COMMISSION
REGULAR MEETING MINUTES
TUESDAY, JANUARY 14, 2025

CALL TO ORDER Chair Wilander called the meeting to order at 7:00 p.m.

ROLL CALL

PRESENT: Chair Wilander, Vice Chair Tallerico, Hui, and Tsoi

ABSENT: Commissioner Arvizu

It was moved by Vice Chair Tallerico and seconded by Commissioner Tsoi to excuse Commissioner Arvizu from the meeting.

Without objection, the motion was approved.

SUPPLEMENTAL INFORMATION FROM STAFF REGARDING AGENDA ITEMS

Deputy Development Services Director, Lisa Flores, reported that two letters were received. One letter came from the Downtown Arcadia Improvement Association in support of the project, while the second letter was from CalHDC. Both letters were sent to the Commissioners before the meeting and a hard copy was provided at the dais.

PUBLIC COMMENTS (5 minute time limit per person)

There were none.

PUBLIC HEARING

1. **Resolution No. 2164**– Approval of the "Arcadia Town Center" mixed-use development with 181 residential units and 13,130 square feet of commercial space along with a Mitigated Negative Declaration under the California Environmental Quality Act ("CEQA"), located at 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue
   Recommendation: Adopt

   Applicant: New World international, LLC

MOTION - PUBLIC HEARING

Chair Wilander introduced the item and Senior Planner Edwin Arreola presented the staff report.

Vice Chair Tallerico inquired whether "affordable housing" is defined according to income levels set by the State.

Mr. Arreola confirmed that was correct.

Vice Chair Tallerico asked if there was any information regarding the price range of the units.

Mr. Arreola said he did not have that information and deferred the question to the Applicant.

Vice Chair Tallerico asked if the project met and/or exceeded all zoning requirements.

Mr. Arreola confirmed that the project met all the minimum requirements and even exceeded some of them.

Commissioner Hui asked for clarification about how the dead-end aisles were minimized.

Mr. Arreola described how the parking structure was designed without dead ends to maximize circulation.

Commissioner Tsoi asked who would be responsible for funding the sewer upsizing.

Mr. Arreola stated that the Arcadia Town Center and other future developments in the area would be responsible for contributing to the costs of upsizing the sewer system depending on their size and if they will contribute to the demand of usage.

Commissioner Tsoi asked if the City has a backup plan for securing the funding of the infrastructure should a project not move forward with construction.

Ms. Flores explained that the City has developed a three-year CIP plan to increase the sewer capacity. If a development does not proceed with construction, the City would need to re-evaluate. However, since the area is zoned for mixed-use developments, the City must plan for the anticipated demands from future projects.

Assistant City Attorney, Kellan Martz, stated that the sewer project would not be disrupted if no projects come along.

Commissioner Hui asked if the City upfronts the cost.

Ms. Flores confirmed that is the case, but then the developers pay their fair share toward the upgrade.

Commissioner Tsoi asked if the Applicant chose the address number for this development.

Mr. Arreola stated that the address number will be assigned when the plans are submitted to the Building Division for plan-check.

Commissioner Tsoi asked if there are any potential issues with assigning the same address number to the entire development when there are multiple lobbies and entrances.

Ms. Flores stated that it is up to the Building Official and Fire Marshal to make that decision.

Chair Wilander asked to clarify if there were parking allowances because the metro station is nearby.

Mr. Arreola clarified that it is not an allowance, but rather a parking credit for the commercial space when the site is located within a quarter mile of public transit.

Chair Wilander asked if the requirement for a parking management plan was added as a condition of approval.

Mr. Arreola stated that it had not been added but that it is staff's proposal to amend the conditions to include such a parking management plan.

Commissioner Hui asked if there was a parking requirement and what that rate was for a restaurant use.

Mr. Arreola stated that the parking requirement for restaurant use is one parking space per every 200 square feet of gross floor area, and the project met this requirement.

Commissioner Tsoi asked if residential and commercial uses can share parking spaces.

Mr. Arreola stated that it depends on the situation, however for this project they were able to provide all the required parking spaces.

The public hearing was opened.

Ben Zhang, the Applicant, introduced himself and his team. Mr. Zhang thanked City staff for their efforts to protect the City and residents during the unprecedented windstorm. Mr. Zhang described the project and their goals to complement the area with their development.

There was one other speaker who spoke in opposition.

Chase Preciado introduced himself as a part of Lozeau Drury LLP and spoke on behalf of Supporters Alliance for Environmental Responsibility ("SAFER"). Mr. Preciado stated that they had concerns with the Mitigated Negative Declaration (MND) and that there were significant impacts that should require an Environmental Impact Report (EIR). Mr. Preciado and his team had also submitted a letter during the comment period of the MND, and a response letter was provided to the Commissioners as part of the Agenda Packet.

Jillian Neary from Psomas Environmental introduced herself, and explained why the project does not rise to an EIR and how all the impacts that were identified were less than significant.

Commissioner Hui asked if the Air Quality study addressed Mr. Preciado concerns.

Ms. Flores mentioned that after rerunning the model, there was no evidence of a more significant impact or exceeding the previously analyzed threshold, indicating no significant impact on air quality.

There were no other speakers.

Vice Chair Tallerico made a motion to close the public hearing. Commissioner Hui seconded the motion.

Without objection, the motion was approved.

DISCUSSION

Commissioner Tsoi expressed his support for the project, noting that its location near the metro station was ideal. However, he had some concerns about the design, such as the ground floor lobby not facing Santa Anita Avenue and the placement of the trash enclosures. He also raised concerns about the adequacy of parking for commercial spaces.

Vice Chair Tallerico liked the proposed project and had minor concerns about parking but was satisfied that the project met all the requirements.

Commissioner Hui appreciated that the project would enhance the vibrancy of the corner of Santa Anita Avenue and Huntington Drive. She believed it would attract more business to the area and had no concerns about the project's scale or architectural design.

Chair Wilander stated that the project seemed like it would be a very appealing place to live. She had no concerns about parking but inquired whether additional bike racks could be added.

Ms. Flores said that the plans are conceptual, and that staff can recommend to the Applicant the inclusion of additional bike racks when developing their structural plans.

MOTION

Ms. Flores mentioned that Staff would like to add a condition of approval. This new condition will become Condition No. 50 and all the numbers from thereon shall be renumbered, and it shall state, "Prior to issuance of a building permit, the Property Owner/Applicant must submit a parking management plan to the Planning Division outlining the allocation of the parking for the residential units. This Plan shall be reviewed and approved by the Deputy Development Services Director, or their designee."

It was moved by Vice Chair Tallerico, seconded by Commissioner Hui to amend the conditions of approval and include a new condition that was read into the record and adopt Resolution No. 2164 to approving the Arcadia Town Center mixed-use development with 181 residential units and 13,130 square feet of commercial space along with a Mitigated Negative Declaration under the California Environmental Quality Act ("CEQA") that is located at 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue in which the findings were made.

ROLL CALL

AYES: Chair Wilander, Vice Chair Tallerico, Commissioners Hui, and Tsoi
NOES: None
ABSENT: Arvizu

The motion was approved.

There is a ten (10) day appeal period. Appeals are to be filed by 5:30 p.m. on Monday, January 27, 2025.

CONSENT CALENDAR

1. Minutes of the December 10, 2024, Regular Meeting of the Planning Commission

Recommendation: Approve

Commissioner Hui motioned to approve the amended minutes and seconded by Vice Chair Tallerico.

ROLL CALL

AYES: Chair Wilander, Vice Chair Tallerico, Commissioners Hui, and Tsoi
NOES: None
ABSENT: Arvizu

The motion was approved.

MATTERS FROM CITY COUNCIL LIAISON

City Council Member Wang had nothing to report but thanked City staff for all of their efforts to protect the residents and their properties during the windstorm.

MATTERS FROM THE PLANNING COMMISSONERS

Vice Chair Tallerico thanked City staff for their efforts to keep the public informed through the City's website.

Commissioner Tsoi stated that the City's newsletter was also very helpful for updates on the windstorm and the wildfire that burned in the area.

Chair Wilander also expressed gratitude to City staff for their efforts to inform the city's residents.

MATTERS FROM ASSISTANT CITY ATTORNEY

Assistant City Attorney Martz reported that his non-profit was going to put together care packages and deliver them to the victims of the wildfires.

Mr. Martz informed the Commissioners that the Governor was enacting a law against price gouging for rental homes.

Vice Chair Tallerico asked if the Governor has the authority to regulate rental cost.

Mr. Martz confirmed that is correct.

Commissioner Tallerico asked if he could email him with citations for more information about it.

Mr. Martz said he would see what he can find and follow up.

MATTERS FROM STAFF INCLUDING UPCOMING AGENDA ITEMS

Ms. Flores reported that there is one item on the agenda for the January 28 meeting and it will be a text amendment.

ADJOURNMENT

The Planning Commission adjourned the meeting at 8:17 p.m., to Tuesday, January 28, 2025, at 7:00 p.m. in the City Council Chamber.

VINCENT TAI

for Chair Wilander, Planning Commission

ATTEST: for

Lisa L. Flores
Secretary, Planning Commission

1/9/2025

City of Arcadia Planning Commission
Planning Commission Chair Marilynne Wilander, Vice Chair Domenic Tallerico, Commissioners David Arvizu, Angela Hui, and Vincent Tsoi
240 W. Huntington Dr.
P.O. Box 60021
Arcadia, CA 91066

To Chair Marilynne Wilander, Vice Chair Domenic Tallerico, Commissioners David Arvizu

The Downtown Arcadia Improvement Association (DAIA) is pleased to offer our strong support for New World International's proposed Arcadia Town Center (ATC) project. As an organization founded for and committed to the continued growth and prosperity of Downtown Arcadia, we recognize the ATC project's significant potential in bolstering our brilliant community.

The Arcadia Town Center project aligns closely with our mission to foster sustainable economic growth, attract new businesses, and enhance the experience of both residents and visitors. This project, which aims to revitalize key locations within the downtown Arcadia area, promises to bring a vibrant mix of residential, commercial, and recreational spaces that will undoubtedly improve the overall quality of life for our fellow community members.

The ATC project is the first of many catalysts for positive change in our beloved city. It will encourage more foot traffic, stimulate local retail, and further establish the city of Arcadia as one of the premier cities in the Southern California region.

We wholeheartedly support NWI's vision for the Arcadia Town Center and are honored to support this exciting development. The Arcadia Town Center project has endless potential and opportunity, and we at the DAIA are eager and excited to see the positive impact it will bring to our wonderful city.

Sincerely,

Erik Wahl, President
Downtown Arcadia Improvement Association

Jan 14, 2025

City of Arcadia
240 W Huntington Drive
Arcadia, CA 91007

Re: Proposed Housing Development Project at 5-19 W. Huntington Drive

By email: planning@ArcadiaCA.gov

Cc: lfores@ArcadiaCA.gov; CityClerk@ArcadiaCA.gov; rarellano@ArcadiaCA.gov; domlazz@ArcadiaCA.gov;

Dear Arcadia Planning Commission,

The California Housing Defense Fund ("CalHDF") submits this letter to inform the City that it has an obligation to abide by all relevant state housing laws when evaluating the proposed 181-unit housing development project at 5-19 W. Huntington Drive ("the project"), including the Housing Accountability Act (Gov. Code § 65589.5, the "HAA").

The HAA provides the project legal protections. It requires approval of zoning and general plan compliant housing development projects unless findings can be made regarding specific, objective, written health and safety hazards. (Gov. Code, § 65589.5, subd. (j).) The HAA also bars cities from imposing conditions on the approval of such projects that would reduce the project's density unless, again, such written findings are made. (*Ibid.*) As a development with at least two-thirds of its area devoted to residential uses, the project falls within the HAA's ambit, and it complies with local zoning code and the City's general plan.

In particular, the City may not deny the project due to subjective design review standards, such as aesthetics, as the HAA only permits consideration of objective standards. (Gov. Code, § 65589.5, subd. (j).) The HAA defines "objective" as "involving no personal or subjective judgment by a public official and being uniformly verifiable by reference to an external and uniform benchmark or criterion available and knowable by both the development applicant or proponent and the public official." (*Id.* at subd. (h)(9).)

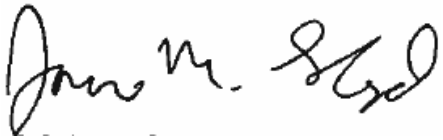
As you are well aware, California remains in the throes of a statewide crisis-level housing shortage. New housing such as this is a public benefit; it will bring increased tax revenue, it will help the city's businesses, and it will ease the competition for existing housing. While no

one project will solve the statewide housing crisis, the proposed development is a step in the right direction. CalHDF urges the City to approve it, consistent with its obligations under state law.

CalHDF is a 501(c)3 non-profit corporation whose mission includes advocating for increased access to housing for Californians at all income levels, including low-income households. You may learn more about CalHDF at www.calhdf.org.

Sincerely,

Dylan Casey
CalHDF Executive Director



James M. Lloyd
CalHDF Director of Planning and Investigations

STAFF REPORT

Development Services Department

DATE: January 14, 2025

TO: Honorable Chair and Planning Commission

FROM: Lisa L. Flores, Deputy Development Services Director
By: Edwin Arreola, Senior Planner

SUBJECT: RESOLUTION NO. 2164 – APPROVAL OF THE "ARCADIA TOWN CENTER" MIXED-USE DEVELOPMENT WITH 181 RESIDENTIAL UNITS AND 13,130 SQUARE FEET OF COMMERCIAL SPACE ALONG WITH A MITIGATED NEGATIVE DECLARATION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT ("CEQA"), LOCATED AT 5-19 W. HUNTINGTON DRIVE AND 25-75 N. SANTA ANITA AVENUE
Recommendation: Adopt

SUMMARY

The Applicant and Property Owner, New World International Investment, LLC, is requesting approval of Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Architectural Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25, to construct a new mixed-use development at 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue. The proposal is to consolidate five legal lots into a single parcel to accommodate a new five-story mixed-use development known as "Arcadia Town Center." Arcadia Town Center will consist of 181 residential units, 13,130 square feet of ground-floor commercial space, and 378 parking spaces (one level of subterranean parking and one level of ground level parking). The request also includes incidental outdoor dining for the restaurant uses on the ground level.

The proposed development is consistent with the City's General Plan, Development Code, and Subdivision Code. It is recommended that the Planning Commission adopt Resolution No. 2164 (Attachment No. 1) adopting the Mitigated Negative Declaration (MND) under the California Environmental Quality Act (CEQA) and approving MUP 19-11, TTM 21-02 (83325), ADR 19-09, and COD 22-25 for the new Arcadia Town Center mixed-use development, subject to the conditions of approval and mitigation measures listed in this staff report.

BACKGROUND

The project site comprises of five legal lots totaling 2.27 acres that span the entire block from Huntington Drive to Morlan Place, extending along Santa Anita Avenue (refer to Figure No. 1 below). Currently, the site includes 11 commercial buildings and surface parking on each legal lot. All the commercial buildings are currently vacant. The only business that is still in operation is Monarch Donuts. The property is bordered to the north by a Mercedes Benz dealership (Mercedes Benz of Arcadia), to the east by commercial establishments (Denny's restaurant and a dermatologist office), and to the west by the Arcadia Elks Lodge. To the south, just across Huntington Drive, is Arcadia County Park.

Planning for the Arcadia Town Center has been underway since 2019, with several key revisions made throughout the process. One major change involved adding the corner parcel at 5 W. Huntington Drive, the former Jiffy Lube, located at the intersection of Huntington Drive and Santa Anita Avenue. The Applicant had paused the project until they successfully acquired the Jiffy Lube property in 2021. As a result, the entire project had to be redesigned to incorporate the corner parcel, which was crucial to achieving a cohesive and polished look from both the Huntington Drive and Santa Anita Avenue frontages.

The site is currently zoned Downtown Mixed Use (DMU) and has a corresponding Downtown Mixed Use designation in the General Plan. For more details, refer to Attachment No. 2, which includes an aerial photo with zoning information and images of the property. Previously, the site had a combination of DMU and Central Business District (CBD) zoning and General Plan land use designation, with a Downtown Overlay. In February 2024, both the zoning and General Plan land use designation were updated to ensure consistency across the entire site as part of the Housing Element Update to the General Plan, enabling the site to better accommodate housing development throughout the project.

Figure No. 1 – Aerial of Subject Site

All of the existing structures on site will be demolished to accommodate the Arcadia Town Center. As part of the Mitigated Negative Declaration (MND) and City requirements, a Certificate of Demolition (COD) is necessary due to the age of the buildings. An evaluation by an Architectural Historian concluded that the structures do not meet the criteria for recognition as historical resources and are not eligible for listing on the California Register or designation as local landmarks. The existing commercial buildings are not considered significant examples of any specific architectural style, nor are they associated with any notable historical events or figures.

PROPOSAL

The Arcadia Town Center will feature a new, five-story building with a contemporary design, incorporating four floors of residential units (181 condominiums) above 13,130 square feet of ground-floor commercial space. The project will include parking for residents, guests, and customers, as well as a subterranean parking level dedicated to residents. The proposal also plans for seven separate outdoor dining areas adjacent to the commercial spaces on the ground floor, which will face Huntington Drive and Santa Anita Avenue. The commercial spaces will be located along Huntington Drive and Santa Anita Avenue, and they will be connected to four public plazas and the residential unit lobbies, fostering the creation of an active, engaging space within the development.

As part of the development, a Tentative Tract Map will be processed to subdivide the building's airspace for condominium purposes – refer to Attachment No. 3 for the Tentative Tract Map. The tract map process will also consolidate the five existing legal lots, totaling 2.27 acres, into a single parcel. After the right-of-way dedications to the City, the new lot area will be 2.19 acres. The right-of-way dedications include a dedication along Santa Anita Avenue, ranging from 2'-6" wide to 7'-0" wide, and a 1'-6" wide dedication along Huntington Drive for sidewalk purposes.

The Arcadia Town Center will feature a contemporary design (see Figure No. 2 below for renderings of the project). The street-level design is aimed at activating the commercial spaces by orienting all commercial units, public plazas, and building entrances towards the surrounding streetscapes. In addition to its commercial frontage, the project will incorporate significant horizontal and vertical articulation along all elevations, creating variations in mass to help break up the building's scale. This approach aligns with the Commercial Design Guidelines and the City Center Design Plan.

Figure No. 2 – Renderings of the Arcadia Town Center

The proposed building will have an overall maximum height of 60'-0" including the roof parapet. As such, the proposed height of the building will be in compliance with the maximum 60'-0" height limit within the DMU zone. The rooftop stairwell and elevator shafts will be approximately 65'-0". However, the Development Code permits rooftop appurtenances, including stairwell and elevator shafts to exceed the maximum height by up to 10'-0". Therefore, no portion of this project will exceed the maximum height limit.

The Arcadia Town Center will have a total density of 79.7 units per acre, which is within the allowable maximum density of 80 units per acre. The project will also have a Floor Area Ratio (FAR) of 0.13, well below the maximum allowed FAR of 1.0. In terms of setbacks within the DMU zone, the minimum front and street-adjacent setback is zero feet, with a maximum setback of up to 10'-0", and no setbacks are required for interior side or rear yards. The proposed development will propose a 3'-0" setback along Santa Anita Avenue, a 6-inch setback along Morlan Place, a 1'-6" setback along Huntington Drive, and a 2'-0" setback on the interior side of the lot. Therefore, the proposed setbacks comply with the Code (refer to Attachment No. 4 for the Architectural Plans and Figure No. 3 below of the site plan).

Figure No. 3 – Site Plan

The proposed residential condominium units will be sold separately for ownership, and there will be 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units.

These units will occupy the second through fifth floors of the building and will range in size from one-bedroom units starting at 709 square feet to three-bedroom units with the largest unit at 2,014 square feet (see Figure No. 4 below for a summary of the residential units). No affordable units are proposed.

ARCADIA TOWN CENTER		Arcadia, CA		RESUBMITTAL		#18158
PROJECT SUMMARY						1-Nov
RESIDENTIAL	#	NET SF*	deck	total NSF	Ave NSF	Mix
1-bedroom:						
A1	4	808	0	3,232		
A2	6	842	0	5,052		
A3	4	709	0	2,836		
A3-alt1	6	788	0	4,728		
A4	8	796	58	6,368		
A5	6	713	58	4,278		
A6	4	791	76	3,164		
A7	2	930	0	1,860		
A8	1	1,030	0	1,030		
Subtotal 1-bedroom	**41**			32,548	794	22.7%
2-bedroom:						
B1	2	1,108	58	2,216		
B1-alt1	6	1,207	58	7,242		
B1-alt2	8	1,236	58	9,888		
B1-alt3	8	1,170	36	9,360		
B1-alt4	8	999	58	7,992		
B2	50	1,128	58	56,400		
B3	4	1,180	61	4,720		
B4	16	1,157	58	18,512		
B5 TH1	2	1,398	267	2,796		
B6 TH1	4	1,529	188	6,116		
Subtotal 2-bedroom	**108**			125,242	1,160	59.7%
3-bedroom:						
C1	4	1,724	130	6,896		
C2	20	1,443	52	28,860		
C3	4	2,014	0	8,056		
C4	2	1,329	0	2,658		
C4-alt1	2	1,246	0	2,492		
Subtotal 3-bedroom	**32**			48,962	1,530	17.7%
Total	**181**		**9,714**	**206,752**	**1,142**	

Figure No. 4 – Table Summary of Residential Units

The commercial component of the Arcadia Town Center will feature 10 units, ranging in size from 450 square feet to 2,100 square feet. These commercial units will be located along the street frontages of the three surrounding streets and near the building's residential entrances and public plazas, promoting an active commercial environment with convenient access for residents. The Applicant has submitted Letters of Intent (LOI) to the City for eight of the 10 units, with intended uses including a music studio and office, a beauty salon, and six restaurants. The Arcadia Town Center's location, with three street frontages, allows for maximized street-level retail space, providing commercial visibility along two of the city's major thoroughfares, Huntington Drive and Santa Anita Avenue. Restaurant spaces, featuring outdoor dining areas that face the Arcadia County Park, will offer a visually appealing setting while fostering a pedestrian-friendly atmosphere.

Additionally, access to parking and the outdoor public plazas will create an inviting environment for customers.

The Arcadia Town Center will offer significant open space for residents and guests, including communal areas, decks, and private balconies for some units. Approximately 6,211 square feet of open space will be provided across four public plazas on the ground level, adjacent to the streets. These plazas will feature ornamental landscaping, tables, and seating (see Figures No. 5-7 for renderings of the public plazas). The plazas will be open to the public, with access from the public right-of-way, and will be monitored by private security.

Figure No. 5 – Public Plaza on the corner of Huntington Drive and Santa Anita Avenue

Figure No. 6 – Center Plaza along Santa Anita Avenue

Figure No. 7 – Public Plaza on the corner of Santa Anita Avenue and Morlan Place and Entry Plaza adjacent to parking access off of Morlan Place

The second level of the Arcadia Town Center will offer 21,825 square feet of shared open space for residents, distributed across various courtyards. These courtyards will feature amenities such as seating areas with lounge chairs, a swimming pool, spa, barbecue grills, and landscaped surroundings (see Figure No. 8 below for the second-level floor plan). Additional open space will be available on the fourth and fifth floors, with access to common deck areas. In total, 38,713 square feet of open space is being proposed, significantly exceeding the 18,100 square feet required by Code (more than double the minimum requirement). In addition to the open space, the Applicant also plans to include a recreation center, fitness center, and two clubhouses for residents.

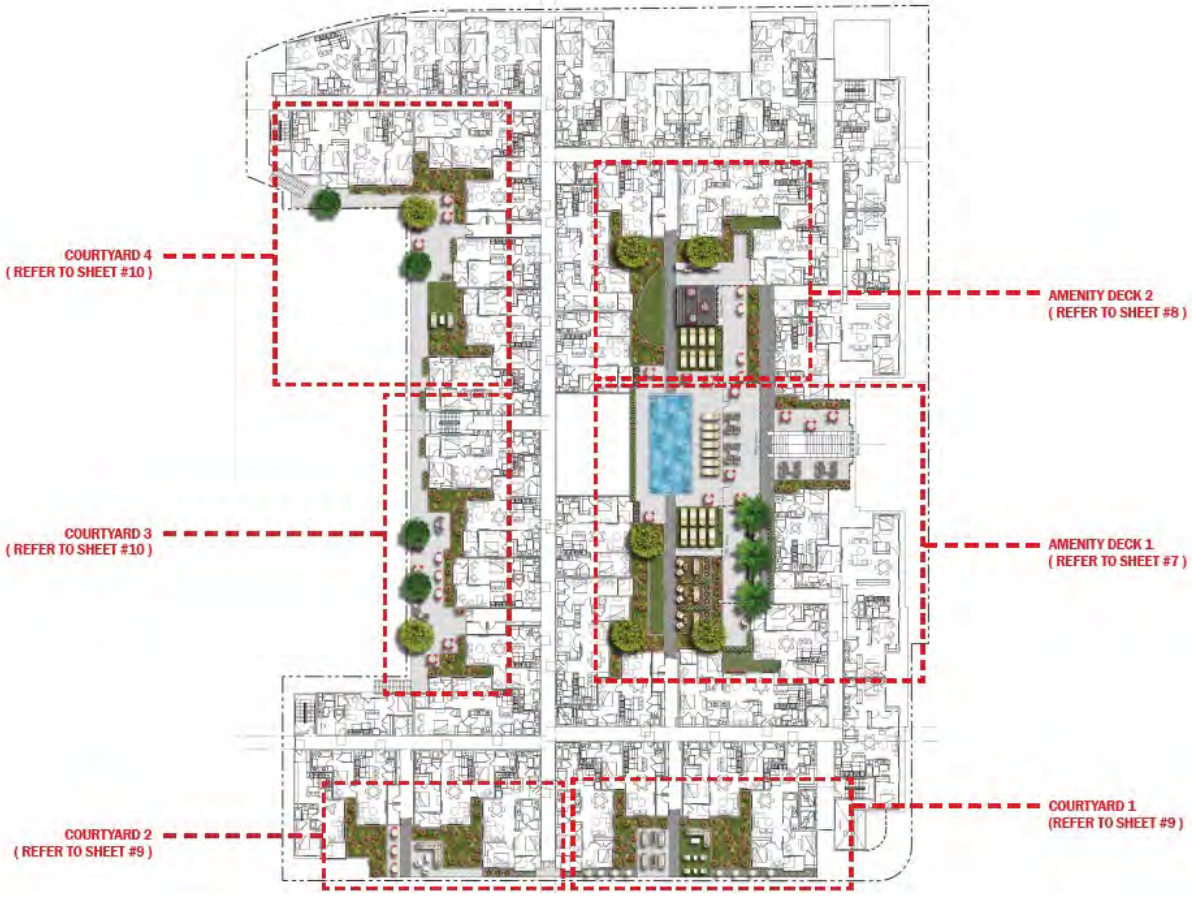


Figure No. 8 – Second Level Floor Plan showing open space areas

Arcadia Town Center will provide a total of 378 parking spaces consisting of 273 residential spaces within the basement level and ground level, 59 guest parking spaces on the ground level, and 46 commercial spaces on the ground level – as later discussed under the Analysis section of the staff report.

ANALYSIS

The subject site is zoned DMU, which allows for the development of the Arcadia Town Center as a mixed-use project, including incidental outdoor dining, as permitted by Development

Code Section 9102.05.020, with the approval of a Minor Use Permit. Residential uses in this zone are allowed only in conjunction with commercial uses and must be located above ground-floor commercial spaces or adjacent to commercial development. The Arcadia Town Center offers a well-balanced mix of residential unit sizes and is designed to effectively extend the commercial presence of Downtown Arcadia across Santa Anita Avenue, while introducing a new residential population that will support the area's commercial viability. The proposed outdoor dining areas comply with the incidental outdoor dining regulations in Development Code Section 9104.02.240 and are fully contained within the project site, ensuring no disruption to pedestrian or vehicular traffic. These outdoor dining spaces will enhance the curb appeal of the Arcadia Town Center and contribute to the activation of the surrounding commercial area.

Properties in the DMU zone allow a maximum building height of 60’-0”. The Arcadia Town Center will comply with this limit, as it will feature five stories with a maximum height of 60’-0”. The Development Code mandates a minimum open space requirement of 100 square feet per unit, totaling 18,100 square feet for the project. The Arcadia Town Center will provide 38,713 square feet of open space across both common and private open areas, exceeding the minimum requirement. Additionally, the development will meet all other Code requirements, including density, floor area ratio, setbacks, and parking. The proposed tentative tract map also complies with the subdivision regulations of the Arcadia Municipal Code, the State Subdivision Map Act, and all requirements set forth by the California Regional Water Quality Control Board.

Architectural Design

The Applicant’s Architects carefully considered the City’s Design Guidelines and City Center Design Plan when designing the site to ensure the project aligned with the City’s vision and complemented the existing commercial streetscape of Downtown Arcadia. Several key iterations of the project were developed during the planning process, including a reduction in the amount of commercial space to enhance the project's commercial viability. Ultimately, all commercial units were positioned along the street frontages, creating new commercial opportunities along the City’s main thoroughfares—Huntington Drive and Santa Anita Avenue—supporting the City’s broader goal for Downtown Arcadia. The incorporation of public plazas, along with outdoor seating and dining areas, will activate the Arcadia Town Center, fostering connectivity between the residential units, commercial spaces, and the broader Downtown Arcadia area.

The Arcadia Town Center will be a contemporary-style building featuring a color palette of cool, neutral tones such as grey, tan, and off-white. The design incorporates a variety of materials, including sand-finished plaster walls, stamped concrete, crown molding, fiber cement veneer panels, metal awnings and railings, and bronze-framed vinyl windows. The two corner towers—one at the intersection of Huntington Drive and Santa Anita Avenue, and the other at Santa Anita Avenue and Morlan Place—will serve as key focal points for travelers along the City’s major thoroughfares.

The corner at Huntington Drive and Santa Anita Avenue will feature a sleek, glazed glass façade that can be internally illuminated, creating a striking visual element at one of the city's busiest intersections. This corner design, with its modern curved glass, provides visual interest to both elevations and highlights the commercial spaces. On the opposite corner at Santa Anita Avenue and Morlan Place, a vertical anodized aluminum feature with silhouettes of peacock feathers rising upwards will create a distinctive and artistic element. This design also serves as a screening mechanism for a roof deck located on the fifth floor.

Each corner feature is intentionally designed to be different, offering a sense of segmentation while maintaining a cohesive overall design. Both corners will also include public plazas on the ground floor, enhancing the street-level experience and providing entrances to the residential lobbies. These corner elements will add both aesthetic value and functionality, contributing to the vibrancy of the surrounding area (see Figure No. 9 below for renderings of each corner feature and the commercial units.)

Figure No. 9 – Renderings showing corner features and commercial units on ground floor

The contemporary design for the Arcadia Town Center fits in with other contemporary/modern designed buildings in the area such as the adjacent Mercedes-

Benz of Arcadia building (101 N. Santa Anita Avenue), the IMS Executive Suites building (150 N. Santa Anita Avenue), and the recently approved Alexan Mixed-Use development that is currently under construction. The Arcadia Town Center will be comparable in height to the Mercedes Benz of Arcadia building just north of the site which has a total height of 52 feet. Additionally, this development will be lower in height compared to the Alexan Mixed-Use, which was approved at 85 feet in height and the IMS Executive Suites building, which is taller than the Alexan.

The design of the project creates a clear distinction between the residential levels and the ground-floor commercial spaces. The ground-floor commercial units feature aluminum and glass storefronts, complemented by a stamped concrete band above the units, visually separating them from the residential floors above. The use of varying materials and colors, along with horizontal and vertical articulation, helps to break up the building's mass. Overall, the proposed design aligns with the City's Design Guidelines and is compatible with the surrounding area.

The design of the Arcadia Town Center complies with the City Center Design Plan, which aims to enhance pedestrian activity, promote street interaction, and ensure that buildings step back to respect the character of existing single-story developments in Downtown Arcadia. The Arcadia Town Center has been thoughtfully designed to incorporate public spaces and dining areas for both residents and visitors, with generous setbacks from the street to create inviting outdoor areas. Public plazas along the street frontage will have setbacks of over 22'-9", while portions along Huntington Drive will feature an 8'-6" setback to accommodate outdoor dining in front of the restaurant spaces. Additionally, the second and third levels of the building will step back to provide open space for the residential areas, with vertical articulation that adds visual interest. The fourth and fifth levels will step back even further, enhancing the building's scale and relationship to the surrounding area (see Figure No. 10 for an oblique view of the Arcadia Town Center).

Figure No. 10 – Aerial Perspective of the Arcadia Town Center

Parking

Arcadia Town Center will include one level of subterranean parking and one ground level of parking accessed via a right-in/right-out driveway off of Huntington Drive and a driveway that is accessible in either direction off of Morlan Place. The Development Code requires 1.5 spaces for every residential unit and one guest parking space for every three units. This amounts to a total of 332 required spaces for the residential component which the Arcadia Town Center has provided. 235 residential parking spaces will be located in the subterranean level and the remaining 97 residential and guest parking spaces will be located on the ground level. Both the residential and guest parking will be gated. For commercial uses, the Development Code requires one space for every 200 square feet of commercial space, which amounts to 61 required spaces. However, a 25% parking reduction is applied for commercial uses that are located within a quarter mile of a light rail station. Therefore, only 46 parking spaces are required and provided for commercial use. The commercial spaces are provided on the ground level of the development with through-access within the garage. The drive aisles within the parking garage have been designed to limit the number of dead ends to improve circulation. Both the parking circulation and the driveway entries have been thoroughly reviewed by the City Engineer.

Off-site parking is available on the surrounding streets of the Arcadia Town Center which may also serve customers of the commercial uses and residents. Two-hour parking is available on Santa Anita Avenue all day. Two-hour parking is available on Huntington Drive from 9:00 a.m. to 6:00 p.m. and has no time limitations outside of those hours. All day parking is available on Morlan Place.

The table below in Figure No. 11 provides a summary of the parking required and provided for the project.

PARKING			
	Code Required Parking Parking Space	**Applicable Parking Ratio**	**Proposed Parking Spaces**
Residential Unis	272	1.5 Per Unit	272
Residential Guests	60	1 Per Every 3 Units	60
Commercial	46	1 Per 200 SF w/ 25% Reduction	46
Total	378		378

Figure No. 11 – Parking Summary

The Code also requires bicycle parking for mixed-use developments at a rate of 0.2 spaces per residential unit, 5% of non-residential parking requirements for short term bicycle parking, and 5% of non-residential parking requirements for long term bicycle parking. Based on 181 residential units and 46 commercial parking spaces, 37 bicycle parking spaces are required for the residential component, 3 bicycle parking spaces are required for short term commercial parking, and 3 bicycle parking spaces are required for long term commercial parking. The project will provide all 43 bicycle parking spaces disbursed throughout the ground level of the development, more than what is required per the Development Code. Additionally, the project will meet all ADA and electric vehicle parking requirements by providing a total of 14 ADA spaces and 39 electric vehicle spaces.

During construction of the project, construction trucks and related equipment will be staged on-site or on designated off-site locations that would not adversely affect access or parking within Downtown Arcadia. A detailed construction parking and staging plan will be required prior to the issuance of a building permit for the project per Condition of Approval No. 2 to ensure this is the case.

Traffic Impact Study

As part of the MND, a Traffic Impact Study (Appendix H to the MND) was prepared by Psomas, an environmental consulting firm, that includes Level of Service (LOS) analysis, and Vehicle Miles Traveled (VMT) screening analysis. Based on the study, the proposed mixed-use development is expected to generate 867 new daily trips over a 24-hour period with 75 total new trips in the morning peak hour and 67 total new trips in the evening peak hour. Trips generated by the proposed project were evaluated to determine any expected impacts on the traffic flow through the area. A total of two existing intersections and two project driveway intersections were analyzed as part of this project, and they were:

1. Morlan Place/Wheeler Avenue and Santa Anita Avenue
2. Huntington Drive/Santa Anita Avenue
3. Huntington Drive/South Driveway
4. Morlan Place/North Driveway

The traffic impact study determined that all four intersections are expected to function at a satisfactory Level of Service (LOS). Specifically, the intersection of Huntington Drive and Santa Anita Avenue is expected to operate at LOS D or better during both peak hours (currently the intersection operates at LOS C or better), while the intersection of Santa Anita Avenue and Morlan Place is expected to maintain its current level, operating at LOS E or better during peak hours. While LOS D or better is considered acceptable citywide, LOS E is acceptable for all sites in Downtown Arcadia according to City standards. Both driveway entries are projected to achieve LOS C or better during peak hours, ensuring that the proposed project will not cause unacceptable queueing conditions entering or exiting the site. These intersections are illustrated in Figure No. 12 below. Although LOS analysis is no longer a part of the CEQA process, this study was conducted as part of the City's traffic planning, which is a separate process from CEQA.

Figure No. 12 – Traffic Impact Analysis Intersections Studied

The traffic impact analysis for the Arcadia Town Center, based on Vehicles Travelled per Mile (VMT), complies with CEQA requirements. Since the project is located within a

Transit Priority Area (TPA), it is exempt from further VMT analysis under CEQA guidelines. A Transit Priority Area is defined as an area within a half-mile radius of a major transit stop. For this project, the relevant transit stop is the Los Angeles County Metropolitan Transportation Authority (Metro) A Line (formerly the L Line and Gold Line) Light Rail Station. This proximity to a major transit hub qualifies the Arcadia Town Center for screening out of additional VMT analysis, in accordance with the City's guidelines.

Sewer Upsizing Required

The site is currently served by an eight-inch sewer line on Santa Anita Avenue and a ten-inch sewer line on Morlan Place, both of which flow into an existing 18-inch Los Angeles County Sanitation Districts (LACSD) trunk line located at the intersection of Camino Real Avenue and 1st Avenue.

To accommodate future growth in the Santa Anita corridor—including this project and other approved or planned developments - the City is undertaking a sewer upsizing project. This project involves replacing approximately 1.3 miles of sewer line along Santa Anita Avenue between Huntington Drive and Camino Real Avenue with a 12-inch pipeline. The upsizing is part of a capital improvement plan to handle increased wastewater generation. The project is expected to be completed by the Public Works Department by the end of the 2026-27 fiscal year, as this is a 3-year project beginning in the 2024-25.

As a condition of approval for the Arcadia Town Center, the Applicant will contribute nine percent of the total cost of the sewer upsizing project to help fund the improvements, given that the project will utilize the pipeline. The sewer upsizing must be completed before the City can issue a Certificate of Occupancy for the Arcadia Town Center. While the sewer upsizing is essential for the project's operation, it is being carried out by the City and is not part of the project's direct scope of work, as addressed in the Mitigated Negative Declaration (MND).

FINDINGS

Minor Use Permit

Section 9107.09.050(B) of the Development Code requires that for a Minor Use Permit to be granted, it must be found that all of the following findings can be satisfied. In this case, the Minor Use Permit being requested is for a mixed-use development in a downtown zone and for incidental outdoor dining.

1. **The proposed use is consistent with the General Plan and any applicable specific plan; and is allowed within the applicable zone, subject to the granting of a Conditional Use Permit, and complies with all other applicable provisions of this Development Code and the Municipal Code.**

   Facts to Support This Finding: Approval of the proposed mixed-use development and incidental outdoor dining would be consistent with the General

Plan Land Use Designation of Downtown Mixed Use, which allows a residential density of 80 units per acre and a commercial floor area ratio of 1.0. This land use designation allows mixed-use developments and strongly encourages a pedestrian-oriented environment with a complementary mix of commercial and residential uses. The residential units will provide vitality to the area and the proposed commercial uses and restaurants with outdoor dining will help generate increased activity in Downtown Arcadia and along Santa Anita Avenue and Huntington Drive, and it will continue to convey a commercial appearance along the street. The Arcadia Town Center complies with all the development standards within the DMU zone, including but not limited to setbacks, height, open space, density, and parking. As such, the project meets the Development and Municipal Code requirements. As required by the California Environmental Quality Act (CEQA), the Development Services Department prepared an Initial Study and Mitigated Negative Declaration (MND) for the proposed project, which determined that the project, with mitigation measures, will have less-than-significant impacts. Therefore, the proposed mixed-use development and outdoor dining will not adversely affect the comprehensive General Plan and is consistent with the following General Plan goals and policies:

Land Use and Community Design Element

- Policy LU-1.1: Promote new infill and redevelopment projects that are consistent with the City's land use and compatible with surrounding existing uses.
- Policy LU-1.8: Encourage development of types that support transit and other alternative forms of transportation, including bicycling and walking.
- Policy LU-4.2: Encourage residential development that enhances the visual character, quality, and uniqueness of the City's neighborhoods and districts.
- Policy LU-4.3: Require the provision of adequate private and common open space for residential units. Require sufficient on-site recreational facilities to meet the daily needs of residents, if possible, commensurate with the size of the development.
- Policy LU-6.4: Encourage design approaches that create a cohesive, vibrant look and that minimize the appearance of expansive parking lots on major commercial corridors for new or redeveloped uses.
- Policy LU-6.5: Where mixed use is permitted, promote commercial uses that are complementary to adjacent residential uses.

2. **The design, location, size, and operating characteristics of the proposed activity will be compatible with the existing and future land uses in the vicinity.**

Facts to Support This Finding: The subject site will be 2.19 acres in size (after the dedication to the City for public right-of-way improvements) and is located in the Downtown Mixed Use (DMU) zone. The site is located within the City's

Downtown area and is bounded by Mercedes Benz of Arcadia to the north across Morlan Place, Denny's restaurant and other commercial businesses to the east across Santa Anita Avenue, the Arcadia Elks Lodge and other commercial uses to the west, and the Arcadia County Park to the south. The proposed mixed-use development will provide ground-floor commercial uses which will be compatible with the existing and future land uses in the vicinity. The project will also provide a residential use which will bring an increase to the residential population in the Downtown area that will support the commercial uses in the area. Additionally, outdoor dining will provide added curb appeal to the Arcadia Town Center and activate the commercial area around the development. As such, the Arcadia Town Center meets the intent of the City's General Plan vision of the of the DMU zone, which is to encourage a mix of residential and commercial uses near public transit. Therefore, the proposed development will be compatible with the existing and future land uses in the vicinity.

3. **The site is physically suitable in terms of:**

   a. **Its design, location, shape, size, and operating characteristics of the proposed use in order to accommodate the use, site improvements, loading, and parking.**

      Facts to Support This Finding: The project site will be 2.19 acres in size and can physically accommodate the proposed mixed-use development and outdoor dining. The residential component of the project will provide a density of approximately 79.7 units per acre, which is in compliance with the maximum density for the DMU zone. The commercial component of the project will have a floor area ratio (FAR) far below the maximum allowable FAR of 1.0. All outdoor dining areas have been designed to be located on private property and will not interfere with pedestrian access on or around the site. Additionally, the amount of on-site parking that will be provided for the development meets the minimum required by the Development Code and the project is in close proximity to the Metro A Line Station. Therefore, the site is adequate in size to accommodate the proposed mixed-use development.

   b. **Streets and highways adequate to accommodate public and emergency vehicle (e.g., fire and medical) access.**

      Facts to Support This Finding: The project site is located on the northwest corner of Huntington Drive and Santa Anita Avenue. These streets are designed to be adequate in width and pavement type to carry emergency vehicles and traffic generated by the proposed use on the site.

   c. **Public protection services (e.g., fire protection, police protection, etc.).**

Facts to Support This Finding: The Fire and Police Departments have reviewed the application and determined that there will be no impacts to public protection services. As part of the environmental review process, the Initial Study and Mitigated Negative Declaration (MND) determined that Fire and Police protection services would not be impacted. The need for new or altered Fire or Police services is usually associated with substantial population growth. The Arcadia Town Center would provide approximately 0.82% of the projected population of 62,200 persons by 2045, as projected by the Southern California Association of Governments. This population growth is not considered substantial enough to require new facilities to provide public protection services. Therefore, no impacts to public protection services are anticipated.

d. The provision of utilities (e.g., potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.).

Facts to Support This Finding: As part of the development, new utility connections, including connections for potable water and storm drainage, will be required. Implementation of best management practices by the Applicant during construction and operation would ensure impacts to water quality do not occur. The site can be adequately served by all required utilities through interconnection with existing utilities within City right-of-way abutting the site. The development will require a fair-share payment for upsizing of a sewer line, which is anticipated to be built by the City.

4. The measure of site suitability shall be required to ensure that the type, density, and intensity of use being proposed will not adversely affect the public convenience, health, interest, safety, or general welfare, constitute a nuisance, or be materially injurious to the improvements, persons, property, or uses in the vicinity and zone in which the property is located.

Facts to Support This Finding: The Arcadia Town Center is not anticipated to be detrimental to the public health or welfare of the surrounding properties. The project will be compatible with the surrounding commercial uses in the general area. The Initial Study and Mitigated Negative Declaration (MND) prepared for the Arcadia Town Center analyzed all the potential impacts and all the project impacts are less than significant or can be reduced to less than significant level with the implementation of the recommended mitigation measures. Therefore, no impacts to the uses in the vicinity and zone in which the property is located are anticipated.

Tentative Tract Map

Section 9105.03.060(A) of the Development Code requires that for a Tentative Tract Map to be granted, it must be found that all of the following findings can be satisfied:

1. **The proposed map, subdivision design, and improvements are consistent with the General Plan, any applicable specific plan, and the Subdivisions Division of the Development Code.**

   Facts in Support of the Finding: Approval of the Arcadia Town Center with a tentative tract map to merge five lots together as one parcel and then subdivide the airspace for condominium purposes is consistent with the Downtown Mixed Use land use designation. The land use designation is intended to accommodate mixed-use development with a residential density of up to 80 units per acre, and a floor area ratio of 1.0. The Arcadia Town Center is located in the Downtown area and is in conformance with the City's General Plan, Development Code, and the Subdivision Map Act. The site is physically suitable for this type of development, and the approval of the architectural design for the building is compatible with the scale and character of the existing neighborhood.

2. **The site is physically suitable for the type and proposed density of development.**

   Facts in Support of the Finding: The subject site will measure approximately 2.19 acres in size and is located within the Downtown Mixed Use (DMU) zone. The DMU zone has a minimum residential density of 80 units per acre, and a floor area ratio of 1.0 for non-residential uses. The Arcadia Town Center proposes a residential density of 79.7, and a commercial FAR of 0.13. Therefore, the development is in compliance with the Development Code and the site is physically suitable for the proposed development. In addition, there are no physical impediments to the development of this site for residential condominiums.

3. **The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.**

   Facts in Support of the Finding: The proposed tentative tract map involves merging five lots into a single parcel and subdividing the air space for the mixed-use development. This is considered a minor subdivision on an infill site within an urbanized area. The Initial Study and Mitigated Negative Declaration (MND) have assessed the potential biological impacts of the project on the natural environment and determined that no significant effects would occur. As a result, the project will not cause substantial environmental harm or harm to fish, wildlife, or their habitats.

4. **The design of the subdivision or type of improvements is not likely to cause serious public health or safety problems.**

   Facts in Support of the Finding: The proposed subdivision is to merge five lots together as one parcel and subdivide the air space of the proposed mixed-use development. The construction of the Arcadia Town Center will be done in compliance with Building and Fire Codes and all other applicable regulations. The proposed density will be below the maximum allowed by the DMU zone and the

City's existing infrastructure will adequately serve the new development. In addition, the Project meets all health and safety requirements and will not cause any public health or safety problems.

5. **The design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through or use of, property within the proposed subdivision (This finding shall apply only to easements of record or to easements established by judgement of a court of competent jurisdiction and no authority is hereby granted to a legislative body to determine that the public at large has acquired easements for access through or use of property within the proposed subdivision).**

   Facts in Support of the Finding: The Arcadia Town Center will not impose on any public easements and will provide dedications for public sidewalk access to the City along Santa Anita Avenue and Huntington Drive. Therefore, no conflicts for the use of any easements are expected.

6. **The discharge of sewage from the proposed subdivision into the community sewer system will not result in violation of existing requirements specified by the California Regional Water Quality Control Board.**

Facts in Support of the Finding: The Arcadia Public Works Services Department determined that the City' infrastructure will adequately serve the Arcadia Town Center. The City is currently in the process of upsizing an existing sewer line along Santa Anita Avenue that serves the project for which the Applicant will pay a fair share cost to help fund the project. Upon completion, the sewer line will adequately serve the project. Additionally, the requirements of the California Regional Water Quality Control Board will be satisfied.

7. **That the proposed design and site improvements of the subdivision conform to the regulations of this Development Code and the regulations of any public agency having jurisdiction by law.**

   Facts in Support of the Finding: The proposed subdivision, as conditioned, complies with all regulations within the Development Code and all other applicable regulations.

Architectural Design Review

Section 9107.19.050(F) of the Development Code requires that following findings must be met for the approval of the design.

1. **The proposed development will be in compliance with all applicable development standards and regulations in the Development Code.**

   Facts to Support This Finding: The Arcadia Town Center is in compliance with all the development standards required in the DMU and Downtown Overlay zone

such as FAR, maximum height, setbacks, and parking. Therefore, the project meets the intent of this finding.

2. **The proposed development will be consistent with the objectives and standards of the applicable Design Guidelines.**

   Facts to Support This Finding: The Arcadia Town Center will feature a contemporary architectural style, incorporating a diverse color palette and high-quality exterior materials. This design will establish a prominent focal point at one of the City's major intersections, complementing the existing modern buildings along Santa Anita Avenue while contributing to a vibrant atmosphere in the Downtown area. The design also includes several outdoor plazas on the ground floor, enhancing the commercial experience by encouraging walkability and activating public spaces. Additionally, two corner features will serve as visually striking focal points, drawing attention and enhancing the building's overall aesthetic appeal. These distinctive elements will create an inviting environment, making the Arcadia Town Center a standout addition to the area. As a result, the proposed design is in full alignment with the City's Design Guidelines.

3. **The proposed development will be compatible in terms of scale and aesthetic design with surrounding properties and developments.**

   Facts to Support This Finding: The Arcadia Town Center is compatible with adjacent sites such as the adjacent Mercedes-Benz of Arcadia building (101 N. Santa Anita Avenue), the IMS Executive Suites building (150 N. Santa Anita Avenue), and the approved Alexan project regarding scale, design, and creating a Downtown feel to the area along Santa Anita Avenue and Huntington Drive. The design of the Arcadia Town Center thoughtfully incorporates the ideas within the City's Center Design Plan, which promotes increased pedestrian activity, enhances street interaction, and building setbacks that respect the overall scale and mass. To align with these principles, the Arcadia Town Center is setback from Huntington Drive and Santa Anita Avenue, creating inviting public spaces and dining areas for residents and visitors. As a result, the Arcadia Town Center seamlessly integrates with the surrounding properties and developments as this area is in transition to allow for more mixed-use development.

4. **The proposed development will have an adequate and efficient site layout in terms of access, vehicular circulation, parking and landscaping.**

   Facts to Support This Finding: The Arcadia Town Center features a well-planned site layout, with two driveway access points designed to ensure smooth traffic flow within the parking garage. Both driveway access and circulation have been thoroughly reviewed by the City Engineer and are included in the Mitigated Negative Declaration to confirm their adequacy for servicing the development. The required parking is being provided across two levels, minimizing dead-end drive

aisles to enhance circulation throughout the site. Therefore, the site will be adequate in terms of parking and circulation.

5. **The proposed development will be in compliance with all of the applicable criteria identified in Subparagraph 9107.19.040.C.5 for compliance with the Development Code and all other applicable City regulations and policies, the General Plan and any appliable specific plan, the Design Guidelines, policies and standards, and efficient site and layout design.**

   Facts to Support This Finding: The Arcadia Town Center will fully comply with all applicable standards, the General Plan, and relevant design guidelines, contributing positively to the community's vision for Downtown Arcadia. Located within the DMU zone, the project allows for a residential density of up to 80 units per acre and a building height of up to 60 feet. The proposed mass, scale, and design adhere to the City's Design Guidelines and City Center Design Plan, ensuring compatibility with existing developments in the Downtown area. The development will also support the General Plan's objectives by engaging the streetscape with inviting commercial storefronts and public plazas at the ground level. Additionally, the design incorporates adequate articulation, breaking up the building mass into distinct segments along each street frontage by positioning public plazas and stepping back the upper floors. As a result, the design of the proposed mixed-use development aligns with the City's Design Guidelines, City Center Design Plan, and all other applicable standards.

All City requirements regarding disabled access and facilities, occupancy limits, building safety, health code compliance, emergency equipment, environmental regulation compliance, and parking and site design shall be complied with by the property owner/applicant to the satisfaction of the Building Official, City Engineer, Deputy Development Services Director, Fire Marshal, and Public Works Services Director, or their respective designees.

ENVIRONMENTAL ASSESSMENT

Pursuant to the provisions of the California Environmental Quality Act (CEQA), an Initial Study and Mitigated Negative Declaration (IS/MND) was prepared for the Arcadia Town Center (refer to Attachment No. 5). It was determined that the project with mitigation measures will have less-than-significant impacts for the following areas: Cultural Resources, Hazards & Hazardous Materials, Noise, Transportation, Utilities and Service Systems, and Tribal Cultural Resources. A detailed review is included in the Initial Study. The mitigation measures have been added as conditions of approval (Condition of Approval Nos. 53-59) for the project.

In accordance with Section 21091 of CEQA and Section 15073 of the CEQA Guidelines, the Draft IS/MND for the Arcadia Town Center was circulated for public review and comments for 30 days from November 21, 2024, to December 20, 2024. CEQA also requires the lead agency (City of Arcadia) to specify the location and custodian of the

documents and other materials which constitute the record of proceedings upon which the lead agency's decision is based. During this time period, public agencies, organizations, and the public in general were afforded the opportunity to review the Draft IS/MND and submit written comments regarding the documents and the proposed project.

During the comment period, staff received two comments from the following agency/organization:

- Caltrans
- Lozeau Drury on behalf of Supporter's Alliance for Environmental Responsibility

Copies of each of the comment letters and a Response to Comments (RTC) to each of the comment letters are also included within Attachment No. 5.

Upon review of the comment letters received for the Draft IS/MND, it was determined that the comments do not change the conclusion of the environmental determination for the project. The MND concluded that the project will have less than significant impacts with the implementation of mitigation measures. As such, a Mitigation Monitoring and Reporting Program (MMRP) will be provided to ensure that these mitigations are met.

PUBLIC NOTICE/COMMENTS

A public hearing notice for this item was published in the Arcadia Weekly newspaper, was posted on the City's website, at the City Council Chambers, and the Arcadia Public Library, and mailed to the property owners located within 300 feet of the subject property on November 21, 2024. Except for the comments listed above related to the Draft MND, as of January 9, 2024, no additional public comments were received.

RECOMMENDATION

It is recommended that the Planning Commission adopt Resolution No. 2164, adopting the Mitigated Negative Declaration (MND) under the California Environmental Quality Act (CEQA) and approving MUP 19-11, TTM 21-02 (83325), ADR 19-09, and COD 22-25 for the new Arcadia Town Center mixed-use development, subject to the following conditions of approval:

1. The project shall be developed and maintained by the Property Owner/Applicant in a manner that is consistent with the plans submitted and recommended for approval to the City Council for Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Architectural Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25, subject to the satisfaction of the Deputy Development Services Director or designee. Noncompliance with the conditions of approval shall be grounds for immediate suspension or revocation of any approvals. Any minor changes to the development, including the outdoor dining area may be approved administratively by the Deputy Development Services Director.

2. The Property Owner/Applicant shall submit a haul route map and staging plan to Planning Services prior to issuance of a grading permit.

3. The Property Owner/Applicant shall be responsible for the repair of all damage to public improvements in the public right-of-way resulting from construction related activities, including, but not limited to, the movement and/or delivery of equipment, materials, and soils to and/or from the site. This shall be determined by the City Engineer and/or Public Works Services Director during construction and up until issuance of a Certificate of Occupancy.

4. A comprehensive landscaping plan consistent with the conceptual landscape plan approved as part of the project must be submitted to Building Services for plan check and must be prepared by a licensed landscape architect, subject to the approval of the Deputy Development Services Director or designee.

5. Grading plans shall be submitted to Building Services. The grading plans shall indicate all site improvements and shall indicate complete drainage paths of all drainage water run-off.

6. The project shall comply with the latest adopted edition of the following codes as applicable:
    a. California Building Code
    b. California Electrical Code
    c. California Mechanical Code
    d. California Plumbing Code
    e. California Energy Code
    f. California Fire Code
    g. California Green Building Standards Code
    h. California Existing Building Code
    i. Arcadia Municipal Code

7. The project shall comply with Chapter 35A Multiple Family Construction Standards in Arcadia Municipal Code Section 8130.20.

8. Prior to approval of the Final Tract Map, a dedication along the right-of-way of Santa Anita Avenue shall be dedicated to the City to accommodate a 10 foot parkway for sidewalk and utility purposes and at the corner of Santa Anita Avenue and Morlan Place to provide a corner cut-off for a standard accessible access ramp.

9. Prior to approval of the Final Tract Map, a dedication of 1’-6” along the right-of-way of Huntington Drive shall be dedicated to the City to accommodate a 13’-6” wide parkway for sidewalk and utility purposes.

10. All above ground utilities serving the site shall be removed, including all utility poles along property boundaries, and all new utility services shall be placed underground.

11. Prior to approval of the Final Tract Map or the issuance of a demolition permit, whichever comes first, the Property Owner/Applicant shall either construct or post security for all public improvements shown on the Tentative Tract Map No. 83325 and the following item(s):

    a. Remove and replace existing sidewalk, curb, and gutter along all property frontages from property line to property line to the satisfaction of the City Engineer.
    b. Remove and replace all driveway approaches per City standard plan.
    c. Coordinate with Public Works Services on the protection or replacement of street trees.

12. A 16” weld steel water main with 56 psi static pressure is available on Huntington Drive and a 6” cast iron water main with 53 psi static pressure is available on Morlan Place. Both mains are available for domestic water and/or fire service. The Applicant/Property Owner shall provide calculations to determine the maximum domestic demand, maximum commercial demand, and maximum fire demand in order to verify the required sizes of water services.

13. The Property Owner/Applicant shall provide separate water services and meters for each separate structure as well as designated services for specific residential, commercial, and irrigation uses. Domestic water service for residential condominiums shall be provided by a common master meter with an approved reduced pressure backflow device for meter services protection.

14. An approved back flow prevention device shall be installed for commercial use.

15. In the event that fire suppression is common to the complex, a separate fire service with Double Check Detector Assembly (DCDA) shall be required as directed by the Fire Marshal. Fire protection requirements shall be as stipulated by the Arcadia Fire Department and shall be conformed to the Arcadia Standard Plan. All fire services shall be isolated from domestic water services with approved back flow prevention devices.

16. A Water Meter Clearance Application shall be submitted to the Public Works Services Department prior to final plan check approval.

17. New water service installations shall be installed by the Applicant/Property Owner. Installation shall be according to the specifications of the Public Works Services Department, Engineering Division. Abandonment of existing water services, if necessary, shall be carried out by the Applicant/Property Owner, according to Public Works Services Department, Engineering Division specifications.

18. The Property Owner/Applicant shall utilize existing sewer laterals, if possible. If any drainage fixture is lower than the elevation of the next upstream manhole cover, an approved type of backwater valve is required to be installed behind the property line.

19. Prior to a Certificate of Occupancy being issued for the project, the Applicant/Property Owner shall make a fair share contribution to the sewer line upsizing project along Santa Anita Avenue. This fair share payment is memorialized as Mitigation Measure UTL-1.

20. The existing palm trees on Huntington Drive are to remain and be protected.

21. The Property Owner/Applicant shall plant 36-inch box trees in tree wells with irrigation on Santa Anita Avenue and Morlan Place. Locations of the tree wells and species of trees are to be determined by the Public Works Services Inspector.

22. The Property Owner/Applicant shall file a Notice of Intent (NOI) with the State Water Resources Control Board for a General Construction NPDES Permit, due to the proposed project exceeding one acre of disturbed land. The NOI must include items such as the preparation of a Stormwater Pollution Prevention Plan, applicable fees, and other required documentation. The City will not approve any grading plans until a Waste Discharger Identification number has been issued by the State.

23. The proposed project is subject to low impact development (LID) requirements. The Property Owner/ Applicant shall integrate LID strategies into the site design. These strategies include using infiltration trenches, bioretention planter boxes, roof drains connected to a landscaped area, pervious concrete/paver, etc.

24. Trash/recycling bins shall be configured to provide easy access for trash collection services. There should be 1 foot clearance around the trash bins/recycling bins and all bins/carts shall meet the specifications of the Public Works Services Department. At a minimum, trash enclosure areas should accommodate three containers: a 3-yard bin for trash, 3-yard bin for recycling, and 69/96 gallon sized carts for organics recycling. The roof clearance for the trash enclosure must be at least 10 feet high.

25. All building areas shall be fully fire sprinklered per the City of Arcadia Fire Department Commercial Sprinkler Standard. The sprinkler systems serving commercial areas and residential areas shall be segregated. The fire sprinkler system shall be monitored by a UL listed central station. Notification appliances shall be provided in all common areas. Visual appliances shall be provided in any residential units classified as being accessible.

26. Class I standpipes shall be provided on all floors inside stairwells and shall extend to the roof. Additional standpipes may be required for the building interior.

27. Knox boxes shall be provided for all lobby areas. Any automatic gates used in parking areas shall be equipped with a knox switch.

28. Minimum 2A:10BC fire extinguishers shall be provided in all common areas. A maximum travel distance of 75 feet shall be provided to fire extinguishers.

29. A minimum of one Emergency Medical Services (EMS) elevator shall be required.

30. An Emergency Responder Radio Coverage System shall be provided.

31. The minimum required fire flow for the site shall be 1,500 gpm at 20 psi.

32. All required exit stairwells shall be designed in an approved manner to allow the segregation of the commercial floors from the residential floors.

33. Three new public fire hydrants shall be provided. One hydrant shall be provided on the west side of the street frontage on Huntington Drive. Two fire hydrants shall be provided on the street frontage of Santa Anita Avenue at approved locations.

34. The Property Owner/Applicant shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting would be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code.

35. The Project shall be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to:

    - SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short-term particulate pollutant emissions.
    - SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".
    - SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project.

36. Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA): To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned.

37. As required by the City's Comprehensive Tree Management Program, the Property Owner/Applicant shall obtain a permit from the Arcadia Public Works Services Department for the removal and planting of street trees associated with the Project. The Property Owner/Applicant will abide by the standards set forth in the permit, as well as standards contained in the Comprehensive Tree Management Program and other applicable sections of the Arcadia Development and Municipal Codes.

38. The Property Owner/Applicant shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.

39. If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code §5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code §5097.98).

40. The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen code. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles.

41. Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes (CBSC 2022). Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved.

42. Activities at the Project site shall comply with existing federal, State, and local regulations regarding hazardous material use, storage, disposal, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards.

43. Prior to the issuance of a demolition permit, the Property Owner/Applicant shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2012-0006-DWQ, NPDES No. CAS000002), which will require the development and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP).

44. The Property Owner/Applicant shall comply with all applicable codes, ordinances, and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to the issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy.

45. In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Property Owner/Applicant shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services

Department shall confirm compliance with this requirement prior to the issuance of a building permit.

46. Prior to issuance of the building permit, the Property Owner/Applicant shall pay new development fees to the Arcadia Unified School District (AUSD) pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Property Owner/Applicant can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit.

47. In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Property Owner/Applicant shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.

48. The Property Owner/Applicant shall contribute, on a cost-share basis, to the City's traffic mitigation system for any intersections affected by the Project, as defined in the approved Traffic Impact Study (Traffic Impact Study for the Arcadia Town Center Project, Psomas, September 2024).

49. The Property Owner/Applicant shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826.

50. All City requirements regarding disabled access and facilities, occupancy limits, building safety, health code compliance, emergency equipment, environmental regulation compliance, and parking and site design shall be complied with to the satisfaction of the Building Official, City Engineer, Deputy Development Services Director, Fire Marshal, and Public Works Services Director. Any changes to the existing facility may be subject to having fully detailed plans submitted for plan check review and approval by the aforementioned City officials and employees and may subject to separate building permits.

51. To the maximum extent permitted by law, the Applicant must defend, indemnify, and hold the City, any departments, agencies, divisions, boards, and/or commissions of the City, and its elected officials, officers, contractors serving as City officials, agents, employees, and attorneys of the City ("Indemnitees")

harmless from liability for damages and/or claims, actions, or proceedings for damages for personal injuries, including death, and claims for property damage, and with respect to all other actions and liabilities for damages caused or alleged to have been caused by reason of the Applicant's activities in connection with MUP 19-11, TTM 21-02, ADR 19-09, and COD 22-25 ("Project") on the Project site, and which may arise from the direct or indirect operations of the Applicant or those of the Applicant's contractors, agents, tenants, employees or any other persons acting on Applicant's behalf, which relate to the development and/or construction of the Project. This indemnity provision applies to all damages and claims, actions, or proceedings for damages, as described above, regardless of whether the City prepared, supplied, or approved the plans, specifications, or other documents for the Project.

52. In the event of any legal action challenging the validity, applicability, or interpretation of any provision of this approval, or any other supporting document relating to the Project, the City will promptly notify the Applicant of the claim, action, or proceedings and will fully cooperate in the defense of the matter. Once notified, the Applicant must indemnify, defend and hold harmless the Indemnitees, and each of them, with respect to all liability, costs and expenses incurred by, and/or awarded against, the City or any of the Indemnitees in relation to such action. Within 15 days' notice from the City of any such action, the Applicant shall provide to the City a cash deposit to cover legal fees, costs, and expenses incurred by City in connection with defense of any legal action in an initial amount to be reasonably determined by the City Attorney. The City may draw funds from the deposit for such fees, costs, and expenses. Within 5 business days of each and every notice from City that the deposit has fallen below the initial amount, Applicant shall replenish the deposit each and every time in order for City's legal team to continue working on the matter. The City shall only refund to the Developer any unexpended funds from the deposit within 30 days of: (i) a final, non-appealable decision by a court of competent jurisdiction resolving the legal action; or (ii) full and complete settlement of legal action. The City shall have the right to select legal counsel of its choice that the Applicant reasonably approves. The parties hereby agree to cooperate in defending such action. The City will not voluntarily assist in any such third-party challenge(s) or take any position adverse to the Applicant in connection with such third-party challenge(s). In consideration for approval of the Project, this condition shall remain in effect if the entitlement(s) related to this Project is rescinded or revoked, at the request of the Applicant or not.

Mitigation Measures as Conditions of Approval

The following conditions are found in the Mitigation Monitoring and Reporting Program (MMRP). They are recorded here to facilitate review and implementation. More information on the timing and responsible parties for these mitigation measures is detailed in the MMRP.

53. **MM CUL-1**. Prior to the issuance of a demolition permit, the Property Owner/Applicant shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review

and approval. Once approved, the qualified archaeologist shall be retained by the Project Applicant/Developer. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Property Owner/Applicant shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.

54. **MM NOI-1.** The Property Owner/Applicant shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition.

55. **MM TRANS-1.** Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Property Owner/Applicant for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Property Owner/Applicant shall begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown.

    At a minimum, the Construction Management Plan shall:

    - Describe the duration and location of lane closures (if any).
    - Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage.
    - Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.
    - Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction

workers would be provided on-site or at additional off-site locations that are not on public streets.

- Identify of emergency access points/routes.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas.
- All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.
- Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.
- Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.
- Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.
- Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown.

56. **MM TCR-1.** A Native American Monitor shall be retained prior to commencement of ground-disturbing activities:

    A. The Property Owner/Applicant shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any “ground-disturbing activity” for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). “Ground-disturbing activity” shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of grounddisturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all grounddisturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

57. **MM TCR-2.** Unanticipated Discovery of Tribal Cultural Resource Objects

(Non-Funerary/Non-Ceremonial) Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

58. **MM TCR-3.** Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects

A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

59. **MM UTIL-1.** Sewer Upsizing Fair Share Payment. Prior to issuance of a Certificate of Occupancy permit for the Project, the Property Owner/Applicant shall make a fair share contribution of 9 percent of the total Santa Anita Avenue sewer upsizing project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue within 12-inch diameter pipelines. The Santa Anita Avenue sewer upsizing project shall be split into three phases and included in the City's 2024- 25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue sewer upsizing project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate.

PLANNING COMMISSION ACTION

Approval

If the Planning Commission intends to approve this project, the Commission should move to adopt the Initial Study/Mitigated Negative Declaration with the Mitigated Monitoring and Reporting Program (MMRP), and approve Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Architectural Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25 for the Arcadia Town Center mixed-use development, state that the proposal satisfies the requisite findings, and adopt the attached Resolution No. 2164, and the conditions of approval as presented in this staff report, or as modified by the Commission.

Denial

If the Planning Commission is to deny this project, the Commission should state the specific findings that the proposal does not satisfy based on the evidence presented with specific reasons for denial of the Initial Study/Mitigated Negative Declaration and/or the project, and move to deny Minor Use Permit No. MUP 19-11, Tentative Tract Map No. TTM 21-02 (83325), Architectural Design Review No. ADR 19-09, and Certificate of Demolition No. COD 22-25, and direct staff to prepare a resolution for adoption at the next meeting that incorporates the Commission's recommendation and specific findings.

If any Planning Commissioner or other interested party has any questions or comments regarding this matter prior to the January 14, 2025, hearing, please contact Senior Planner, Edwin Arreola, at (626) 821-4334, or by email at earreola@ArcadiaCA.gov.

Approved:

Lisa L. Flores
Deputy Development Services Director

Attachment No. 1: Resolution No. 2164
Attachment No. 2: Aerial Photo with Zoning Information and Photos of the Project Site
Attachment No. 3: Tentative Tract Map
Attachment No. 4: Architectural Plans
Attachment No. 5: Response to Comments, Comment Letters from CalTrans and Lozeau Drury LLP, and Draft Initial Study/Mitigated Negative Declaration and Technical Appendices – link to the Technical Appendices are found under the Arcadia Town Project at: www.arcadiaca.gov/significantprojects

Attachment No. 5

Response to comments to the Appeal letter, the Draft MMRP and Initial Study/ Mitigated Negative Declaration (IS/MND). The appendices to the IS/MND can be found under the Arcadia Town Center Project at www.arcadiaca.gov/significantprojects

MEMORANDUM

March 4, 2025

To:
Lisa Flores
City of Arcadia
Community Development Department

From:
Jillian Neary
Alia Hokuki

Subject: Response to Planning Commission Appeal on the Arcadia Town Center Project Submitted by Lozeau Drury LLP for Supporters Alliance for Environmental Responsibility

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The following presents responses to comments submitted to the City of Arcadia by Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility (SAFER). SAFER is an organization associated with the Southern California District Council of Laborers, a chartered council of the Laborers International Union of North America (LiUNA). The SAFER comments are in the letter dated December 20, 2024, and provided as Attachment 1 to the Appeal Application dated January 24, 2025 (see Appendix A to this Memorandum). This letter is the same comment letter submitted by Lozeau Drury on behalf of SAFER during the IS/MND public review period (November 21, 2024 through December 20, 2024), for which the City provided written responses for consideration by the City of Arcadia's Planning Commission[1]. SAFER has appealed the City of Arcadia's Planning Commission's approval of the Arcadia Town Center Project (Project) (Resolution No. 2164. MUP 19-11, TTM 21-02 [83325], ADR 19-09, COD 22-25) and adopting the Initial Study/Mitigated Negative Declaration (IS/MND). The Notice of Determination for the Project was filed at the Los Angeles County Registrar-Recorder/County Clerk on January 17, 2025; and posted at the State Clearinghouse on January 18, 2025.

The appeal letter focuses on air quality (including indoor air quality), biological resources, greenhouse gas (GHG) emissions, and noise. The comment letter includes unsubstantiated statements regarding the adequacy of these analyses under the California Environmental Quality Act (CEQA) and that the indoor air quality of the proposed building would result in a health risk. In all instances in this memorandum, "air quality" refers to outdoor air quality unless otherwise noted.

It should be noted that the South Coast Air Quality Management District (SCAQMD), the agency with jurisdiction over air quality and GHG emissions, and the California Department of Fish and Wildlife (CDFW), the agency with jurisdiction over biological resources, received the Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) for the Project. Neither SCAQMD nor CDFW provided comments on the IS/MND, and as such did not raise questions about the methodology and assumptions used in these analyses.

The appeal letter as well as the comment letter and its Exhibits A through D (see Appendix A to this Memorandum) have been divided into sequential numbered comments and the corresponding City of Arcadia responses are provided beginning on the following page.

[1] https://cms9files.revize.com/arcadia/Shape%20Arcadia/Development%20Services/current%20projects/Arcadia%20Town%20Center/Response%20to%20Comments%20and%20Comment%20Letters.pdf

SUPPORTERS ALLIANCE FOR ENVIRONMENTAL RESPONSIBILITY APPEAL LETTER (VIA LOZEAU DRURY LLP)

Response 1. The comment states the appeal letter is submitted by Lozeau Drury LLP on behalf of SAFER and is acknowledged.

Response 2. This comment states the comment letter is submitted by Lozeau Drury LLP on behalf of SAFER and provides a brief summary of the Project and is acknowledged.

Response 3. As addressed in Responses 12 through 39 below, there is no evidence to support the assertion there is a "fair argument that the Project may result in significant adverse impacts on biological resources, noise, air quality, and indoor air quality" and that therefore an Environmental Impact Report (EIR) is necessary to "analyze and mitigate these impacts in accordance with the California Environmental Quality Act…".

Section 15384 of the State CEQA Guidelines states, in part, that substantial evidence "means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached". As discussed further in Responses 12 through 39, the commenter's assertions are based on evidence that is inaccurate and/or irrelevant, which results in unreasonable inferences from the information utilized. As such, the commenter has not provided substantial evidence for the record and as such does meet the fair argument standard pursuant to CEQA and the CEQA Guidelines to legally assert that the Project would result in significant adverse environmental impacts.

The commenter is referred to the entirety of the IS/MND and its appendices, which provides a full analysis of the Project consistent with CEQA (*California Public Resources Code*, Section 21000 et. seq.) and the State CEQA Guidelines (*California Code of Regulations*, Title 14, Section 15000 et. seq.) The IS/MND also identifies multiple mitigation measures related to Cultural Resources, Hazards and Hazardous Materials, Noise and Vibration, Transportation, Tribal Cultural Resources, and Utilities and Service Systems, which are required to reduce potential impacts to less than significant levels. The IS/MND adequately addresses the potential environmental impacts associated with Project implementation. Specifically, in accordance with Section 15063(a)(3) of the State CEQA Guidelines, the environmental analysis and all conclusions presented in the IS/MND relied upon facts, expert opinion supported by facts, technical studies, and other substantial evidence to support the determination that, with implementation of identified mitigation measures, the Project would not have a significant impact on the environment.

An EIR is not required for the Project because (1) all potentially significant impacts would be mitigated to a less than significant level and (2) the commenter does not provide any substantial evidence supporting the numerous and varied assertions regarding the adequacy and accuracy of the IS/MND analysis presented in the comment letter and attached exhibits. No revisions to the IS/MND are warranted.

Response 4. The comment provides the names of the preparers of Exhibits A and D to the comment letter and is acknowledged.

Response 5. The comment provides a summary of the Project and is acknowledged.

Response 6. The comment presents the legal background asserted by the commenter as related to the IS/MND and comments provided thereon and is acknowledged.

Response 7. As addressed in Responses 12 through 22 below, there is no evidence to support the assertions that the IS/MND "failed to account for the diversity of species present on the Project site", "inadequately analyzed the Project's adverse impacts on wildlife", and "the MND's proposed mitigation measures are insufficient to reduce the Project's biological impacts" and, therefore, there is a fair argument the Project may result in significant biological resources impacts. Based on the analysis conducted in the IS/MND, there would be less than significant impacts related to biological resources; and no mitigation measures are required. No revisions to the IS/MND are warranted, and an EIR is not necessary.

Response 8. As addressed in Responses 23 through 30 below, there is no evidence to support the assertions that the "MND's noise analysis relies on an inadequate noise baseline", "the Project will result in potentially significant construction noise impacts", and "the MND's operational noise analysis is insufficient", and, therefore, there is a fair argument the Project will result in significant noise and vibration impacts. Based on the analysis conducted in the IS/MND, there would be less than significant impacts related to noise and vibration with mitigation measure (MM) NOI-1. No revisions to the IS/MND are warranted, and an EIR is not necessary.

Response 9. As addressed in Responses 31 through 37 below, there is no evidence to support the assertions that the "MND relied on an inadequate air quality analysis", "the Project will have significant impacts related to air pollutant health risks" not adequately addressed in the IS/MND, the "MND inadequately evaluated…GHG impacts", and the "MND does not include all feasible mitigation measures to address the Project's air quality impacts", and, therefore, there is a fair argument the Project will have significant air quality and GHG emissions impacts. Based on the analysis conducted in the IS/MND and additional modeling conducted as part of the IS/MND's Responses to Comments document[2], there would be less than significant impacts related to air quality and GHG emissions; and no mitigation measures are required. No revisions to the IS/MND are warranted, and an EIR is not necessary.

Response 10. As addressed in Response 38 below, there is no evidence to support the assertion that operation of the Project would expose people to a significant health risk related to indoor air quality from formaldehyde in building materials. Even if the assertions regarding the health risk of future residents and visitors to the Project had merit, this does not represent an impact of the Project on the environment and as such it is not relevant to the CEQA process. No revisions to the IS/MND are warranted, and an EIR is not necessary.

Response 11. The comment reiterates there is a fair argument the Project may have significant impacts requiring an EIR to be prepared and is acknowledged.

[2] Ibid.

COMMENT LETTER EXHIBIT A (SHAWN SMALLWOOD, PhD)

The following are responses to comments provided by Shawn Smallwood, PhD, and provided as Exhibit A to the SAFER comment letter dated December 20, 2024 (Appendix A to this Memorandum).

Response 12. This comment states the letter is submitted by Shawn Smallwood, PhD and provides a brief summary of the Project and documentation of his qualifications and is acknowledged.

Response 13. This comment (including Photos 1–21 and Table 1) describes the result of Noriko Smallwood's survey of the Project site and adjacent areas. The wildlife species observed were consistent with those observed during Psomas' site survey and those species expected to occur on or adjacent to the Project site. The comment does not identify any specific deficiencies with the IS/MND under CEQA or the State CEQA Guidelines; however, the comment is noted for the record and will be forwarded to the decision-makers for review. No further response is required.

Response 14. The comment states that Ms. Smallwood's field survey would have observed more wildlife if she had been there longer. To attempt to quantify the amount of additional wildlife the commenter thinks she would have observed if they had more individuals surveying and/or had more field time, the commenter uses a mathematical regression model as an "analytical bridge" to compensate for the lack of on-site observations by Ms. Smallwood. This model was developed by the commenter based on several years of surveys on the approximately 41,300-acre Altamont Pass Wind Resource Area, located within predominantly undeveloped grasslands in central California.

The Project is an urban infill redevelopment on a site that is completely developed with existing land uses, almost devoid of pervious surfaces, with only sparse and ornamental vegetation, and adjoining two of the main thoroughfares through the City of Arcadia. Urban settings do not contain the same wildlife diversity expected to be found in native habitats because urban areas lack habitat components essential to native species survival (i.e., suitable nesting areas, water/riparian resources required by species for reproduction and foraging, plant diversity required as food sources). Applying the regression model–which is based on observations collected on thousands of acres of open space with native vegetation communities required to support native wildlife species–to calculate species diversity on the 2.27-acre, developed Project site located in a densely urbanized area without factoring in the vast difference in settings between to two areas is misguided and inaccurate. No revisions to the IS/MND are warranted.

Response 15. The commenter states that the wildlife that uses the atmosphere or airspace (termed "aerosphere" by the commenter) above the site that would be "appropriated" by the proposed building needed to be characterized in the IS/MND as part of the existing environmental setting to analyze the risk to birds from window collisions. The commenter further states that the environmental setting was not informed by field surveys and the IS/MND "fails to report the importance of the site's trees to birds".

Any discussion of atmosphere pursuant to CEQA and the State CEQA Guidelines refers to the analysis of criteria air pollutants and GHG emissions (GHGs) generated by a Project and their

effects on humans. The analysis of mortality of vertebrate wildlife due to bird-window collisions is not specified nor required by CEQA or the California Fish and Game Code to be considered in the Biological Resources section of Appendix G of the State CEQA Guidelines. Similarly, wildlife movement through airspace is irrelevant to the analysis of biological resources pursuant to the State CEQA Guidelines or the California Fish and Game Code.

Based on the condition and setting of the Project site, a consulting biologist practiced in CEQA would generally find it self-evident that the site would not support bountiful wildlife and even more unlikely to support special status species. The site is dominated by asphalt, concrete, glass, brick, metal gates, trimmed ornamental hedges and widely spaced street trees. These are not the resources that constitute valuable wildlife habitat within the region, and these resources do not support populations of special status species. There is only sparse and ornamental vegetation that provides very limited resources to wildlife species, the vast majority of which are tolerant of urban settings. The presence of these common, urban-tolerant wildlife species are well documented in the Arcadia General Plan Update Environmental Impact Report (State Clearinghouse No. 2009081034).

Nevertheless, as part of IS/MND preparation, a Psomas biologist and certified arborist surveyed the site to document both the existing conditions and all trees on and adjacent to the property. Additionally, contrary to commenter's assertion in Comment 16, Psomas conducted a desktop review of U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), as discussed further below. No special status plant or wildlife species were observed, only the typical urban-adapted species expected on such a site. No critical habitat or records of candidate, sensitive, or special status plant or wildlife species were identified on the site or its vicinity (see page 3-30 of the IS/MND).

While sparse and non-native, the 26 existing trees are the sole existing feature of the site that may support wildlife; as such, the analysis focuses on the impacts to, and resulting from, removal of these trees and implementation of the Project and related landscaping. This includes highlighting, through regulatory requirements (RRs), the need for pre-construction bird surveys and the applicable City of Arcadia Municipal Code standards for tree management. As discussed on page 3-31 of the IS/MND, the Project would include a total of 46 new trees. This represents 20 more trees, or an increase of approximately 77 percent, compared to the existing condition.

While commenter asserts potential impacts to birds as a whole and other, unnamed wildlife species, the analysis in the IS/MND was prepared in accordance with CEQA and the State CEQA Guidelines, which asks the following regarding vegetation, habitat, and wildlife present on a site:

1) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

2) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?[3]

As discussed above and in the IS/MND, the answer to both these checklist questions is no. Moreover, the loss of a fraction of an acre of ornamental vegetation spread over 2.27 acres for the urban tolerant species present in the area is insignificant relative to the amount of habitat available to these species across the region, in addition to the abundant open space immediately across Huntington Drive at the 185-acre Arcadia County Park. No revisions to the IS/MND are warranted.

Response 16. As discussed in Response 15, Psomas conducted a desktop review of the USFWS' Environmental Conservation Online System, Critical Habitat Portal; and CDFW's California Natural Diversity Database in 2019, when preparation of the IS/MND began.[4,5] The conditions on the site and surrounding area have not materially changed in the years since these records were reviewed. No critical habitat or records of candidate, sensitive, or special status plant or wildlife species were identified on the site or its vicinity (see page 3-30 of the IS/MND).

It is noted that the lengthy species list presented in Table 2 of commenter's letter, representing commenter's "cursory desktop review for the potential of special-status species of wildlife to occur at the site", is derived from eBird and iNaturalist. These are both crowdsourced databases that are open to the public and the sightings recorded on these apps are not vetted or otherwise maintained in the same manner as official USFWS and CDFW databases, such as those reviewed as part of IS/MND preparation.

Regarding the assertions regarding the number of migratory birds that may pass through the "aerosphere" in the Los Angeles area, please refer to Response 15. As noted, the analysis of mortality of vertebrate wildlife due to bird-window collisions is not specified nor required by CEQA or the California Fish and Game Code to be considered in the Biological Resources section of Appendix G of the State CEQA Guidelines. Similarly, wildlife movement through airspace is irrelevant to the analysis of biological resources pursuant to the State CEQA Guidelines or the California Fish and Game Code.

Commenter's assertion that Ms. Smallwood's brief survey and the desktop review (i.e., Table 2 of commenter's letter) constitute evidence of a fair argument requiring EIR preparation to "accurately characterize the wildlife community of the project site" is unsubstantiated and without merit. No revisions to the IS/MND are warranted.

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3 From Appendix G, Environmental Checklist, of the State CEQA Guidelines

4 California Department of Fish and Wildlife California Department of Fish and Wildlife. 2019 (May 31). California Natural Diversity Database. Records of Occurrence for Mt. Wilson USGS 7.5-minute quadrangles. Sacramento, CA: CDFW, Natural Heritage Division.

5 U.S. Fish and Wildlife Service, Environmental Conservation Online System (ECOS). 2019 (May 31, access date). Critical Habitat Portal. Washington, DC: USFWS.

Response 17. The commenter states "…the IS/MND includes no analysis of whether the project would interfere with wildlife movement in the region". Page 3-31 of the IS/MND includes the following:

> **d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**
>
> **Less than Significant Impact.** Due to the presence of ornamental trees on site, there is the potential for nesting birds subject to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The MBTA prohibits activities that result in the direct take (defined as killing or possession) of birds covered by the MBTA. Through compliance with the provisions of the MBTA and California Fish and Game Code, including implementation of RR BIO-1, there would be a less than significant impact and no mitigation is required.

Regarding the assertion that "inserting a building into the airspace that has been used by birds" and as such would "obviously" interfere with wildlife movement in the region, as discussed previously (see Responses 15 and 17) the analysis of impacts to wildlife movement through airspace due to the introduction of man-made features is not specified nor required by CEQA or the California Fish and Game Code to be considered in the Biological Resources section of Appendix G of the State CEQA Guidelines. No revisions to the IS/MND are warranted.

Response 18. Regarding the information and assertions regarding bird-window collision fatalities with Project implementation, please refer to Response 15. As noted, the analysis of mortality of vertebrate wildlife due to bird-window collisions is not specified nor required by CEQA or the California Fish and Game Code to be considered in the Biological Resources section of Appendix G of the State CEQA Guidelines. Furthermore, as discussed on pages 2-3 and 3-67 of the IS/MND, the proposed maximum height of 60 feet (excluding mechanical equipment) is consistent with the allowable development standards for the Downtown Mixed Use zone, which is the current zoning for all parcels within the site. Additionally, as discussed on page 2-2 of the IS/MND, the proposed 5-story building's height is well within the range of building heights in the immediate vicinity. Specifically, "Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill". Notably, the facade treatment and mechanical equipment screen on the Mercedes Benz dealership extends up to a height of 52 feet.

The commenter explains their rationale for calculating that they believe the Project would result in approximately 217 annual bird deaths because of collisions with the proposed building. Data presented to support this claim was from a variety of geographies, including the states of

Washington, Illinois, New York, Oklahoma, Ohio, Utah, Virginia, and Canada and Mexico, just to name a few. It is unclear from the comment how the listed case studies had common resources to the Project site. For instance, were all sites located in urban cities, were all sites also essentially devoid of natural resources? It is inappropriate to conduct a scientific and/or statistical analysis when foundational parameters are not consistent. While it is acknowledged that glass on the facades of all building types, from small single-family homes to high-rise office towers, can result in bird collisions and related injury or fatality, currently this is not considered a form of incidental take of protected, migratory, non-game bird species pursuant to the Migratory Bird Treaty Act, California Migratory Bird Protection Act, or California Fish and Game Code. CEQA documentation is based on the laws and regulations in effect at the time the document is prepared. Therefore, as discussed previously, bird-window collisions are not germane to the biological resources analysis of the IS/MND under CEQA, the State CEQA Guidelines, and California Fish and Game. No revisions to the IS/MND are warranted.

Response 19. The commenter implies that the Photos 22-25 are from roads that are to be used by vehicular traffic associated with the Project. Photo 22 is of a white-tailed antelope squirrel in the Coachella Valley in 2022. Photo 23 is of a coyote and was taken in February 2023, well before Ms. Smallwood's site visit was on December 6, 2024. Photos 24 and 25 are of a raccoon killed in Solano County and mourning dove killed on a "California road", respectively. The commenter continues to state that "The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California". A study from over 300 miles from the Project site in California's central valley is considered irrelevant because, again, it is a fundamentally different setting. While the commenter did concede an assumption about the reduced number of wild animals "encountered by project-generated traffic" in the City of Arcadia compared to the study's area, there is no basis given for the use or accuracy of this assumption.

The commentator then describes the math he applied to quantify the rate of fatalities per vehicle miles traveled (VMT) from the above-referenced studies "that can be projected to other sites, assuming similar collision fatality rates". Notably, fatalities as a function of traffic were not part of the referenced study. Furthermore, there are many possible factors that could affect the rate of wildlife-vehicle collisions besides traffic levels, such as topography proximate to the road, types and extents of habitat in the immediate area, and types and population densities of wildlife in the immediate area. To correlate a rate of fatalities based solely on VMT, especially when determined as an exercise in arithmetic outside of the original study, with no consideration of other relevant factors or a rigorous statistical assessment of this methodology is misguided. Applying this faulty correlation to support assertions of significant environmental impacts on other project sites is inappropriate.

The commenter goes on to apply this correlation to the Project to predict 166 annual "non-volant" wildlife fatalities from vehicle collisions related to Project-generated traffic. As part of this, commenter states "The IS/MND predicts 1,302,015 annual VMT", with the implication this figure was quoted from the IS/MND. In fact, there is not a single place in the IS/MND or the Traffic Impact Study, provided as IS/MND Appendix H, that annual VMT for the Project is discussed let alone "predicted". Furthermore, VMT per capita or per employee, rather than annual or total VMT, is the applicable metric for transportation analyses conducted under CEQA

and in compliance with Senate Bill (SB) 743 to determine whether a project aligns or conflicts with lead agency, regional, and State climate goals and thresholds.[6]

VMT figures specific to the Project are presented in Appendix D, SGVCOG VMT Screening Tool Report", of the Traffic Impact Study (Appendix H to the IS/MND). This provides the results of the Project's screening-level VMT evaluation pursuant to the San Gabriel Valley Council of Governments (SGVCOG) tool, consistent with the City of Arcadia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment that was adopted pursuant to SB 743. Based on Project parameters input to the SGVCOG screening tool, VMT rates per capita and per employee of the Project are generated.

However, the figure of 1,302,015 annual VMT is shown in one location in the IS/MND materials circulated for public review. This figure is shown in Appendix A, Air Quality and Greenhouse Gas Emissions Calculations, on page 23 of the compiled .PDF of the Appendices to the IS/MND.[7] Specifically, as shown in the image on the following page, this data is part of the activity data for operational mobile sources used in modeling air emissions for the existing conditions on the site. Moreover, the VMT calculated in this context is a CalEEMod default based on the user inputs of land use type and total trips. The daily and annual VMT calculated within CalEEMod is not otherwise used as the basis for CEQA analyses by practitioners for this reason.

6 Governor's Office of Planning and Research (OPR) (now Governor's Office of Land Use and Climate Innovation). 2018, December. *Technical Advisory on Evaluating Transportation Impacts in CEQA. Sacramento, CA: OPR.* https://lci.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

7 https://www.arcadiaca.gov/Shape%20Arcadia/Development%20Services/current%20projects/Arcadia%20Town%20Center/Arcadia_Town_Center_Project_Appendices.pdf.

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	514	117	37.0	142,011	4,713	1,068	339	1,302,015
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	37,500	12,500	2,752

5.10.3. Landscape Equipment

For all the reasons identified above, commenter's methodology to jump from a single study in a vastly different setting over 300 miles away to a quantification of annual vehicle-related wildlife fatalities for the Project is flawed and misguided.

Commenter's assertion that the results of this assessment constitute evidence of a fair argument requiring EIR preparation to "appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic" is unsubstantiated and without merit. Moreover, as discussed previously, wildlife-vehicle collisions are not germane to the biological resources analysis of the IS/MND under CEQA, the State CEQA Guidelines, and California Fish and Game. No revisions to the IS/MND are warranted.

Response 20. Section 3.4, Biological Resources, of the IS/MND thoroughly reviewed and discussed the potential biological resources impacts from construction and operation of the Project based on established best practices for such analyses. The IS/MND concludes there would be less than significant impacts related to biological resources and no mitigation is required (see pages 3-28 through 3-31 of the IS/MND).

Section 3.21, Mandatory Findings of Significance, of the IS/MND addresses cumulative impacts under Threshold 3.21(b) and concludes there would be less than significant cumulative impacts with mitigation incorporated, where applicable, and no further mitigation is required (see page 3-114 of the IS/MND). Mitigation measures were identified for significant impacts involving cultural resources, hazards and hazardous materials (emergency access during construction),

noise (vibration during construction), transportation (construction traffic), tribal cultural resources, and utilities and service systems (wastewater conveyance).

As discussed in Responses 7 through 19, commenter's assertions of significant, new impacts to wildlife are wholly unsubstantiated; accordingly, the assertion of significant cumulative impacts to wildlife are similarly erroneous. As concluded in the IS/MND there would be no significant impacts to biological resources (including but not limited to wildlife) and as such no mitigation or other "specific requirements" are required. No revisions to the IS/MND are warranted.

Response 21. The comment states the IS/MND's mitigation measures are insufficient to reduce significant biological resources impacts, specifically citing "Mitigation Measure RR BIO-3" and characterizing this as the deferred development of landscape plans. In no location in the IS/MND are regulatory requirements or RRs written as or referred to as "Mitigation Measure RR" nor in any way could it be implied these are mitigation measures. As stated repeatedly in the IS/MND, there would be no significant impacts to biological resources and no mitigation measures are required. The abbreviation "RR" stands for regulatory requirements, which is both defined on page 1-1 of the IS/MND, in the repeated header row of Table 1 beginning on page 1-2 and is the text of the sub-header (i.e., "Regulatory Requirements") immediately preceding the list of applicable RRs in every topical analysis section of the IS/MND. As stated on page 1-1, "RRs are based on local, State, and/or federal regulations or laws that are **required independent of CEQA review** [emphasis added] yet also serve to offset or prevent certain impacts". Because the referenced requirement of the Project is not a mitigation measure, the remainder of the comment regarding the sufficiency of said requirement is immaterial. No changes to the IS/MND are warranted.

Response 22. No significant impacts to biological resources were identified; therefore, no mitigation measures are required. These recommendations have been noted for the record and will be forwarded to the decision-makers. No changes to the IS/MND are warranted.

COMMENT LETTER EXHIBIT B (WILSON IHRIG)

The following are responses to comments provided by Wilson Ihrig and provided as Exhibit B to the SAFER comment letter dated December 20, 2024 (Appendix A to this Memorandum)

Response 23. The comment presents a brief summary of the Project, introduces the content of the letter, describes commenter's credentials, and is acknowledged.

Response 24. The comment presents information on the adverse effects of noise and is acknowledged.

Response 25. The purpose of conducting the short-term noise measurements at the Project boundaries was to establish the existing daytime ambient noise levels at land uses immediately adjacent to the Project site. Daytime noise levels were measured to quantify existing baseline noise levels during times representative of the hours when Project construction would occur. Because the main existing noise sources in the vicinity of both the Project site and noise-sensitive land uses are traffic movements on Santa Anita Avenue, Huntington Drive, and Santa Clara Street, we expect that daytime noise levels at locations immediately adjacent to these roadways would stay fairly consistent throughout a typical day. Nighttime noise measurements were not deemed necessary as Project construction would be confined to daytime hours.

Two of the noise measurement locations, specifically the east and south locations, are exposed to the same traffic noise levels along Santa Anita Road and Huntington Drive as the nearest portions of Arcadia County Park and the nearest residential use on Santa Anita Avenue (located at 16 South Santa Anita Avenue). Additionally, since traffic volumes on Santa Clara Street are lower than those on other major roadways in the Project area, we expect that the residential locations along the west side of Santa Clara Street experience lower noise levels than the other nearby noise-sensitive land uses. Nonetheless, private outdoor areas of those residences are directly exposed to adjacent traffic noise from Santa Clara Street. In addition, these residences would all be shielded from Project construction noise by intervening buildings, including the Mercedes Benz of Arcadia dealership and the Arcadia Elks Lodge building.

With regard to ambient 24-hour noise measurements related to operational noise, since the primary operational noise effects from the Project are expected to be from traffic generation, we maintain that 24-hour noise measurements would not be necessary because Project operational noise impacts are evaluated in terms of comparisons of Community Noise Equivalent Levels (CNELs) between existing, future without Project, and future with Project. Obtaining 24-hour noise measurement data would not have a bearing on the results of the IS/MND noise analysis. No changes to the IS/MND are warranted.

Response 26. As outlined in Section 3.13, Noise, of the IS/MND, quantification of construction noise levels in terms of the hourly average noise level (L_{eq}) is done based on the assumption that sources of construction noise would, on average, be operating at the center of the Project site. Maximum construction noise level (L_{max}) is determined based on placement of construction activities at the nearest distances to the analyzed receptor locations. Construction noise level calculations in the commenter's letter (Table 1 Estimated Construction Noise Levels) assume the nearest distances from the Project site to each of the analyzed receptor locations, therefore, resulting in L_{max} values (not L_{eq}). To determine the L_{eq} at the nearest residential receptors on Santa Anita Avenue and west of Santa Clara Street, respective distances of 525 feet and 640 feet should be applied. Based on the distance to the center of the Project site, the calculated noise levels due to Project construction at the nearest Santa Anita Avenue residence would be 55 dBA to 64 dBA L_{eq}. At the nearest residences west of Santa Clara Street, the calculated construction noise levels would range between 43 dBA and 51 dBA L_{eq}, when a minimum noise attenuation of 10 dB due to shielding from the intervening buildings between the Project site and these residences is considered. As discussed further in Response 27 below, the combined existing and construction noise levels during the loudest construction phase would result in an estimated 3 dB to 4 dB increase above existing noise levels at the nearest residences on Santa Anita Avenue and Santa Clara Avenue, respectively. It is commonly known that a 5 dB increase in sound levels is generally a clearly perceptible change. Therefore, in the absence of local criteria pertaining to construction noise, it is determined that a 10 dB change in noise levels may constitute a significant impact and a 5 dB change may be used as a threshold of activity interference at noise-sensitive locations. There would not be significant construction noise impacts related to generation of a substantial temporary increase in ambient noise levels in the vicinity of the project, and no mitigation is required. No changes to the IS/MND are warranted.

Response 27. As pointed out by the commenter, a 10 dB increase in sound levels is subjectively perceived as a doubling in loudness. It is also commonly known that a 5 dB increase in sound levels is generally a clearly perceptible change. Therefore, in the absence of local criteria pertaining to construction noise, it is determined that a 10 dB change in noise

levels may constitute a significant impact and a 5 dB change may be used as a threshold of activity interference at noise-sensitive locations.

As indicated in Response 25, the existing measured daytime L_{eq} at the measurement location near the east Project boundary could also be used as representative of the existing daytime noise level at the nearest Santa Anita Avenue residence given their similar distances to the roadway. Therefore, the existing L_{eq} at this residential location is approximately 65 dBA. The highest construction L_{eq} of 64 dBA combined with the presumed existing noise level of 65 dBA L_{eq} would result in an overall noise level of 68 dBA L_{eq} during the loudest construction phase, which exceeds the existing noise level by approximately 3 dB. Therefore, the estimated 3 dB increase in noise levels at the Santa Anita Avenue residence due to Project construction noise would not be considered significant, and no mitigation is required.

At the nearest residential locations west of the Project site, existing daytime noise levels in terms of the L_{eq} are currently in the range of 55 to 60 dBA (or higher) given their proximity to traffic on Santa Clara Street. Assuming the lower level of the existing noise level range, the highest construction L_{eq} of 51 dBA (see Response 26) combined with the presumed existing noise level of 55 dBA L_{eq} would result in an overall noise level of 56 dBA L_{eq} during the loudest construction phase. This would be an increase of only 1 dB over existing ambient noise levels. Even conservatively assuming an existing 50 dBA L_{eq} for these areas, which is typical of urban areas located far from traffic noise sources, the combined existing and construction noise levels would be 54 dBA L_{eq}, which would be an increase of 4 dB above existing sound levels. Therefore, construction noise impacts at the nearest residential neighborhood west of the Project site would also be considered less than significant, and no mitigation is required.

At the exterior areas of the Arcadia Elks Lodge located immediately west of the Project site, Project construction would result in substantial increases in daytime noise levels (as disclosed in the IS/MND). However, this facility is an event and entertainment venue that does not include any outdoor activity areas. Additionally, this facility typically operates after 5:00 PM on weekdays, is closed on Saturdays, and operates all day on Sundays. The Project is expected to have construction activities Monday through Friday from 7:00 AM to 6:00 PM, as discussed on page 2-11 of the IS/MND. Therefore, Project construction noise is not expected to substantially interfere with the facility's operations and there would be a less than significant impact, and no mitigation is required.

The commenter also implies that the City noise criteria listed in Table 22 on page 3-75 of the IS/MND should be applied to construction noise at the Arcadia County Park located south of the Project site across Huntington Drive. The criteria in the aforementioned table, which is from the City's Noise Element of the General Plan, pertain to land use siting guidelines and is applicable to long-term noise environments. Estimated construction L_{eq} at locations within the Arcadia County Park closest to the Project site range between 59 dBA and 68 dBA (see Table 25 on page 3-78 of the IS/MND). Assuming an existing daytime noise level similar to that measured at the south Project site boundary, as traffic on Huntington Drive is also the primary noise source in the northern portion of the park, the existing typical daytime L_{eq} at the north edge of the park is 66 dBA. Therefore, the loudest construction phase would result in an overall (i.e., combined plus existing) noise level of 70 dBA L_{eq}, which would be an increase of 4 dB over the existing noise level. Therefore, Project construction noise impacts at the Arcadia County Park would be less than significant, and no mitigation is required.

In addition to the above, operational noise impacts pertaining to Project-related traffic noise have been evaluated as shown in Table 26 on page 3-80 of the IS/MND. The data in that table show that future overall traffic noise levels at the Arcadia County Park would increase over existing noise levels by only 0.4 dB, which would not be a detectable difference. As stated in the IS/MND (page 3-79), there would a less than significant impact on traffic noise levels for all analyzed roadway segments proximate to the site, and no mitigation is required. No changes to the IS/MND are warranted.

Response 28. As demonstrated by the quantitative evaluations provided in Response 27, including noise level changes over ambient levels at sensitive receptor locations, Project construction would result in less than significant noise impacts, and mitigation is not required. No changes to the IS/MND are warranted.

Response 29. On page 3-79 of the IS/MND, in the discussion under the subtitle "Noise Generated by On-Site Sources", the IS/MND points out that "…Noise generated by HVAC equipment is regulated by the Section 4610.3(c), which requires that noise exposure at offsite residential uses not exceed 55 dBA." This requirement of the City of Arcadia Municipal Code, which would eventually be a condition of approval for the Project, ensures that any noise generated by stationary equipment, including HVAC units and ventilation systems, are kept below the applicable City criteria for residential uses of 55 dBA daytime and 50 dBA nighttime. Under CEQA, imposing such specifications based on local, State, and/or federal regulations or laws that are required independent of CEQA review yet also serve to offset or prevent certain impacts represent substantial evidence. As discussed in the IS/MND, there would be less than significant noise impacts from on-site sources during Project operation, and no mitigation is required. No changes to the IS/MND are warranted.

Response 30. Commenter concludes the letter with a summary of the issues identified in their review. As shown above in Responses 25 through 29, it can be demonstrated that the IS/MND conclusions pertaining to noise and vibration impacts and associated mitigation are valid. No changes to the IS/MND are warranted.

COMMENT LETTER EXHIBIT C (SWAPE)

The following are responses to comments provided by Soil/Water/Air Protection Enterprise (SWAPE) and provided as Exhibit C to the SAFER comment letter dated December 20, 2024 (Appendix A to this Memorandum).

Response 31. The comment presents a brief summary of the Project and commenter's conclusions and is acknowledged.

Response 32. Commenter states that "SWAPE found that the MND and its air quality technical reports in Appendix A [of the IS/MND] failed to provide complete CalEEMod output files. Its files included land use inputs but omitted all other qualitative [sic] outputs regarding the Project's construction and operational emissions, and they also omitted details on changes to the model's default values.

The commenter is correct that CalEEMod provides default model inputs that are used across the industry and that it could be changed if more accurate or project-specific information is available. The default model inputs were developed based on a set of information that may or

may not be representative of any given project. As such, the SCAQMD allows users to modify these computer model inputs if there is better available data that is more representative of any given project. Accordingly, the air quality and GHG emissions modeling prepared for the Project and presented in the IS/MND were based on detailed, Project-specific information derived through a specialized data needs form and extensive coordination with the Applicant. CalEEMod inputs were changed where appropriate and warranted, as is typical to ensure an accurate result and is industry standard practice.

Upon review of the IS/MND Appendix A files, pursuant to this comment, Psomas discovered that there were some sections of the .PDF output by CalEEMod that did not populate with the modeled data used in the IS/MND for the proposed conditions; however, all data was populated in the output files for the existing conditions. Other than a software glitch, Psomas cannot define why these values did not populate in the output file and it had never been observed prior to or since this event. Specifically, the following sections of the CalEEMod .PDF output for the proposed conditions were not populated:

- Section 2-Emissions Summary
- Section 3-Construction Emissions Details
- Section 4-Operations Emissions Details
- Section 5-Activity Data
- Section 8-User Changes to Default Data

Nevertheless, all relevant inputs and all quantitative outputs were provided in the body of the IS/MND. Specifically, the quantitative "outputs regarding the Project's construction and operational emissions" (e.g., Sections 2 through 4) were provided in Table 8, Estimated Maximum Daily Regional Construction Emissions, on page 3-23 of the IS/MND; Table 9, Existing Daily Operational Emissions, on page 3-24; Table 10, Peak Daily Net Operational Emissions, on page 3-25; Table 13, Energy Use During Construction, on page 3-38; Table 14, Energy Use During Operations, on page 3-38; Table 15, Estimated Annual Greenhouse Gas Emissions From Construction, on page 3-49; Table 16, Estimated Annual Greenhouse Gas Emissions From Existing Use, on page 3-50; Table 17, Estimated Annual Greenhouse Gas Emissions From Project Operation, on page 3-50; and Table 18, Estimated Total Annual Greenhouse Gas Emissions, on page 3-51. Project-specific inputs, including gross and net values where applicable, are provided throughout Section 2.0, Environmental Setting and Project Description, and in the text of Section 3.3, Air Quality; Section 3.6, Energy; Section 3.8, Greenhouse Gas Emissions; Section 3.10, Hydrology and Water Quality; and Section 3.19, Utilities and Service Systems, among others.

Commenter states "without access to this data, SWAPE was unable to verify the potential significance and accuracy of the MND air quality modeling". "SWAPE concluded that "[a]n EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines". The implication that, absent the commenter's verification, the IS/MND's air quality and GHG emissions analyses are necessarily inaccurate is without merit implicitly as well as unsubstantiated, as discussed further below. The sole reason preparation of an EIR is required under CEQA is when a project may have a significant effect on the environment that cannot be feasibly mitigated to below a level of significance. Ergo, disclosure of the "complete CalEEMod output files" is irrelevant to the determination of appropriate CEQA documentation. Additionally, provision of the CalEEMod outputs is not required under CEQA or

the State CEQA Guidelines–it is assumed this is what is meant by "CEQA's formal guidelines"–it is simply the industry standard practice.

As noted, IS/MND Appendix A, Air Quality and Greenhouse Gas Emissions Calculations, dated November 2024 contained the output files for (1) the existing land uses and operations on the site, and (2) the Project's construction and operational air quality and GHG emissions. The output file for the proposed conditions was downloaded from CalEEMod on August 4, 2023. The corresponding .JSON[8] output file that was created in August 2023; and used to quantify the emissions presented in the IS/MND; was uploaded into CalEEMod on January 6, 2025, to generate the resulting .PDF output files. This .PDF has been included as Appendix B of this Memorandum.

It is noted that the Project's emissions were originally quantified with CalEEMod Version 2022.1.1.13 and the current software is CalEEMod Version 2022.1.1.29; as such, several updates to CalEEMod have been made since preparation of the air quality and GHG emissions analysis. Therefore, the resulting output values include a small number of changes to the values originally presented in the IS/MND; however, the differences are nominal in magnitude and do not represent a new or more significant impact related to air quality or GHG emissions than disclosed in the IS/MND. Additionally, the changes in values are solely the result of periodic updates to the software and are not related to the accuracy of the analysis or veracity of the resulting conclusions in the IS/MND. Presented beginning on the next page are side-by-side comparisons of the values presented in several tables presented in the air quality and GHG emissions sections of the IS/MND and the values generated in the current CalEEMod run presented in Appendix B. Green numerals represent decreased values and red numerals represent increased values.

As shown in the comparison of IS/MND Table 8, the mass (regional) construction emissions of volatile organic compounds (VOCs), nitrogen oxides (NOx), and carbon monoxide (CO) are slightly lower, with values ranging from one to five pounds per days (lbs/day) less emissions. All other values are identical. Consistent with the conclusions in the IS/MND, all maximum daily construction emissions would be well below the South Coast Air Quality Management District (SCAQMD) significance thresholds for all criteria air pollutants.

As shown in the comparison of IS/MND Table 10, the peak daily net operational emissions are identical. Consistent with the conclusions in the IS/MND, all net daily operational emissions would be well below the SCAQMD significance thresholds for all criteria air pollutants.

As shown in the comparisons of IS/MND Tables 15, 17, and 18, the construction GHG emissions are slightly higher for construction year 2024 and slightly lower for years 2025 and 2026. On balance, the total construction GHG emissions are 36 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/yr) higher. When amortized, consistent with SCAQMD recommendations, the annual construction GHG emissions are 2 $MTCO_2e$/yr higher. The total and net operational GHG emissions are identical. Therefore, as shown in the comparison of Table 18, the net total annual GHG emissions (i.e., amortized annual construction emissions plus net annual operational emissions) are 2 $MTCO_2e$/yr, or approximately 0.1 percent, higher than presented in the IS/MND. Consistent with the conclusions in the IS/MND, this value would

[8] CalEEMod files are output in both .PDF and .JSON (JavaScript Object Notation) formats; the .JSON file is what is used during preparation of technical analyses of air quality and GHG emissions, as well as energy.

remain below the draft SCAQMD Tier 3 screening threshold (e.g., 3,000 MTCO2e/yr for all land use types).

IS/MND TABLE 8
ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS
(CALEEMOD VERSION 2022.1.1.13)

Year[a]	Emissions (lbs/day)					
	VOC	NO_x	CO	SOx	PM10	PM2.5
2024	3	27	23	<1	5	2
2025	2	13	22	<1	3	1
2026	23	20	35	<1	3	1
Maximum	23	27	36	<1	5	2
SCAQMD Thresholds (Table 7)	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS
(CALEEMOD VERSION 2022.1.1.29)

Year[a]	Emissions (lbs/day)					
	VOC	NO_x	CO	SOx	PM10	PM2.5
2024	2	22	23	<1	5	2
2025	2	13	22	<1	2	1
2026	22	19	33	<1	3	1
Maximum	22	22	33	<1	5	2
SCAQMD Thresholds (Table 7)	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

IS/MND TABLE 10
PEAK DAILY NET OPERATIONAL EMISSIONS
(CALEEMOD VERSION 2022.1.1.13)

Source	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
Mobile sources	5	4	43	<1	9	2
Area sources	4	<1	<1	<1	<1	<1
Energy sources	<1	1	1	<1	<1	<1
Total Operational Emissions*	**9**	**5**	**44**	**<1**	**10**	**3**
Less: Existing Emissions (Table 9)	**3**	**1**	**16**	**<1**	**1**	**<1**
Net Increase in Emissions	**6**	**4**	**28**	**<1**	**9**	**3**
SCAQMD Significance Thresholds (Table 7)	***55***	***55***	***550***	***150***	***150***	***55***
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Source: CalEEMod model data sheets are included in Appendix A.

PEAK DAILY NET OPERATIONAL EMISSIONS
(CALEEMOD VERSION 2022.1.1.29)

Source	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
Mobile sources	5	4	43	<1	9	2
Area sources	4	<1	<1	<1	<1	<1
Energy sources	<1	1	1	<1	<1	<1
Total Operational Emissions*	**9**	**5**	**44**	**<1**	**10**	**3**
Less: Existing Emissions (Table 9)	**3**	**1**	**16**	**<1**	**1**	**<1**
Net Increase in Emissions	**6**	**4**	**28**	**<1**	**9**	**3**
SCAQMD Significance Thresholds (Table 7)	***55***	***55***	***550***	***150***	***150***	***55***
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

IS/MND TABLE 15
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM CONSTRUCTION (CALEEMOD VERSION 2022.1.1.13)

Year	Emissions ($MTCO_2e$)
2024	631
2025	642
2026	301
Total	**1,574**
Annual GHG Emissions*	**52**

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years

Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM CONSTRUCTION (CALEEMOD VERSION 2022.1.1.29)

Year	Emissions ($MTCO_2e$)
2024	705
2025	619
2026	286
Total	**1,610**
Annual GHG Emissions*	**54**

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years

Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

IS/MND TABLE 17
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION (CALEEMOD VERSION 2022.1.1.13)

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION (CALEEMOD VERSION 2022.1.1.29)

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

IS/MND TABLE 18
ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS
(CALEEMOD VERSION 2022.1.1.13)

Source	Emissions $MTCO_2e/yr$
Construction (amortized) (from Table 15)	52
Operations (from Table 17)	2,181
Net Reduction: Existing Emissions (from Table 16)	-504
Total	***1,729***
$MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year.	

ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS
(CALEEMOD VERSION 2022.1.1.29)

Source	Emissions $MTCO_2e/yr$
Construction (amortized) (from Table 15)	54
Operations (from Table 17)	2,181
Net Reduction: Existing Emissions (from Table 16)	-504
Total	***1,731***
$MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year.	

Response 32 continued. Similar to the remarks provided above on the air quality analysis, regarding the GHG analysis the commenter states that because the "CalEEMod output files did not provide the emission estimates or any relevant inputs aside from land uses", commenter is "unable to verify the legitimacy of the GHG emissions estimates" and, as a result, the GHG emissions estimates "could be under estimated". Commenter states that they cannot ensure the Project's GHG emissions are accurately calculated and as such the IS/MND's analysis should not be relied upon. However, as demonstrated, all assertions made by SWAPE regarding the adjustments made to the default CalEEMod inputs are unsupported. Accordingly, the commenter's assertion that the IS/MND's GHG emissions analysis and conclusions cannot be relied upon without their full review is also incorrect and unsupported.

As established above, the IS/MND thoroughly reviewed and discussed the potential for criteria air pollutant and GHG emissions from the Project's construction and operation based on established best practices for such analyses. There would be less than significant air quality and GHG emissions impacts, and no mitigation is required. No changes to the IS/MND are warranted.

Response 33. Commenter states the Project violates CEQA by not connecting the construction-related emissions of diesel particulate matter (DPM) to potential health risks to nearby sensitive receptors through preparation of a health risk "analysis" [sic]. While the SWAPE analysis is inaccurate and unsubstantiated, as demonstrated below, a detailed construction health risk assessment (HRA) has been prepared and is presented in Appendix C to this Memorandum. The construction HRA prepared by Urban Crossroads determined that, based on appropriate assumptions, emissions resulting from the construction of the Project would not exceed the applicable SCAQMD cancer risk threshold of 10 in one million. The construction HRA prepared for the Project is discussed further below. Therefore, consistent with the conclusion of the IS/MND under Threshold 3.3(c) (page 3-27), construction emissions would not expose sensitive receptors to substantial emissions of TACs. There would be less than significant impacts, and no mitigation is required. No changes to the IS/MND are warranted.

Response 34. Commenter describes preparation of a construction HRA using their own CalEEMod results, which are incorrect and unsupported. It should also be noted that the health risk screening analysis performed by SWAPE is flawed for many reasons that result in an overstatement of the health risks from construction of the Project.

First, the use of the AERSCREEN model is overly conservative, as the model does not calculate annual average emission factors. Further, the screening analysis performed relies on outdated guidance from 1992 that estimates the annualized average concentration of an air pollutant by multiplying the maximum single-hour concentration by 10 percent. This methodology significantly overestimates the annualized DPM concentration, as individual construction equipment typically operates and is active for 8 hours per day. As indicated in the "Exposure Assumptions for Residential Individual Cancer Risk" table in Comment 34, the SWAPE analysis assumed construction activities would occur for 350 days per year and the exposure time is 24 hours, both of which are patently unreasonable. However, in SWAPE's health risk calculations (Attachment C to their letter), the annual breakdown assumes 365 construction days for 2026 and 2027 and 180 days (through the end of June) for 2028, representing a total of 30 months. In that same table, the totals indicate 730 construction days (365 times 2) beginning on January 1, 2026 and ending on January 1, 2028, representing a total of 24 months. The 730-days construction schedule is also cited in Comment 35.

Based on coordination between Psomas and the Applicant, the Project is expected to have construction activities Monday through Friday during an 8-hour period within the City's allowable hours of construction of 7:00 AM to 6:00 PM and be completed in a single phase requiring approximately 29 months (page 2-11 of the IS/MND). The Project would result in approximately 627 total working days of construction activity, which could have been readily calculated by multiplying 5 by the number of months or weeks indicated in Table 4, Estimated Project Construction Schedule, on page 2-12 of the IS/MND. Regarding annual construction days, assuming 5 days/week for 52 weeks, there would be 260 construction days per year. This figure also assumes no holidays, weather days, or other events that temporarily delay construction. A total of 350 construction days is more than 30 percent greater than 260 days.

Additionally, the SWAPE analysis significantly overestimates DPM emissions that would result from Project construction activities. Based on the CalEEMod outputs and DPM emission calculations provided, the SWAPE analysis evaluated total exhaust PM10 emissions, which includes emissions that would occur off-site because of workers commuting to and from the site as well as vendor trips. CalEEMod assumes that these trips may occur up to 20 miles from the Project site. Further, these on-road emissions include exhaust PM10 emissions from gasoline-powered worker commuting vehicles, which make up the majority of worker commuting vehicles and do not emit DPM. Because DPM concentrations dissipate rapidly with distance from the source, a valid construction HRA typically only considers DPM emissions that occur at the Project site and the immediate vicinity, as this is where the emissions are the most concentrated and the highest pollutant concentrations (and thus the highest risk) would occur. By including PM10 emissions that would occur up to 20 miles from the Project site, as well as PM10 emissions from gasoline-powered passenger vehicles that do not emit DPM, the SWAPE analysis significantly overestimates the DPM concentrations and therefore calculated cancer risk at nearby receptors. No changes to the IS/MND are warranted.

Response 35. As discussed in Responses 33 and 34, the SWAPE analysis utilized a highly conservative screening approach, made several flawed assumptions regarding exposure times/durations, and overestimated DPM emissions. As demonstrated in the construction HRA prepared for the Project, the expected cancer risk at the maximally exposed sensitive receptor is 3.57 in 1 million, which would not exceed the applicable SCAQMD significance threshold of 10 in 1 million. SWAPE's analysis calculated the cancer risk at 80.4 in 1 million, or more than 22 times greater. This demonstrates the flaws and inaccuracies in the SWAPE health risk analysis. Further, non-cancer health risks were estimated at less than 0.01, which would not exceed the SCAQMD significance threshold of 1.0. As such, health risks associated with DPM emissions generated as part of Project construction activities would not exceed the applicable SCAQMD significance thresholds, and the Project would result in a less than significant impact. No changes to the IS/MND are warranted.

Response 36. Refer to Response 32. As demonstrated, all assertions made by SWAPE regarding the adjustments made to the default CalEEMod inputs are unsupported. Accordingly, the commenter's assertion that the IS/MND's GHG emissions analysis and conclusions cannot be relied upon without their full review is also incorrect and unsupported. As established above, the IS/MND thoroughly reviewed and discussed the potential for GHG emissions from the Project's construction and operation based on established best practices for such analyses. There would be less than significant GHG emissions impacts, and no mitigation is required. No changes to the IS/MND are warranted.

Response 37. As demonstrated in Responses 32 through 36, there is no evidence to support any of commenter's assertions regarding the IS/MND's air quality and GHG emissions analyses as the evidence provided is unsubstantiated or inaccurate. There would be no significant impacts related to air quality or GHG emissions; therefore, no mitigation measures are required.

It is noted that one measure listed by commenter beginning with "Develop a traffic plan to minimize community impacts due to traffic flow interference from construction activities" is reflected in mitigation measure (MM) TRANS-1:

MM TRANS-1 Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Project Applicant/Property Owner for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Project Applicant/Property Owner will begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown.

At a minimum, the Construction Management Plan shall:

- Describe the duration and location of lane closures.
- Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage.
- Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.
- Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets.
- Identify of emergency access points/routes.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas.
- All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.

- Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.
- Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.
- Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.
- Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown.

No changes to the IS/MND are warranted.

Response 38. Commenter provides a lengthy disclaimer related the limited documentation regarding the Project received for use in their review, and is acknowledged.

COMMENT LETTER EXHIBIT D (IEE)

The following are responses to comments provided by Indoor Environmental Engineering (IEE) and provided as Exhibit D to the SAFER comment letter dated December 20, 2024 (Appendix A of this IS/MND).

Response 39. The commenter asserts the residents and employees of the Project would be exposed to a cancer risk associated with the formaldehyde found in some building materials and poor ventilation in the buildings and suggests a formaldehyde emissions assessment should be conducted as part of the CEQA review. The commenter also discusses outdoor air ventilation rates and indoor air contaminant concentrations in homes; interior noise levels and associated requirements for outdoor air ventilation; and that outdoor concentrations of PM2.5 (particulate matter less than 2.5 microns in diameter) due to tailpipe emissions will exceed California and federal standards, thus warranting high efficiency air filters be installed in the buildings.

Regardless of the merit of these assertions, the air quality experienced inside the proposed buildings does not represent an impact of the Project on the environment nor an exacerbation of an existing impact. The California Supreme Court has established that, as a general matter, CEQA does not require that the effects of environmental conditions upon a project's future residents or users be considered. Two qualifications to this general rule apply where: (1) the legislature has specifically required consideration of the effects of the environment on future residents and users of a project and (2) the Project may exacerbate existing environmental hazards. These qualifications allow that where future occupants may exacerbate existing hazardous conditions, such as those found on official maps and land use plans (e.g., floodplains, coastlines, wildfire risk areas, airports), on the site of a proposed development, they may be assessed under CEQA as a potential environmental impact of that project. The exposure to indoor air contaminants due to the building materials of the project itself or the existing PM2.5 concentrations in the area do not fall into the category of an existing hazard on a site.

Accordingly, as stated above, the Project's indoor air quality is not a legitimate environmental impact that is appropriate to address in the IS/MND nor does the Project exacerbate an existing impact. Therefore, these assertions are irrelevant to the CEQA process; and commenter's assertions that IEE's commentary represents a new significant environmental impact that is not addressed in the IS/MND, thereby rendering the IS/MND inadequate, are unsupported by the requirements of CEQA and the State CEQA Guidelines as well as case law (*Baird v. County of Contra Costa*, 32 Cal.App.4th 1464; *California Building Industry Association v Bay Area Air Quality Management District* [S213478, December 17, 2015]). No changes to the IS/MND are warranted.

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APPENDIX A

APPEAL APPLICATION

ATTACHMENT A

APPEAL NO. _____

APPEAL APPLICATION

SUBJECT OF APPEAL

APPLICATION TYPE AND NUMBER(S): Resolution No. 2164, MUP 19-11, TTM 21-02 (83325), ADR 19-09, COD 22-25

PROJECT ADDRESS: 5-19 W. Huntington Drive and 25-75 N. Santa Anita Avenue

DATE THE DECISION BEING APPEALED WAS RENDERED: January 14, 2025

APPELLANT(S) NAME Supporter's Alliance for Environmental Responsibility (represented by Lozeau Drury LLP)

MAILING ADDRESS 1939 Harrison Street, Suite 150

CITY Oakland STATE CA ZIP 94612

E-MAIL ADDRESS hayley@lozeaudrury.com

TELEPHONE NO. (510) 836-4200

PROPERTY OWNER(S) NAME _____

MAILING ADDRESS _____

CITY _____ STATE _____ ZIP _____

E-MAIL ADDRESS _____

TELEPHONE NO. _____

APPEAL INFORMATION:

In accordance with the procedures set forth in the Municipal Code of the City of Arcadia, I hereby appeal the decision of the following review authority:

- ☐ Director or Designee's Decision
- ☑ Planning Commission
- ☐ Modification Committee
- ☐ Homeowner's Association (please specify): _____

PLEASE ANSWER THE FOLLOWING:

On a separate sheet, explain specifically **what** action(s) you are appealing and the **reason** for the appeal.

SIGNATURES

THE APPELLANT AND PROPERTY OWNER HEREBY DECLARE UNDER PENALTY OF PERJURY THAT ALL THE INFORMATION SUBMITTED FOR THIS APPLICATION IS TRUE AND CORRECT.

Hayley Lozeau — 1/24/2025

APPLICANT'S SIGNATURE — DATE

PROPERTY OWNER'S SIGNATURE — DATE

DATE FILED _____ RECEIPT NO. _____ PAID _____ RECEIVED BY _____

CITY OF ARCADIA
APPEAL APPLICATION

INSTRUCTIONS AND FILING REQUIREMENTS WORKSHEET

REASON FOR APPEAL

Is the entire decision or only parts of it being appealed? ☑ Entire ☐ Part

Are specific conditions of approval being appealed? ☑ Yes ☐ No

If Yes, list the condition number(s) here: All Conditions of Approval

Attach a separate sheet(s) providing your reasons for the appeal and specifically state the point(s) at issue.

FILING REQUIREMENTS/ADDITIONAL INFORMATION

In order for this application to be processed without delay, the application must include all of the following materials. To ensure that your application package is complete, please check-off the boxes next to the required application materials.

☑ Completed application form

☑ Filing Fee - $728

☑ An Ownership Disclosure is required if the property is owned by a corporation, partnership, trust, or non-profit. The disclosure must reveal the agent for service of process or an officer of the ownership entity. The disclosure must list the names and addresses of all the owners, and you must attach a copy of the current corporate articles, partnership agreement, trust, or non-profit document, as applicable.

☐ Architectural Plans/Elevations: **Two (2) full sized plans, two (2) reduced size plans at 11"x17", and a digital copy in PDF format on a USB flash drive.**

☐ HOA Appeals: ARB Findings and Action form is required when the applicant and/or property owner is filing the appeal.

☑ A 300-foot radius map and a mailing list in an Excel format and one set of labels. The mailing list must be in an Excel format and saved on a flash drive. Each lot must be consecutively numbered to correspond to the property owners list, map, and Excel spreadsheet.

i) The spreadsheet must identify the following fields: 1) Assessor's Parcel Number; 2) Property Owner's Name; 3) Mailing Address; 4) City, State, and Zip Code. Each column heading must be in the same order as listed above.

ii) The names and addresses of current property owners may be obtained at the Los Angeles County Assessor's office.

iii) Alternatively, applicants may retain the services of a mapping consultant to generate the radius map, labels, and electronic address list on an Excel spreadsheet on their behalf. A list of local mapping consultants may be obtained at the Planning Services offices.

Please note that a Planner may contact you if additional information is necessary prior to the hearing.

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VIA ONLINE PORTAL

January 24, 2025

Edwin Arreola, Senior Planner
Planning & Zoning Division
Development Services Department
City of Arcadia
240 West Huntington Drive
P.O. Box 60021
Arcadia, CA 91066
earreola@arcadiaca.gov

Re: Appeal to the Arcadia City Council
Arcadia Town Center Project (Resolution No. 2164, MUP 19-11, TTM 21-02 (83325), ADR 19-09, COD 22-25)

Dear Mr. Arreola,

This appeal letter is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") and its members living and/or working in or around the City of Arcadia to appeal the proposed Arcadia Town Center Project ("Project") to the Arcadia City Council.

1

SAFER hereby appeals the entirety of the Arcadia Planning Commission's January 14, 2025, decision to approve Resolution No. 2164, adopting the Mitigated Negative Declaration (MND) and approving MUP 19-11, TTM 21-02 (83325), ADR 19-09, and COD 22-25 for the Project.

The reasons and grounds for the appeal are contained in SAFER's comment letter to the Planning Commission attached hereto as **ATTACHMENT 1**.

Sincerely,

Hayley Uno
LOZEAU DRURY LLP

ATTACHMENT 1

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VIA EMAIL

December 20, 2024

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Marilynne Wilander, Chair
And Honorable Commissioners
Arcadia City Planning Commission
240 West Huntington Drive
P.O. Box 60021
Arcadia, CA 91066
planning@arcadiaca.gov

Re: Comment on the Mitigated Negative Declaration for the Arcadia Town Center Project (SCH No. 2024110749)

Dear Mr. Arreola, Ms. Flores, and Honorable Members of the Arcadia City Planning Commission:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Mitigated Negative Declaration ("MND") prepared for the Arcadia Town Center Project (SCH No. 2024110749) ("Project"), located on the cross-streets of West Huntington Drive and North Santa Anita Avenue in downtown Arcadia, CA. The Project involves the development of a five-story, 181-unit, mixed-use residential and commercial building with one level of above-ground parking and one level of underground parking. 2

As discussed below, there is a fair argument that the Project may result in significant adverse impacts on biological resources, noise, air quality, and indoor air quality. Therefore, SAFER respectfully requests that the City of Arcadia ("City") prepare an environmental impact report ("EIR") before approving the Project to analyze and mitigate these impacts in accordance with the California Environmental Quality Act ("CEQA"). 3

SAFER's review of the MND was assisted by expert wildlife biologist Dr. Shawn 4

Smallwood, Ph.D; noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig; air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"); and indoor air quality expert and certified industrial hygienist Francis Offermann, P.E., C.I.H. Dr. Smallwood's written comments and CV are attached hereto as Exhibit A and are incorporated herein by reference in their entirety. Ms. Toncheva's written comments and CV are attached hereto as Exhibit B and are incorporated herein by reference in their entirety. SWAPE's written comments and CV are attached hereto as Exhibit C and are incorporated herein by reference in their entirety. Mr. Offermann's written comments and CV are attached hereto as Exhibit D and are incorporated herein by reference in their entirety. 4 cont

PROJECT DESCRIPTION

The Project involves the construction of a new five-story, mixed-use residential and commercial building with a total combined floor area of 440,938 square feet. The building includes 13,130 square feet of commercial space on the ground floor. It will also have 181 multifamily residential units, including 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units. The Project has 3,890 square feet of residential amenity space and 38,713 square feet of public and private open space. Additionally, the Project will have one level of ground-floor parking and one level of subterranean parking, for 378 parking spaces total. The Project requires the grading of approximately 44,520 cubic yards of earth as well.

The Project involves the consolidation of five existing contiguous parcels encompassing 2.27 acres into a single lot occupying 2.19 net acres (95,396.4 square feet) of buildable lot area. The Project site's Assessor Parcel Numbers are 5775-025-032, -033, -034, -037, and -038. All parcels on the site have a land use designation of Downtown Mixed-Use and are zoned as Downtown Mixed-Use. 5

The site is located at 5-19 West Huntington Drive and 25-75 North Santa Anita Avenue, in a fully developed portion of the downtown area of the City of Arcadia. The site is bounded by West Huntington Drive to the south, North Santa Anita Avenue to the east, Morlan Place to the north, and an Elks Lodge to the west. The site is surrounded to the north, east, and west by existing urban development, including retail, eateries, offices, a car dealership, and associated surface parking. Single-family residences are located about 410 feet northwest of the site across, and multifamily residences are located about 280 feet southeast of the site along Santa Anita Avenue. Arcadia County Park is located immediately south of the site, across West Huntington Drive.

The Project site currently contains eleven total commercial buildings, including ten one-story buildings and one two-story building, and associated surface parking lots. All existing development on the site would be demolished for the Project. The Project will also remove 26 existing trees on the Project site, including six trees protected by the City.

LEGAL STANDARD

As the California Supreme Court held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." (*Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-20.) "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." (Pub. Res. Code ["PRC"] § 21068; see also 14 California Code of Regulations ["CCR"] § 15382.) An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 83.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109.)

The EIR is the very heart of CEQA. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214; *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927.) The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." (*Bakersfield Citizens*, *supra*, 124 Cal.App.4th at 1220.) The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." (*Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392.) The EIR process "protects not only the environment but also informed self-government." (*Pocket Protectors*, 124 Cal.App.4th 903, 927.) 6

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." (PRC § 21080(d); see also *Pocket Protectors*, supra, 124 Cal.App.4th at 927.) An MND instead of an EIR is proper only if project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and . . . there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331 [quoting PRC §§ 21064.5, 21080(c)(2)].) In that context, "may" means a reasonable possibility of a significant effect on the environment. (PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904-05.)

An EIR must be prepared rather than an MND "whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact." (*No Oil, Inc. v City of Los Angeles* (1974) 13 Cal.3d 68, 75.) Under this "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an

adverse environmental effect—even if contrary evidence exists to support the agency's decision. (14 CCR § 15064(f)(1); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602.) The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. (*Pocket Protectors*, supra, 124 Cal.App.4th at 928.)

The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

> This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

6 cont

(Kostka & Zishcke, *Practice Under CEQA*, § 6.29, pp. 273-74.) The Courts have explained that "it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with a preference for resolving doubts in favor of environmental review." (*Pocket Protectors*, supra, 124 Cal.App.4th at 928.)

DISCUSSION

I. There is a fair argument that the Project may have significant adverse impacts on biological resources.

Expert wildlife biologist, Dr. Shawn Smallwood, Ph.D., has reviewed the Project's MND, its biological technical report, and other relevant documents regarding the Project's biological impacts. As discussed below, Dr. Smallwood found that the Project will adversely affect biological resources because (1) the MND failed to account for the diversity of species present on the Project site, including several special-status species; (2) the MND inadequately analyzed the Project's adverse impacts on wildlife; and (3) the MND's proposed mitigation measures are insufficient to reduce the Project's biological impacts.

7

A. The MND failed to account for the diversity of species present on the Project site, including several special-status species.

Dr. Smallwood's associate, biologist Noriko Smallwood, M.S., conducted a Project site visit on December 6, 2024, for 2.8 hours. (Ex. A at 1.) During her visit, Ms. Smallwood detected

25 species of vertebrate wildlife at or adjacent to the Project site, including six species with special status: the Allen's hummingbird, the California gull, and the Nuttall's woodpecker, which are all listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service; and the Cooper's hawk, red-tailed hawk, and peregrine falcon, which are all Birds of Prey under the California Fish & Game Code. (*Id.* at 2, 8.)

Using a nonlinear regression model, Dr. Smallwood predicted that about 50 total species of vertebrate wildlife were available to be detected at the site during Ms. Smallwood's December 6, 2024 visit, twice the number of species she actually detected. (*Id.* at 9.) Although Ms. Smallwood's site visit only lasted 2.8 hours, Dr. Smallwood also calculated that continued and more extensive surveys would reveal an even greater diversity of wildlife at the site, up to 118 species of vertebrate wildlife, including 28 special-status species. (*Id.* at 10-11.)

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the biological analysis should identify which wildlife species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey efforts directed to the site. Analysts need this information to characterize the environmental setting as a basis for predicting potential project impacts to biological resources. (Ex. A at 12.)

CEQA requires government agencies to describe the "environmental setting" of the Project. (CEQA Guidelines § 15063(d)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322.) The "environmental setting" is defined as "the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." (Guidelines § 15360; *see* Guidelines § 21060.5; *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1192.)

7 cont

Here, the MND did not provide the results of any field surveys conducted to detect birds or other wildlife on the Project site. (Ex. A at 12.) Regarding the lack of bird surveys in particular, Dr. Smallwood stated that the "lack of surveys leaves the City of Arcadia blind to any potential impacts to birds, because without a survey, there is no sound basis for characterizing the existing environmental setting." (*Id*.) Proceeding with the project without completing avian surveys could also result in high bird mortality rates from window collisions and costs to the building's owner if the windows require bird-safe glass. He further notes that the MND fails to report the importance of the site's trees to birds, which is important because the site's trees effectively create open space and vertical habitat for birds. (*Id.*)

Additionally, the MND does not provide the results of any desktop review of available literature and databases to identify occurrence records of special-status species or assess the occurrence rates of avian species in the Project area. (*Id.* at 12.) Dr. Smallwood stated that desktop review is important to inform field surveys and supplement interpretation of their findings. (*Id.* at 13.) Based on his review of available databases, such as eBird and iNaturalist, Dr. Smallwood estimates that 77 special-status bird species are known to occur close enough to

the Project site to warrant analysis of their occurrence potential. (*Id.* at 13-14.)

Thus, by failing to accurately characterize the biological species using the Project site, including the fact that the site supports at least six special-status species, the MND inadequately describes the Project's "environmental setting" and thereby insufficiently analyzes the Project's biological impacts. (*Id.* at 11.) Dr. Smallwood therefore concludes that "there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community on the project site." (*Id.* at 18.)

B. There is substantial evidence that the Project will have significant impacts on biological resources that the MND fails to analyze and mitigate.

Dr. Smallwood concluded that the MND inadequately addressed the Project's various significant impacts on biological resources, including: (1) interference with wildlife movement; (2) bird-window collision mortality; (3) traffic mortality; and (4) cumulative impacts.

1. Interference with Wildlife Movement

The MND includes no analysis of whether the Project would interfere with local wildlife movement. (*Id.*) Dr. Smallwood found that the Project would clearly interfere with wildlife movement in the area because the Project would insert a midrise building into the airspace that has long been used by birds for migration, dispersal, home range patrol, and foraging. (*Id.*) Dr. Smallwood thus concluded that "a fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated." (*Id.*) 7 cont

2. Bird-Window Collisions

According to Dr. Shawn Smallwood, the Project will have a significant impact on birds as a result of window collisions. The City has not analyzed or mitigated these potential impacts on special-status bird species. Analyzing the potential impact on wildlife from window collisions is especially important because "[w]indow collisions are often characterized as either the second or third largest source of human-caused bird mortality." (*Id.*)

The Project would construct a five-story building, which would expose local birds to many windows composing the building's facades, but the MND does not report the full extent of exterior glass windows on the proposed building. (*Id.* at 21.) However, Dr. Smallwood predicts 2,966 square meters of exterior glass on the project building. (*Id.*) Based on this amount of exterior glass, Dr. Smallwood estimates that the Project will cause 217 annual bird deaths from window collisions. (*Id.*) Dr. Smallwood's database review and Ms. Smallwood's site visit indicate that there are at least 77 special-status bird species with the potential to use the airspace around the Project site. (*Id.* at 17.) Most of the predicted bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and the California Migratory Bird Protection Act, "thus causing significant unmitigated impacts." (*Id.* at 21.) Given the estimated

level of bird-window collision mortality and the MND's lack of proposed mitigation, Dr. Smallwood concluded that "the proposed project would result in potentially significant adverse biological impacts." (*Id.*) The City thus must prepare an EIR to analyze and mitigate the Project's potential impacts from bird-window collisions.

3. Traffic Impacts

Dr. Smallwood found that the MND does not analyze the Project's potential impacts to wildlife from road collision mortality as a result of increased traffic generated by the Project. (*Id.*) As Dr. Smallwood explains, vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level. (*Id*.) Dr. Smallwood provides several studies demonstrating significant animal deaths due to collisions in the thousands per 100 kilometers of road per year. (*Id.* at 23.) The MND fails to analyze whether increased traffic generated by the Project would result in significant impacts to wildlife.

The MND estimates 1,302,015 annual vehicle miles traveled ("VMTs") for employees. (*Id*.) Based on this estimate, Dr. Smallwood calculated that the Project would cause approximately 554 vertebrate wildlife fatalities per year due to collisions with project-generated traffic. (*Id.*) He therefore concluded that "the project-generated traffic would cause substantial, significant impacts to wildlife," a potential impact that the MND does not analyze. (*Id.* at 24.) Dr. Smallwood's comments thus constitute substantial evidence supporting a fair argument that the Project's traffic will have a significant impact on special-status species of wildlife. An EIR is required to analyze and mitigate this impact. 7 cont

4. Cumulative Impacts

CEQA documents, such as the MND, must discuss cumulative impacts and mitigate significant cumulative impacts. (14 CCR § 15130(a).) This requirement flows from CEQA Section 21083, which requires a finding that a project may have a significant effect on the environment if:

> The possible effects of a project are individually limited but cumulatively considerable. . . . 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand.

While acknowledging new Project-related biological impacts, the MND fails to analyze the Project's potentially significant cumulative biological impacts. Instead, the MND dismisses,

without evidence, the potential for cumulative impacts stemming from the Project by claiming that compliance with applicable land use and environmental regulations would ensure that "environmental effects associated with the Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." (MND at 3-114.) The problem with this analysis as it applies to biological resources is that the MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area.

The question that CEQA requires the City to address, and that the MND fails to address, is whether the Project's impacts will be significant when combined with other past, current, and probable future projects. By failing to provide this basic information, the MND's cumulative biological impact analysis is not supported by substantial evidence.

Dr. Smallwood found that the "[MND's] analysis of potential project contributions to cumulative impacts is flawed," stating that the MND "provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts on wildlife." (Ex. A at 24.) Dr. Smallwood calculated that the Project's incremental effects would include 217 annual bird fatalities from window collisions, as well as 166 to 554 annual vertebrate wildlife fatalities due to collisions with project- generated traffic. (*Id.* at 25.) Likewise, the Project would fragment the aerial habitat of volant wildlife by inserting a glass-covered, midrise building into airspace historically used by volant wildlife. (*Id.*)

7 cont

C. The MND's proposed mitigation measures are insufficient to reduce the Project's adverse biological impacts.

The MND offers mitigation measures to reduce the Project's adverse impacts on biological resources. One proposed mitigation measure, Mitigation Measure RR BIO-3, is the delayed development of landscape plans. (*Id.* at 26.) However, this constitutes deferred mitigation, which CEQA prohibits.

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. (CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309.) An agency may only defer the formulation of mitigation measures when it possesses "'meaningful information' reasonably justifying an expectation of compliance." (*Sundstrom* at 308; *see also Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only "for kinds of impacts for which mitigation is known to be feasible").) A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available).) This approach helps "insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism

from being swept under the rug." (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.)

While specific details of mitigation measure may be deferred, an agency is required to (1) commit itself to mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the types of potential actions that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. *See Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 671.

Moreover, "mitigation measure[s] [that do] no more than require a report be prepared and followed" do not provide adequate information for informed decisionmaking under CEQA. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794; Guidelines § 15126.4(a)(1)(B).) By deferring the development of specific mitigation measures, the City has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the court in *Communities for a Better Env't v. Richmond* (2010) 184 Cal.App.4th 70, 92:

> [R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment.

7 cont

Mitigation Measure RR BIO-3 constitutes deferred mitigation because it entails formulating landscape plans at an unspecified future date. (Ex. A at 26-27.) The City has not committed itself to mitigation, adopted specific performance standards the mitigation will achieve, or identified the types of potential actions that can feasibly achieve the performance standards.

The City cannot rely on the development of mitigation measures in the future because there is no way to ensure that the mitigation will be adequate. For example, here, before Project approval, the public has no way to ensure that the landscape plans will benefit wildlife. (*Id.* at 26.) This deferred mitigation is invalid under CEQA, and the Project's impacts on biological resources remain significant. An EIR is required to develop clear, enforceable mitigation measures to address the Project's significant adverse biological impacts.

Additionally, the MND proposes other mitigation measures, such as preconstruction nesting bird surveys and procurement of necessary permits. (*Id.*) However, Dr. Smallwood concludes that these measures would not avoid the long-term significant biological impacts caused by permanent habitat destruction, loss of reproductive capacity at the Project site, and increased wildlife mortality from project-generated traffic and window collisions. (*Id.* at 25-26.) Dr. Smallwood's comments thus constitute substantial evidence that the Project's impacts on biological resources would remain significant, necessitating preparation of an EIR.

Dr. Smallwood instead offers numerous other mitigation measures that the City should implement to reduce the Project's significant adverse impacts on biological resources, should the Project proceed. Potential mitigation measures include use of bird-safe glass and window treatments, compensatory mitigation for road mortality, funding of wildlife rehabilitation facilities, and native plant landscaping. (*Id.* at 27-28.) 7 cont

II. There is a fair argument that the Project may have significant adverse impacts on noise and vibration.

Noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig has reviewed the Project's MND, its noise and vibration technical reports in Appendix G, and other relevant documents regarding the Project's noise and vibration impacts. As discussed below, Ms. Toncheva concluded that the Project will adversely affect noise and vibration levels because (1) the MND's noise analysis relies on an inadequate noise baseline; (2) the Project will result in potentially significant construction noise impacts; and (3) the MND's operational noise analysis is insufficient. Thus, her expert comments constitute substantial evidence of a fair argument that the Project will have significant impacts on noise and vibration.

A. The MND's noise analysis relies on an inadequately established noise baseline.

Ms. Toncheva concluded that the manner in which the MND determined the existing noise baseline was flawed. For example, she found that the MND's ambient noise measurements were taken at the Project boundaries rather than at sensitive receptors, such as nearby residences located 280 feet from the site on South Santa Anita Avenue and 410 feet from the site on Santa Clara Street. (Ex. B at 3; MND at 3-71.) She also found that the short-term ambient noise level measurements captured neither the fluctuation of noise levels over the day nor the adjustment of noise with distance from the sources measured. (Ex. B at 3; MND at 3-79.) As the MND itself acknowledged, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site." (MND at 3-79.) Moreover, the noise measurements close to the Santa Clara residences were dominated by HVAC noise directly next to the Project site. (Ex. B at 3.) 8

Ms. Toncheva thus concluded that the Project must perform properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet periods of the day and night to determine the impact of construction and operational noise. (*Id.*) The City therefore must prepare an EIR to analyze these potential impacts.

B. There is a fair argument that the Project will result in potentially significant construction noise impacts.

Ms. Toncheva also found that the MND failed to disclose and mitigate the Project's potentially significant noise impacts from construction. The MND claims that there are no sensitive receptors near the Project site, but it earlier identified residences as close as 280 feet

from the site on Santa Anita Avenue and does not predict construction noise impacts at these residences. (MND at 3-72, 3-78.) Ms. Toncheva estimates that the Project's construction noise levels would range from 60 to 69 decibels at the Santa Anita residences and 56 to 65 decibels at the Santa Clara residences. (Ex. B at 3.)

Furthermore, Ms. Toncheva found that the MND failed to explicitly establish any construction noise criteria. It referenced the noise limits of the City of Arcadia Noise Ordinance ("Ordinance") but omitted the Ordinance's adjustments to noise limits for impulsive sounds. (City of Arcadia Noise Ordinance § 5610.3(b); MND at 3-75; Ex. B at 4.) The Ordinance's daytime noise limit for residential land is 55 decibels. Thus, at the Santa Anita residences, the predicted noise levels would exceed the Ordinance limit by 5 to 9 decibels, excluding any extra noise impacts from impulsive noise sources, like jackhammers. (*Id.* at 4.)

The CEQA Guidelines cited in the MND state that noise impacts are significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels." (MND at 3-70.) However, the MND lacks a significance threshold for a "substantial increase" for Project noise. (Ex. B at 4.) The MND uses short-term ambient noise levels of 54 to 66 dBA for daytime hours, but as discussed above, these measurements were not taken sensitive receptors and were inadequate to accurately characterize local ambient noise levels (Ex. B at 4; MND at 3-71). Ms. Toncheva found that the predicted noise level for demolition at the Santa Clara residences is 65 decibels, 11 decibels over the ambient noise level at the western Project boundary. This 10-decibel increase is subjectively heard as an approximate doubling in loudness. (*Id.* at 4.) 8 cont

Additionally, the MND does not discuss any mitigation measures for the Project's potentially significant construction noise impacts. (*Id.* at 4.) Ms. Toncheva estimates that noise barriers at the perimeter of the site could reduce noise by 10 to 15 decibels, but notes that contractors can be reluctant to use barriers because they slow production. (*Id.* at 4-5.)

Overall, the City must prepare an EIR to properly evaluate the Project's construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. As Ms. Toncheva states, "if the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant." (*Id.* at 5.)

C. The MND's operational noise analysis is incomplete.

The MND claims, without evidence, that the Project will have no operational noise impact. However, Ms. Toncheva found that MND identified HVAC noise as a potential operational noise source but lacked any quantitative analysis to predict the expected levels of mechanical noise (*Id*. at 5; MND at 3-79.) Ms. Toncheva also found that the MND failed to address potential noise impacts from the Project's parking garage entrance or ventilation system. (Ex. B at 5.)

III. There is a fair argument that the Project may have significant air quality impacts.

Air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE") have reviewed the Project's MND, its air quality and greenhouse gas technical reports in Appendix A, and other relevant documents regarding the Project's air quality impacts. As discussed below, SWAPE concluded that there is a fair argument that the Project will adversely affect air quality because (1) the MND relied on an inadequate air quality analysis; (2) the Project will have significant impacts related to air pollutant health risks that the MND failed to adequately address; (3) the MND inadequately evaluated the Project's greenhouse gas ("GHG") impacts; and (4) the MND does not include all feasible mitigation measures to address the Project's air quality impacts. SWAPE recommends that "[a]n Environmental Impact Report . . . should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment." (Ex. C at 1.)

A. The MND relied on an inadequate air quality analysis.

Land use development projects under CEQA typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod"). Using site-specific input details, the model calculates a project's construction and operational emissions, generating "output files." The output files describe what parameters were used in calculating the project's air pollutant emissions and show where default values were changed. (*Id.* at 1-2.)

Here, SWAPE found that the MND and its air quality technical reports in Appendix A failed to provide complete CalEEMod output files. Its files included land use inputs but omitted all other qualitative outputs regarding the Project's construction and operational emissions, and they also omitted details on changes to the model's default values. (*Id.* at 2; Appendix A at 38-39.) Without access to this data, SWAPE was unable to verify the potential significance and accuracy of the MND air quality modeling. (Ex. C at 2-3.) SWAPE concluded that "[a]n EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines." (*Id.* at 3.) 9

B. There is a fair argument that the Project may have significant impacts related to air pollutant health risks that the MND failed to adequately address.

The MND determined that the Project would result in a negligible health risk impact without performing a construction health risk analysis ("HRA"), even though CEQA requires all proposed projects to connect their air pollutant emissions to potential adverse impacts on human health. (*Id.*) The MND therefore violates CEQA because it does not connect the Project's construction-related emissions of diesel particulate matter ("DPM"), a known human carcinogen, to potential health risks to nearby sensitive receptors. (*Id.*) Moreover, the MND does not compare the Project's excess cancer risk to the CEQA significance threshold of the South Coast Air Quality Management District ("SCAQMD"). (*Id.*)

SWAPE's own CalEEMod calculations showed that the Project's construction activities will produce about 380 pounds of DPM over the 29-month construction period. (*Id.*) SWAPE then conducted an HRA to measure the health risks from these DPM emissions using AERSCREEN, a screening-level air quality dispersion model that measures the maximum potential concentrations of air contaminants affecting nearby sensitive receptors, such as infants. (*Id*.) SWAPE noted that if "AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval." (*Id.*)

From its HRA, SWAPE found that the excess cancer risk from the Project's DPM emissions at the nearest sensitive receptor would be 76.7 per million for infants over the 29-month construction period. (*Id.* at 6.) This far exceeds the SCAQMD's significance threshold of 10 per million. (*Id.* at 6-7.) SWAPE thus concluded that "this results in a potentially significant impact not previously addressed or identified in the IS/MND," and "an EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction." (*Id.* at 7.)

C. The MND failed to adequately assess the Project's impacts on greenhouse gas emissions.

The MND estimates that the Project will produce net annual GHG emissions of 2,181 metric tons of carbon dioxide equivalents per year. (*Id*.) However, because the MND's CalEEMod output files did not provide the emission estimates or any relevant inputs aside from land uses, SWAPE was unable to verify the legitimacy of the GHG emission estimates the MND provides. (*Id*.) As a result, the Project's GHG emissions could be underestimated. (*Id.*) SWAPE concludes that "until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon . . ." (*Id*.) 9 cont

D. The MND does not include all feasible mitigation measures to address the Project's air quality impacts.

Because the Project would result in significant health risks to individuals in the community around the Project site, "the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks." (Ex. C at 7; Guidelines § 15096(g)(2).) SWAPE offers various mitigation measures that the City could evaluate to reduce the DPM emissions from Project construction. Such measures include, among other things, minimization of unnecessary vehicular and machinery, utilization of clean fuel generators and existing power sources, use of alternative fuel and electric equipment, and required implementation of Tier 4 equipment or better for all engines above 50 horsepower. (Ex. C at 8-9.) These measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, in turn minimizing emissions during construction. (*Id*. at 9.) SWAPE concludes that "an EIR should be prepared to include all feasible mitigation measures. . ." (*Id*.)

IV. There is a fair argument that the Project may have significant adverse impacts on indoor air quality.

Certified industrial hygienist, Francis Offermann, P.E., C.I.H., has reviewed the Project, the Director's Determination, and other documents regarding the Project's indoor air emissions. These documents provide no analysis of the Project's indoor air quality impacts. Mr. Offermann concludes that the Project will expose its future residents to significant health impacts related to indoor air quality, particularly emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic.

Mr. Offermann explains that many composite wood products used in building materials commonly found in residences contain formaldehyde-based glues which release formaldehyde gas over a very long period of time. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential, office, and retail building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (Ex. D at 2-3.)

Formaldehyde is a known human carcinogen, classified by the State as a Toxic Air Contaminant. The SCAQMD has established a CEQA significance threshold for airborne cancer risk of 10 per million. Mr. Offermann found that future Project occupants may be exposed to a cancer risk from formaldehyde emissions of about 120 per million for residents, and 17.7 per million for commercial employees, even assuming that all materials comply with the California Air Resources Board's ("CARB") formaldehyde airborne toxics control measure. (*Id.* at 4-5.) This exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk. (*Id*. at 2.) 10

Mr. Offermann concludes that the Project will have significant environmental impacts that must be analyzed in an EIR or MND and mitigation measures must be imposed to reduce the raised cancer risk. (*Id.* at 12-13.) Mr. Offermann prescribes a methodology for estimating the Project's formaldehyde emissions for a more project-specific health risk assessment. (*Id.* at 6-10.) He also identifies feasible several mitigation measures to decrease the significant health risks, like installing air ventilation systems and requiring the use of composite wood materials only for all interior finish systems that are made with CARB-approved no-added formaldehyde ("NAF") resins or ultra-low emitting formaldehyde ("ULEF") resins. (*Id.* at 12-14.)

When a project exceeds a duly adopted CEQA significance threshold, as here, this alone establishes substantial evidence that the project will have a significant adverse environmental impact. Indeed, in many instances, such air quality thresholds are the only criteria reviewed and treated as dispositive in evaluating the significance of a project's air quality impacts. (*See*, *e.g. Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 960 [County applies Air District's "published CEQA quantitative criteria" and "threshold level of cumulative significance"]; *see also Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 110-11 ["A 'threshold of significance' for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant"].) The

California Supreme Court has shown the importance an air district significance threshold has in providing substantial evidence of a significant adverse impact. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 [estimated emissions in excess of air district's significance thresholds "constitute substantial evidence supporting a fair argument for a significant adverse impact"].) Since expert evidence shows the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (*See Friends of Coll. of San Mateo Gardens v. San Mateo Cty. Cmty. Coll. Dist.* (2016) 1 Cal.5th 937, 958.)

The City's failure to address the Project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). The Court held in *CBIA* that CEQA does not generally require lead agencies to analyze the impacts of adjacent environmental conditions on a project. (*Id.* at 800-01.) However, to the extent that a project may exacerbate existing environmental conditions at or near a project site, those effects would still have to be considered pursuant to CEQA. (*Id.* at 801 ["CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"].) In so holding, the Court expressly held that CEQA's statutory language requires lead agencies to disclose and analyze "impacts on a project's users or residents that arise from the project's effects on the environment." (*Id.* at 800.)

The carcinogenic formaldehyde emissions Mr. Offermann has identified are not an existing environmental condition. Those emissions will be from the Project. Residential tenants will be the Project's users. Currently, there is presumably little to no formaldehyde emissions at the site. Once built, the Project will start emitting formaldehyde at levels posing significant direct and cumulative health risks to the Project's users. The California Supreme Court in *CBIA* expressly found that this air emission and health impact from the Project on the environment and a "project's users and residents" must be addressed under CEQA. 10 cont

The California Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings*, either directly or indirectly.'" (*CBIA*, 62 Cal.4th at 800 [emphasis in original].) Likewise, "the Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." (*Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d).) It goes without saying that the Project's future residents and commercial employees are human beings, and their health and safety must be subjected to CEQA's safeguards.

The City has a duty to investigate issues relating to a project's potential environmental impacts. (*See County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. ["[U]nder CEQA, the lead agency bears a burden to investigate potential

environmental impacts."].) The Project will have significant effects on indoor air quality and health risks by emitting formaldehyde that will expose future residents and commercial employees to cancer risks exceeding SCAQMD's significance threshold for cancer risk of 10 per million. In light of this impact and the City's lack of any evidence to the contrary, the City must prepare an EIR before approving the Project to analyze and mitigate these impacts. 10 cont

CONCLUSION

As discussed above, there is a fair argument that the Project may have significant adverse impacts on biological resources, noise, air quality, and indoor air quality. An EIR is therefore required to analyze and mitigate the Project's potentially significant effects. Thus, SAFER respectfully requests that the City not rely on the MND and instead prepare and circulate an EIR before further consideration of the Project. 11

Sincerely,

Hayley Uno
LOZEAU DRURY LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Attn. Edwin Arreola, Senior Planner
City of Arcadia
Development Services Department
240 West Huntington Drive
Arcadia, California 91066

12 December 2024

RE: Arcadia Town Center

Dear Mr. Arreola,

I write to comment on potential impacts to biological resources from the proposed Arcadia Town Center project, which I understand would add a five-story, 440,938 square-foot mixed-use building on 2.27 acres located on the corner of Huntington Dr. and N Santa Anita Ave. in Arcadia, CA. I comment on the analyses of impacts to biological resources in the Initial Study/Mitigated Negative Declaration (IS/MND) (City of Arcadia 2024).

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached. 12

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 2.8 hours from 06:47 to 09:35 hours on 6 December 2024. She walked the site's perimeter, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level. 13

Conditions were sunny with 3 MPH northeast wind and temperatures of 52-63° F. The site contains unoccupied office and commercial buildings and a parking lot, with multiple ornamental trees and shrubs (Photos 1-3).

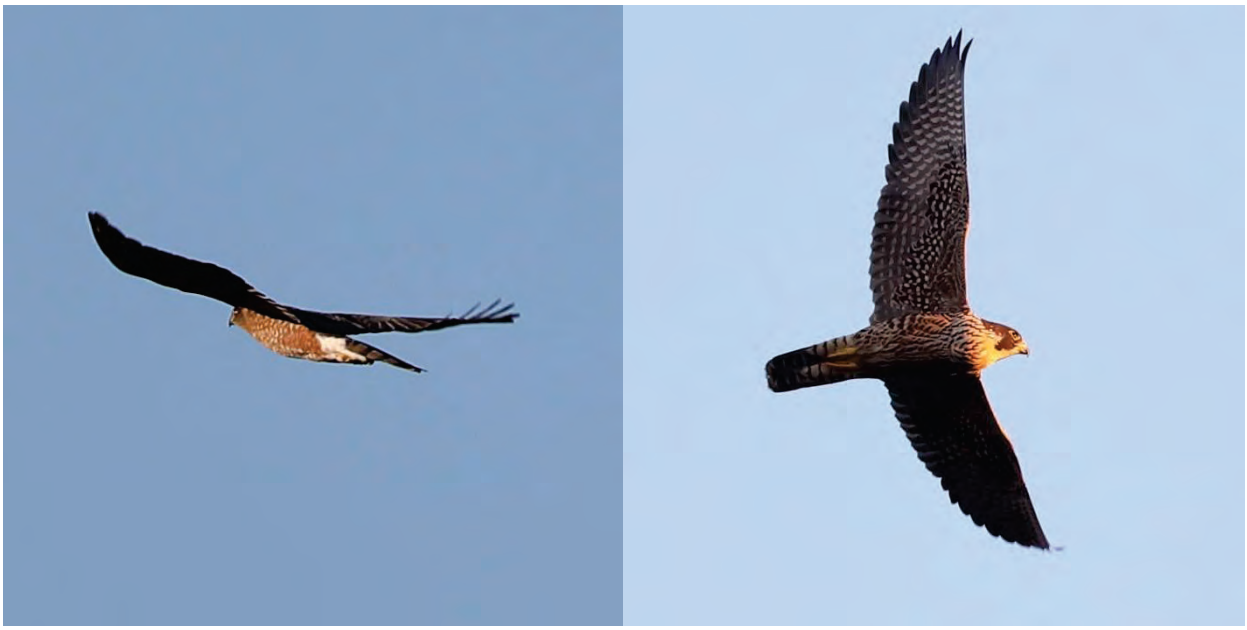
13 cont

Photos 1 and 2. *Views of the project site, 6 December 2024. Photos by Noriko Smallwood.*

Noriko saw Cooper's hawk and peregrine falcon (Photos 3 and 4), Anna's hummingbird (Photos 5 and 12), house finch and red-crowned parrot (Photos 6 and 7), American crow and black phoebe (Photos 8 and 9), acorn woodpecker (Photo 10), Allen's hummingbird (Photo 11), western bluebird and yellow-rumped warbler (Photos 13 and 14), northern rough-winged swallow and California gull (Photos 15 and 16), mourning dove and band-tailed pigeon (Photos 17 and 18), northern mockingbird (Photos 19 and 20), eastern fox squirrel (Photo 21), among the other species listed in Table 1. Noriko detected 25 species of vertebrate wildlife at or adjacent to the project site, including six species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood



Photos 3 and 4. *Cooper's hawk (left), and peregrine falcon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*

13 cont

Photo 5. *Anna's hummingbird on the project site, 6 December 2024. Photo by Noriko Smallwood.*

Photos 6 and 7. *House finch (left) and red-crowned parrot (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 8 and 9. *American crow with a piece of bread (left), and black phoebe (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

13 cont

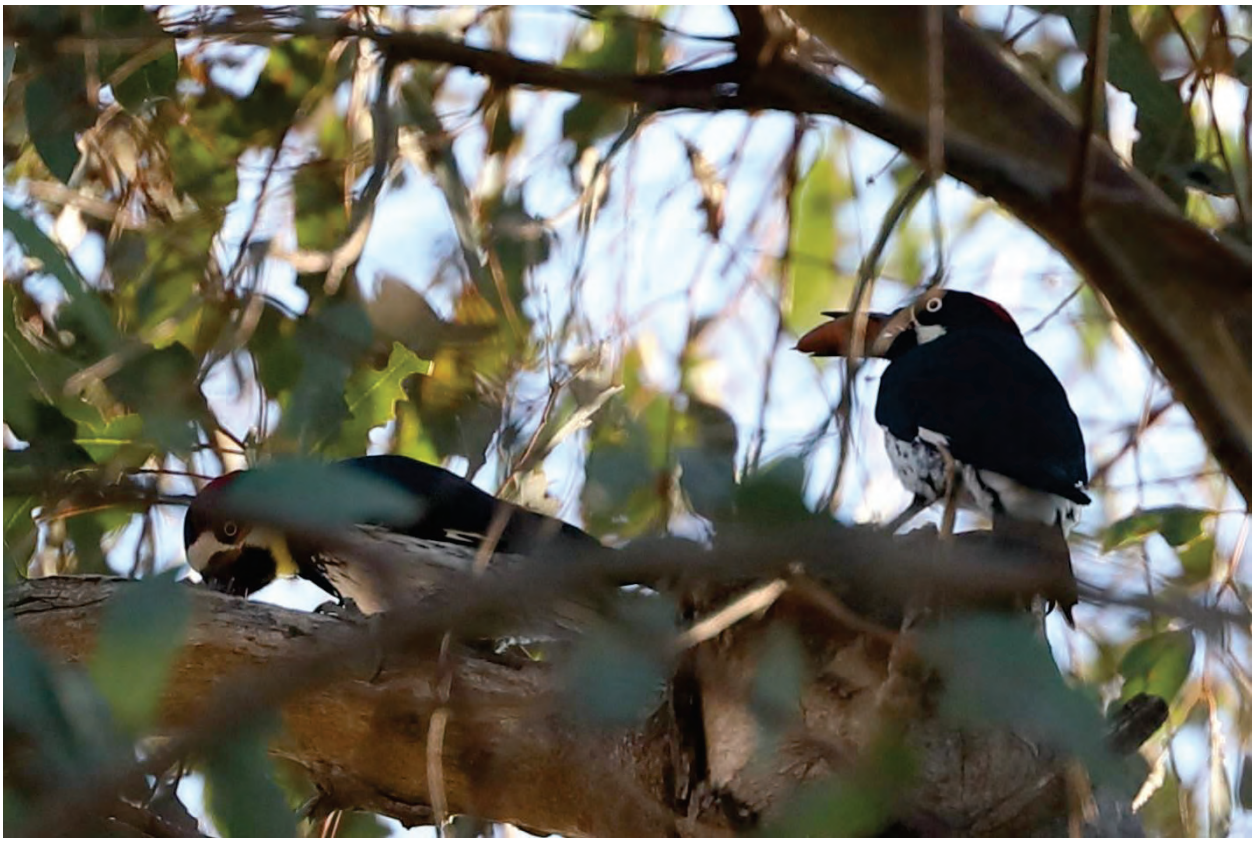


Photo 10. *Acorn woodpeckers just off of the project site, 6 December 2024. Photos by Noriko Smallwood.*

13 cont

Photos 11 and 12. *Allen's hummingbird (left), and Anna's hummingbird (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 13 and 14. *Western bluebird just off of the project site (left), and yellow-rumped warbler on the project site (right), 6 December 2024. Photos by Noriko Smallwood.*

13 cont

Photos 15 and 16. *Northern rough-winged swallow (left), and California gull (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 17 and 18. *Mourning dove (left) and band-tailed pigeon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*

Photos 19 and 20. *Northern mockingbird on the project site, 6 December 2024. Photos by Noriko Smallwood.*

13 cont

Photo 21. *Eastern fox squirrel just off the project site, 6 December 2024. Photo by Noriko Smallwood.*

13 cont

Table 1. *Species of wildlife Noriko observed during 2.8 hours of survey on 6 December 2024.*

Common name	***Species name***	**Status[1]**	**Notes**
Rock pigeon	*Columba livia*	Non-native	Flew over
Band-tailed pigeon	*Patagioenas fasciata*		Flew over
Mourning dove	*Zenaida macroura*		Flew over
Anna's hummingbird	*Calypte anna*		Territorial; chased NRWS and ALHU
Allen's hummingbird	*Selasphorus sasin*	BCC	Perched and flew over
California gull	*Larus californicus*	BCC, WL	3 flew over
Cooper's hawk	*Accipiter cooperii*	WL, BOP	Chased BTPI on site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Just off site
Acorn woodpecker	*Melanerpes formicivorus*		Collected acorns
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Just off site
Peregrine falcon	*Falco peregrinus*	BOP	Flew over, perched nearby
Red-crowned parrot	*Amazona viridigenalis*		Many
Black phoebe	*Sayornis nigricans*		Perched, foraged
American crow	*Corvus brachyrhynchos*		Many
Common raven	*Corvus corax*		Flew over
Northern rough-winged swallow	*Stelgidopteryx serripennis*		Foraged, perched on site

Common name	*Species name*	Status[1]	Notes
Bushtit	*Psaltriparus minimus*		Foraged on site
Ruby-crowned kinglet	*Regulus calendula*		Just off site
Northern mockingbird	*Mimus polyglottos*		Perched
European starling	*Sturnus vulgaris*	Non-native	Flock flew over
Western bluebird	*Sialia mexicana*		Perched
House finch	*Haemorphous mexicanus*		Perched, socialized
Yellow-rumped warbler	*Setophaga coronata*		Foraged
Desert cottontail	*Sylvilagus audubonii*		Scat
Eastern fox squirrel	*Sciurus niger*	Non-native	Just off site

13 cont

[1] Listed as BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (California Fish and Game Code 3503.5).

The species of wildlife Noriko detected at the project site comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit a nonlinear regression model to Noriko's cumulative number of vertebrate species detected with time into her survey to predict the number of species that she would have detected with a longer survey or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. In this case, the model fit to her survey predicts 50 species of vertebrate wildlife were available to be detected during that morning, or twice the number of species she actually detected (Figure 1).

Unknown are the identities of those species Noriko missed, but the pattern in her data indicates relatively high use of the project site compared to 38 other south-coast sites she and I have surveyed in California. Noriko's rate of detections of species at the project site tracked the 95% confidence interval estimated from other surveys in California's south coast region (Figure 1). Importantly, however, the species Noriko did and did not detect on 6 December 2024 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence.

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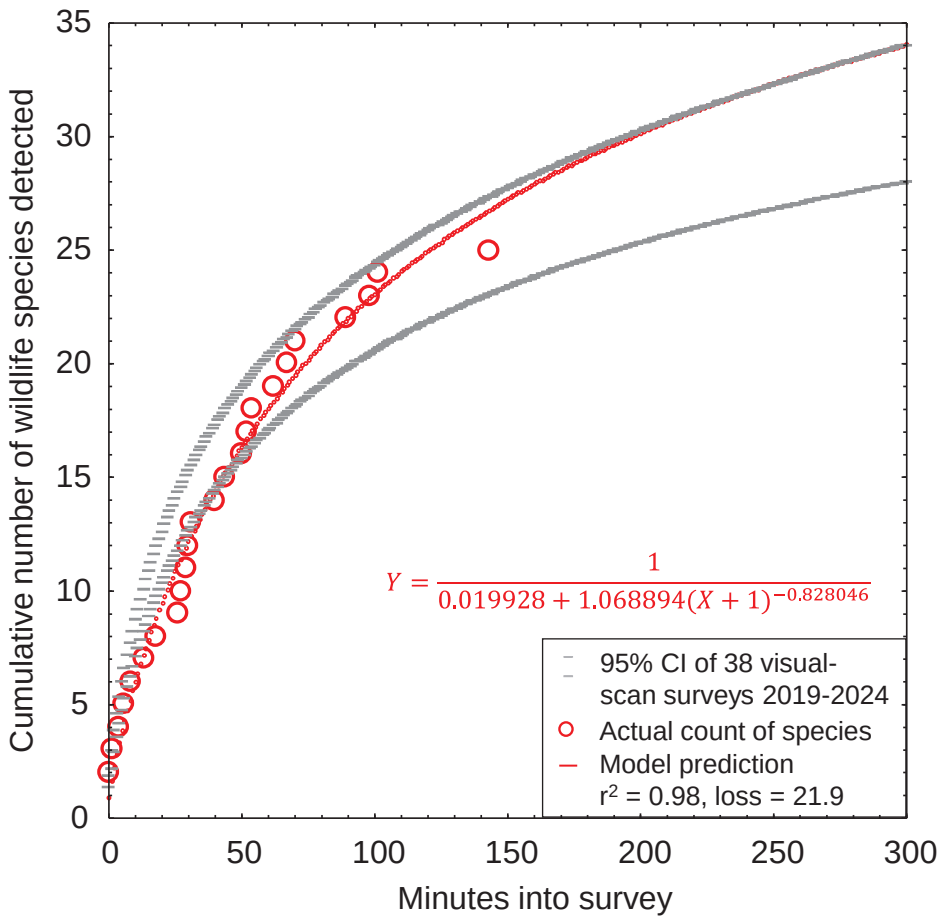
At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km^2 of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to

accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a+b\times(Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys on 31 August and 1 September 2024.*



14 cont

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 12.1 species over my first 2.8 hours of surveys at my research site in the Altamont Pass (2.8 hours to match the 2.8 hours Noriko surveyed at the project site), which composed 21.2% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 25 species Noriko detected after her 2.8 hours of survey at the project site likely represented 21.2% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko

would likely detect $^{25}/_{0.212} = 118$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 118 predicted species, then continued surveys would eventually detect 28 special-status species of vertebrate wildlife.

Because my prediction of 118 species of vertebrate wildlife, including 28 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the wildlife community of the site must be larger. Noriko's reconnaissance survey should serve only as a starting point toward characterization of the site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed to inventory the project site for wildlife. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

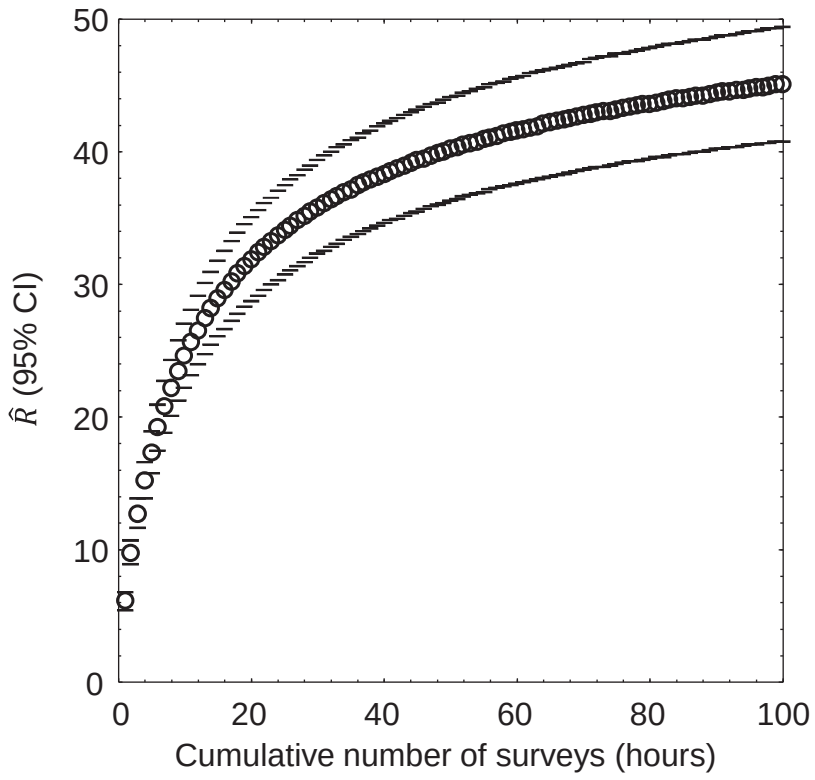


Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*

14 cont

EXISTING ENVIRNMENTAL SETTING

The IS/MND fails to complete the first step in analysis of potential project impacts to biological resources, which is to accurately characterize the existing environmental setting, including the biological species that use the site. This first analytical step should also characterize the wildlife community that uses that portion of the aerosphere that would be appropriated by the project's building. This appropriated airspace is habitat that would be lost to many species of birds, where avian habitat is defined by a species' use of its environment (Hall et al. 1997), typically based on measurement (Smallwood

15

2002). The gaseous atmosphere, or aerosphere, is habitat to many species. It is a principal medium of life to volant animals such as birds (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat not just to volant wildlife that fly through it, but to any and every animal that breaths air. Indeed, an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008). The aerosphere is part of the existing environmental setting, and it needs to be characterized as such in CEQA review. The IS/MND makes no mention of the aerosphere, let alone which species of birds might use it.

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should identify which biological species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources. However, the IS/MND provides neither the results of a field survey to detect species of wildlife nor of a desktop review to identify occurrence records of special-status species in the project area.

Environmental Setting informed by Field Surveys

15 cont

No surveys for birds were completed at the project site. Surveys are needed to characterize bird flights during both day and night, and the bird flights need to be further attributed by species, heights above ground, flight directions, and specific flight behaviors. The lack of surveys leaves the City of Arcadia blind to any potential project impacts to birds, because without a survey there is no sound basis for characterizing the existing environmental setting. Going forward with the project without completing appropriate avian surveys would be indefensible, and doing so could result in high costs to birds and to the building's owner if windows require retrofits or window glass needs to be marked for visibility post-construction (see below, under Bird-Window Collisions).

The IS/MND reports that the site supports 26 trees, but only three of which are protected by City Code. However, the IS/MND fails to report the importance of the site's trees to birds. The trees on site serve to expand the vertical structural available to birds on the adjoining County Park and golf course, the combination of which composes a considerable open space within an expansive urbanized landscape. The trees on the project site effectively add open space to birds.

Of Noriko Smallwood's 130 observations of birds in flight during her survey, 38 were headed to or from trees on the project site. House finches, yellow-rumped warblers and red-crowned parrots flew to and from the palm trees located in the middle of the site. An Allen's hummingbird and an Anna's hummingbird flew back and forth to other trees in the middle of the site. All of these and more observations should have been made by wildlife biologists sent to the project site by the City of Arcadia.

Noriko saw 17 species flying through the airspace of the project site, and all these flying birds were within the height domain of the proposed building. Of the flying birds, 44% were within 30 feet of the ground, and 93% were within 60 feet of the ground. Three of the birds circled over the site (including the peregrine falcon), while 38 were headed west, 30 east, 35 north, and 21 south. Unknown, however, are the numbers of birds, their heights above ground, behaviors, and their bearings in other seasons or at night. These details matter because they can affect collision rates with the building's windows, and whether the building can be designed to minimize collisions. 15 cont

Environmental Setting informed by Desktop Review

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The IS/MND includes no desktop review to assess avian species' occurrence likelihoods in or near the airspace that would be appropriated by the proposed project. The lack of a desktop review for avian flight paths and for special-status species likely to occur at the project site leaves the City of Arcadia uninformed of and unprepared for potential project impacts to birds. It also fails to publicly disclose potential impacts to birds.

In my assessment based on database review, 77 special-status species of birds are known to occur near enough to the project site to warrant analysis of occurrence potential (Table 2). Members of these 77 species can fly within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 77 special-status species, 6 (8%) have been documented on or just next to the project site, 45 (58%) have been documented within 1.5 miles of the site (Very close), 11 (14%) within 1.5 and 4 miles (Nearby), and another 14 (18%) within 4 to 30 miles (In region). Most (80.5%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site's airspace carries considerable potential for supporting the travels of many special-status species of birds based on proximity of recorded occurrences. 16

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. Entries in bold font identify species detected by Noriko.*

Common name	***Species name***	**Status[1]**	**Data base records, Site visits**
Monarch	*Danaus plexippus*	FC	Very close
Crotch's bumble bee	*Bombus crotchii*	CCE	Very close
Western pond turtle	*Emys marmorata*	SSC	In region
Blainville's horned lizard	*Phrynosoma blainvillii*	SSC	In region
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	SSC	Nearby
San Diegan legless lizard	*Anniella stebbinsi*	SSC	Very close
California glossy snake	*Arizona elegans occidentalis*	SSC	In region
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	SSC	In region
Fulvous whistling-duck	*Dendrocygna bicolor*	SSC1	In region
Western grebe	*Aechmophorus occidentalis*	BCC	Very close
Clark's grebe	*Aechmophorus clarkii*	BCC	Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Nearby
Vaux's swift	*Chaetura vauxi*	SSC2	Very close
Calliope hummingbird	*Selasphorus calliope*	BCC	Very close
Rufous hummingbird	*Selasphorus rufus*	BCC	Very close
Allen's hummingbird	*Selasphorus sasin*	BCC	**On site**
Laughing gull	*Leucophaeus atricilla*	WL	In region
Franklin's gull	*Leucophaeus pipixcan*	BCC	In region
Heermann's gull	*Larus heermanni*	BCC	In region
Western gull	*Larus occidentalis*	BCC	Very close
California gull	*Larus californicus*	BCC, WL	**On site**
Double-crested cormorant	*Phalacrocorax auritus*	WL	Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1	Very close
California brown pelican	*Pelecanus occidentalis californicus*	CFP	Nearby
Least bittern	*Ixobrychus exilis*	SSC2	In region
White-faced ibis	*Plegadis chihi*	WL	Very close
Turkey vulture	*Cathartes aura*	BOP	Very close
Osprey	*Pandion haliaetus*	WL, BOP	Very close
White-tailed kite	*Elanus luecurus*	CFP, BOP	Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL	Very close
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP	**On site**
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP	Very close

16 cont

Common name	*Species name*	Status[1]	Data base records, Site visits
Red-shouldered hawk	*Buteo lineatus*	BOP	Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP	**Just offsite**
Ferruginous hawk	*Buteo regalis*	WL, BOP	Very close
Zone-tailed hawk	*Buteo albonotatus*	BOP	Very close
Harris' hawk	*Parabuteo unicinctus*	WL, BOP	In region
Western screech-owl	*Megascops kennicotti*	BOP	Very close
Great horned owl	*Bubo virginianus*	BOP	Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP, CCE	Nearby
Long-eared owl	*Asio otus*	BCC, SSC3, BOP	In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP	In region
Northern saw-whet owl	*Aegolius acadicus*	BOP	Nearby
Northern pygmy-owl	*Glaucidium gnoma*	BOP	Nearby
Lewis's woodpecker	*Melanerpes lewis*	BCC	Very close
Nuttall's woodpecker	*Picoides nuttallii*	BCC	**Just offsite**
American kestrel	*Falco sparverius*	BOP	Very close
Merlin	*Falco columbarius*	WL, BOP	Very close
Peregrine falcon	*Falco peregrinus*	BOP	**On site**
Prairie falcon	*Falco mexicanus*	WL, BOP	Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Very close
Willow flycatcher	*Empidonax trailii*	CE	Very close
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	In region
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	Very close
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Nearby
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Very close
Oak titmouse	*Baeolophus inornatus*	BCC	Very close
California horned lark	*Eremophila alpestris actia*	WL	Very close
Bank swallow	*Riparia riparia*	CT	Nearby
Purple martin	*Progne subis*	SSC2	Nearby
Wrentit	*Chamaea fasciata*	BCC	Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2	In region
California thrasher	*Toxostoma redivivum*	BCC	Very close
Cassin's finch	*Haemorhous cassinii*	BCC	Very close
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC	Nearby
Gray-headed junco	*Junco hyemalis caniceps*	WL	Very close
Bell's sparrow	*Amphispiza b. belli*	WL	In region
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2	In range
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL	Very close

16 cont

Common name	*Species name*	Status[1]	Data base records, Site visits
Yellow-breasted chat	*Icteria virens*	SSC3	Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Very close
Bullock's oriole	*Icterus bullockii*	BCC	Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Very close
Lucy's warbler	*Leiothlypis luciae*	SSC3	Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC	Very close
Prothonotary warbler	*Protonotaria citrea*	BCC	In region
Prairie warbler	*Setophaga discolor*	BCC	In region
Yellow warbler	*Setophaga petechia*	SSC2	Very close
Summer tanager	*Piranga rubra*	SSC1	Very close
Little brown bat	*Myotis lucifugus*	WBWG:M	In region
Yuma myotis	*Myotis yumanensis*	WBWG:LM	In region
Long-eared myotis	*Myotis evotis*	WBWG:M	In region
Fringed myotis	*Myotis thysanodes*	WBWG:H	In range
Long-legged myotis	*Myotis volans*	WBWG:H	In range
Small-footed myotis	*Myotis ciliolabrum*	WBWG:M	In range
Canyon bat	*Parastrellus hesperus*	WBWG:M	Nearby
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M	In region
Hoary bat	*Lasiurus cinereus*	WBWG:M	In region
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H	In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	In range
Spotted bat	*Euderma maculatum*	SSC, WBWG:H	In range
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H	In range
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	In range
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	In region
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	SSC	In range
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	In range

16 cont

[1] Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H).

Because the project would consist of a mid-rise building with many windows, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,585 birds of 117 species have been recorded flying into the Los Angeles Metropolitan area from 18 countries of the Americas, from as far away as Argentina,

Bahamas, and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ40oBhFA4OAVzTCOgFUBlWnAQzCgDMAFgB0ABgCsAiQHYCOCOlAC0ARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, nearly 794,000 birds were in flight over Los Angeles County during the night of 28 April 2024. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area.

More than 11 million birds flew across Los Angeles County through the 2024 spring migration by the time of this writing (https://dashboard.birdcast.info/region/US-CA-037). Bird flights across Los Angeles averaged 107,539 flights per night in spring 2024. Most of these flights ranged in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Arcadia, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the heights of the proposed building of either option. Assuming this percentage also applies to birds flying across the aerosphere overlying the Los Angeles Metropolitan Area including Arcadia, then migratory flights documented by BirdCast would average 13,873 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in the Los Angeles Metropolitan Area comes in the forms of buildings and trees. In summary, the basis exists for concern that a large number of birds might routinely fly through the aerosphere that would be appropriated by the proposed building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions. 16 cont

Hundreds of thousands of birds migrate along the Pacific Flyway, which includes the Los Angeles Metropolitan Area. At least 77 special-status species of bird are known to the project area (Table 2). According to the scientific literature, many of the special-status species in Table 2 have been documented as window collision fatalities and are therefore susceptible to new structural glass installations (Supplemental Material to Basilio et al. 2020; Smallwood unpublished review). Many more species of migratory birds, protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, have also been documented as window collision victims (Basilio et al. 2020).

Surveys by qualified behavioral ecologists are needed to characterize bird flight activity in the project area. A desktop review is also needed to identify the special-status species

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

of birds most at risk of encountering the building while flying through the area. The analysis should provide guidance to the orientation and design of the building. Also, it should provide guidance to mitigation measures.

Based on Noriko Smallwood's brief survey of the site for vertebrate wildlife, and based on my cursory desktop review for the potential of special-status species of wildlife to occur at the site, there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community of the project site. 16 cont

BIOLOGICAL IMPACTS ASSESSMENT

Accurate characterization of the existing environmental setting is an essential foundation for analysis of potential project impacts, but the IS/MND provides no foundation for an impacts analysis. An impacts analysis should consider whether and how the proposed project would affect members of each potentially occurring special-status species and of each species of bird likely to attempt to fly through the airspace of the project. In the following, I analyze impacts likely to result from the project but which are not addressed in the IS/MND.

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, the IS/MND includes no analysis of whether the project would interfere with wildlife movement in the region. The project would insert a midrise building into the airspace that has been used by birds on migration, dispersal, home range patrol and foraging over millions of years. This building would obviously interfere with wildlife movement in the region. Noriko Smallwood observed and photographed birds flying through the airspace of the project site. A fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated. 17

BIRD-WINDOW COLLISIONS

The project would add a 5-story mixed-use building, which would expose the birds of Arcadia to many windows composing the building's facades. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds. 18

Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266

bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

18 cont

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend

to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted for undetected fatalities). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

18 cont

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m^2 of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The IS/MND does not disclose the extent of glass windows on the proposed new building. I therefore measured the extents of windows depicted in the IS/MND's schematics of the building, though in doing so I omitted measurement of the glass railings. I adjusted my measured extent of exterior glass for the exterior glass that was either not visible or only obliquely visible on façades of interior spaces such as around the courtyard and within projections of the building My adjustment was 50%, which was conservative. With this adjustment, I estimate the project would include 2,966 m^2 of exterior glass windows. Applying the mean fatality rate (above) to my estimates of glass in either project, I predict annual bird deaths of 217 (95% CI: 129–305).

The vast majority of bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and California's Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. 18 cont

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of bird-window collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The IS/MND neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 22—25), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally. 19

Photo 22. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 23. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

19 cont

Photos 24 and 25. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020.)*

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study

found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009) study, hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates. 19 cont

Predicting project-generated traffic impacts to wildlife

The IS/MND predicts 1,302,015 annual VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted annual VMT would predict 554 vertebrate wildlife fatalities per year due to project-generated traffic. However, compared to the study area of Mendelsohn et al. (2009), fewer animals would be killed in the urbanized part of Arcadia that surrounds the project site, so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would be only 30% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 166. Even this assumed lower mortality would qualify as a

significant impact, and based on my review of the available documents, it would not be mitigated.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The IS/MND does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. 19 cont

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic.

CUMULATIVE IMPACTS

The IS'MND's analysis of potential project contributions to cumulative impacts is flawed. According to the IS/MND (p. 3-114), "All reasonably foreseeable future development in the City would be subject to the same land use and environmental regulations that have been described throughout this document. ... all development projects are guided by the policies identified in the City's General Plan and by the regulations established in the Development Code and AMC. Therefore, compliance with applicable land use and environmental regulations and implementation of the mitigation program would ensure that environmental effects associated with the proposed Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." However, according to the CEQA Guidelines §15064(h)(3), "a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project." The IS/MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area. The CEQA Guidelines §15064(h)(3) futher state, "When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable." The IS/MND provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts to wildlife. 20

To measure the impacts of habitat loss and cumulative impacts to wildlife caused by development projects that had to comply with existing policies and regulations, Noriko Smallwood and I measured the impacts of habitat loss to wildlife caused by mitigated development projects. We revisited 80 sites of proposed projects that we had originally surveyed in support of comments on CEQA review documents (Smallwood and Smallwood 2023). We revisited the sites to repeat the survey methods at the same time

of year, the same start time in the day, and the same methods and survey duration in order to measure the effects of mitigated development on wildlife. We structured the experiment in a before-after, control-impact experimental design, as some of the sites had been developed since our initial survey and some had remained undeveloped. We found that mitigated development resulted in a 66% loss of species on site, and 48% loss of species in the project area. Counts of vertebrate animals declined 90%. "Development impacts measured by the mean number of species detected per survey were greatest for amphibians (-100%), followed by mammals (-86%), grassland birds (-75%), raptors (-53%), special-status species (-49%), all birds as a group (-48%), non-native birds (-44%), and synanthropic birds (-28%). Our results indicated that urban development substantially reduced vertebrate species richness and numerical abundance, even after richness and abundance had likely already been depleted by the cumulative effects of loss, fragmentation, and degradation of habitat in the urbanizing environment," and despite all the mitigation measures per existing policies and regulations. We also specifically tested for the effects of projects to wildlife in neighboring habitats, and found significant decreases in species richness and overall abundance in those areas as well. 20 cont

The project would insert a glass-covered midrise building into the airspace that has been used by volant wildlife for millions of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other midrise and high-rise buildings in the area. The project would also cause a predicted 217 (95% CI: 129–305) bird-window collision fatalities. Additionally, the project would generate a predicted annual VMT of 1,302,015, which would contribute 166 to 554 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Arcadia and the Los Angeles Metropolitan Area. A cumulative impacts analysis needs to be completed.

MITIGATION MEASURES

The IS/MND summarizes three measures to mitigate potential project impacts to wildlife, but these measures are incomplete and inadequate. Below my comments on these measures are my recommendations for mitigation that should be considered in an EIR.

RR BIO-1: *If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. ... If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned*. 21

Whereas a preconstruction nesting bird survey should be completed, it needs to be understood that a preconstruction survey unlikely to achieve much of any conservation

benefit to birds, and the IS/MND – like all other CEQA review documents I have read – cites no evidence of efficacy. Preconstruction, take-avoidance surveys consist of two steps, both of which are very difficult. First, the biologist(s) performing the survey must identify birds that are breeding. Second, the biologist(s) must locate the breeding birds' nests. The first step is typically completed by observing bird behaviors such as food deliveries and nest territory defense. These types of observations typically require many surveys on many dates spread throughout the breeding season, whereas preconstruction surveys take place only once and not necessarily at the optimal time for detecting nesting by birds. The biologists conducting the preconstruction survey would be very lucky to find any of the bird nests that are available to be found at the time of the survey.

One reason why preconstruction surveys achieve very little is because species of bird vary in their nest phenology within what is generally understand as the avian breeding season. Whereas, as examples (and not suggesting these particular species occur at the project site), killdeer begin nesting in mid-March, western meadowlarks begin in late April, burrowing owls usually begin in May, and American goldfinches do not nest until July-August. Whenever the preconstruction survey is conducted, the biologists conducting the survey would be searching only for the nests of the birds that happen to be breeding at the time, and would miss the nests begun between the survey and the start of construction. On the project site, this task would be further complicated by the size of the site, by its terrain, and by its diversity of vegetation communities.

Another reason why preconstruction surveys achieve very little is because the nests they might salvage are only the nests of the year. Preconstruction surveys can do nothing to mitigate the loss of productive capacity that ensues construction. All subsequent years of productivity would be destroyed by the project regardless of the success of a preconstruction survey. 21 cont

Lastly, the mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine the buffer area for any given species. This measure lacks objective criteria, and it is therefore unenforceable.

RR BIO-2: *…the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project*. …

The obtaining of a necessary permit is not a legitimate mitigation measure, as it does not necessarily avoid, minimize, rectify, reduce, or compensate for impacts.

RR BIO-3: *The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan*.

This measure defers its own formulation to an unspecified later date that arrives after the public has had the opportunity to participate with the environmental review of the

project. It fails to suggest that any of the landscaping would be intended to benefit wildlife. 21 cont

RECOMMENDED MEASURES

Guidelines on Building Design to Minimize Bird-Window Collisions: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015). 22

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce

collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

The City of Arcadia should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

22 cont

Landscaping: If the project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

_____
Shawn Smallwood, Ph.D.

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EXHIBIT B

WI #24-002.xx

December 18, 2024

Hayley Uno
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

SUBJECT: Arcadia Town Center Project
City of Arcadia, CA
Review and Comment on Noise Study

Dear Ms. Uno,

Per your request, Wilson Ihrig has reviewed the information and noise impact analysis in the following documents:

Arcadia Town Center Project
Initial Study / Mitigated Negative Declaration, November 2024 (IS / MND)
Appendix G Noise Calculations (Appendix G)

The Proposed Arcadia Town Center Project (Project) would result in the construction of a mixed-use development consisting of a five-story building with subterranean and ground level parking. The project is surrounded by residential uses to the northwest and southeast, a park to the south, and commercial uses.

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This letter reports our comments on the Noise Analysis in Section 3.13 of the Initial Study / Mitigated Negative Declaration and the Noise Calculations included in Appendix G. Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://www.who.int/docstore/peh/noise/Comnoise-1.pdf)

Baseline Noise is Not Properly Established

The manner in which the IS/MND has determined the existing noise environment is unsupported. The IS/MDN does not show ambient measurement locations. Table 20 [pg. 3-71] indicates the measurements were taken at the project boundary, rather than at sensitive receivers, such as nearby residences on Santa Clara (410 ft from site) and residences on Santa Anita S. (280ft from site). The ambient levels presented in Table 20 are based on short-term 20-minute measurements. As acknowledged in the IS/MDN, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site" [pg. 3-79]. The measurements used account for neither fluctuation over the course of the day nor adjustment with distance from the sources captured. Further, as stated in Table 20, the measurement closer to Santa Clara residences was dominated by HVAC noise directly adjacent to the Project site.

The Project must conduct properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet period of the day and night to determine the impact of construction and operational noise.

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Figure 1 Project Site and Noise Sensitive Receivers

Potentially Significant Construction Noise Impacts

The IS/MND fails to disclose and mitigate the Project's potentially significant construction noise impacts. The report claims that "no sensitive receptors occur near the project" [3-78], even though earlier it identifies residences as close as 280 feet from the site [pg. 3-72]. No construction noise predictions are shown at these residences. Using the activity reference levels presented in the IS/MND Table 25 [pg. 3-78] and Appendix G, construction noise would range from 60 dBA to 69 dBA at these Santa Anita residences and 56 dBA to 65 dBA at further residences on Santa Clara Street, as shown in Table 1 below.

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Table 1 Estimated Construction Noise Levels

Construction Phase	Noise Levels (Leq, dBA)			
	95 feet – Arcadia County Park[1]	**10 feet – Elk Lodge[1]**	**280 feet – Santa Anita Residences [2]**	**410 feet – Santa Clara Residences [2]**
Ground Cleaning / Demolition	78	98	69	65
Excavation	73	93	64	60
Foundation Construction	72	92	63	59
Building Construction	69	89	60	56
Paving and Site Cleanup	69	89	60	56

1. From Table 25 in IS/MND
2. Calculated based on distance using 20*log(distance / 95 feet)

26 cont

The IS/MND does not explicitly establish construction noise criteria. It references the City of Arcadia Noise Ordinance limits [pg. 3-75], but omits Section 5610.3 (b), which includes corrections to noise limits for impulsive sounds.[2] The City daytime limit for residential land uses, according to Table 25 in the IS/MND is 55 dBA. The predicted noise levels at the Santa Anita residences would exceed this City limit by 5 to 9 dB, not including any penalty for impulsive sources (such as jackhammers).

Table 25 does show predictions for the Elk Lodge located directly adjacent to the Project site but does not discuss how it is categorizing the property or what criteria is being applied. The predictions shown in the IS/MND exceed commercial land use limits in Noise Ordinance,

The City of Arcadia Interior/Exterior Noise Standards presented in Table 22 of the IS/MND include CNEL exterior limits for passive recreation areas. Table 25 shows Leq levels at Arcadia Conty Park but does not provide CNEL predictions to compare to this criterion. Community Noise Equivalent Level (CNEL) is a weighted average of noise level over time and can be calculated using a properly measured ambient and anticipated construction hours.

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California Environmental Quality Act Guidelines cited in the IS/MND state that impacts to noise would be significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels" [p. 3-70]. The IS/MND lacks a significance threshold for "substantial increase" for Project noise. Short-term ambient levels used by the IS/MND are 54 to 66 dBA for daytime hours [pg. 3-71]. As discussed above, the measurements used were not at sensitive receivers and too short to characterize local sources. As shown in Table 1, the predicted level for demolition at Santa Clara Residences is 65 dBA, 11 dBA above the ambient measured at the western Project boundary. A 10-dB increase is subjectively heard as an approximate doubling in loudness.

The IS/MND does not discuss construction mitigation measures for any of these potentially significant noise impacts. Noise barriers at the parameter of the site could provide 10 to 15 dB of

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[2] https://library.municode.com/ca/arcadia/codes/code_of_ordinances?nodeId=ARTIVPUWEMOPO_CH6NORE_PT1GEPR_4610.3NOLI

reduction, depending on site geometry and barrier construction, however, contractors are often reluctant to employ barriers because they slow production**.**

The Project must properly evaluate construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. If the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant. 28 cont

Operational Analysis Incomplete

The IS/MND claims with no evidence that there is no operational noise impact. The report identifies HVAC noise as a potential operational noise source [pg. 3-79] but does not provide any quantitative analysis of predicted levels from mechanical noise. Further, the report does not address noise from the parking garage entrance or ventilation system. 29

Conclusion

The Project may result in potentially significant construction noise impacts. The IS/MND relies on an inadequate baseline, based on short-term measurement not located at sensitive receivers. Finally, the IS/MDN fails to consider ambient-based significance criteria for noise impacts. 30

Please feel free to contact me with any questions on this information.

Very truly yours,
Ani Toncheva, Senior Consultant, WILSON IHRIG

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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December 18, 2024

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Subject: Comments on the Arcadia Town Center Mixed Use Project (SCH No. 2024110749)

Dear Ms. Uno,

We have reviewed the November 2024 Initial Study/Mitigation Negative Declaration ("IS/MND") for the Arcadia Town Center Mixed Use Project ("Project") located in the City of Arcadia ("City"). The Project proposes to construct 440,938-square-feet ("SF") of residential space, including 181 dwelling units and 378 parking spaces on the 2.27-acre site.

Our review concludes that the IS/MND fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas ("GHG") impacts. Emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. An Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment. 31

Air Quality

Failure to Provide Complete CalEEMod Output Files

Land use development projects under the California Environmental Quality Act ("CEQA") typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod").[1] CalEEMod uses default values tailored to site-specific details such as land use type, meteorological data, lot size, project type, and typical equipment associated with that type. If project-specific details are available, users can modify these defaults, but CEQA requires substantial evidence to justify such changes. Once the inputs are finalized, the model calculates the 32

[1] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide.

project's construction and operational emissions and generates "output files." These output files disclose to the reader what parameters are used in calculating the Project's air pollutant emissions and demonstrate where default values are changed. Justifications are provided for the values selected.

Review of the Project's CalEEMod output files in Appendix A of the IS/MND reveals that the "Arcadia Town Center v2" includes land use inputs but omits all other qualitative outputs regarding the Project's construction-related and operational emission (pp. 38, 39).

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	181	Dwelling Unit	2.27	173,760	2,000	—	536	—
Enclosed Parking with Elevator	378	Space	0.00	151,200	0.00	—	—	—
Strip Mall	4.00	1000sqft	0.00	4,000	800	—	—	—
City Park	1.00	Acre	0.00	0.00	21,825	21,825	—	Private/Public Open Space
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.00	5,000	1,000	—	—	—
General Office Building	5.00	1000sqft	0.00	5,000	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

Year
Daily - Summer (Max)
Daily - Winter (Max)
Average Daily
Annual

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Note: Only sections 1.2, 1.3, 2.1, and 2.2 are included for reader clarity.

Without access to specific emissions values, we are unable to verify the potential significance or accuracy of the Project's model. Furthermore, the "Arcadia Town Center v2" model does not include the "User Changes to Default" table. (Appendix A, pp. 54)

Arcadia Town Center v2 Detailed Report, 8/4/2023

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Without access to the "User Changes to Default Data" table, we are unable to verify whether changes were made to the model's default values. CEQA requires public disclosure of environmental impacts to

ensure transparency with regards to potential environmental impacts of land use developments.[2] An EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines. 32 cont

Diesel Particulate Matter Emissions Inadequately Evaluated

The IS/MND determines that the Project would result in a negligible health risk impact without conducting a construction health risk analysis ("HRA"). CEQA requires all proposed projects to connect their emissions with potential adverse impacts on human health caused by those emissions.[3] As the IS/MND does not establish a connection between the Project's construction-related diesel particulate matter ("DPM") emissions and potential health risks to nearby sensitive receptors, the Project violates CEQA's requirement. Additionally, the IS/MND does not compare the Project's excess cancer risk to the South Coast Air Quality Management District's ("SCAQMD") threshold of 10 in one million.[4] 33

An assessment of the health risk posed to nearby existing receptors due to Project construction should be conducted to comply with the most relevant guidance.

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

We conducted an HRA using AERSCREEN, a screening-level air quality dispersion model that estimates maximum potential concentrations of air contaminants affecting nearby sensitive receptors.[5] If AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval. [6]

To conduct a preliminary, screening-level construction HRA, it is necessary to have an estimate of the Project's annual particulate matter 10 ("PM_{10}") exhaust emissions.[7] However, as detailed in the section of this letter titled *Failure to Provide Complete CalEEMod Output Files,* the Project's CalEEMod files exclude the projected values for construction-related emissions. In the absence of this requisite information, we created a model using the Project-specific details provided in the IS/MND and related documents to estimate PM_{10} emissions. 34

[2] "Environmental Review Guidelines." San Diego County Air Pollution Control District, September 2024*, available at*: https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/ceqa/DRAFT-SDAPCD-CEQA-Guidelines.pdf#:~:text=It%20is%20intended%20to%20require%20public%20disclosure,under%20what%20circumstances%20to%20approve%20such%20projects.&text=In%20accordance%20with%20Section%2015063%20of%20the,have%20a%20significant%20effect%20on%20the%20environment.

[3] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

[4] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, March 2023, *available at*: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

[5] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.

[6] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

[7] "Inhalable Particulate Matter and Health (PM2.5 and PM10)." CARB, *available at:* https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health.

Our analysis included 173,760-SF of "Apartments Mid Rise," 151,200-SF of "Enclosed Parking with Elevator," 4,000-SF of "Strip Mall," 1-acre of "City Park," 5,000-SF of "User Defined Commercial," and 5,000-SF of "General Office Building," consistent with the Project's original model. Additionally, as the Project's construction duration was not properly justified or disclosed, we developed a proportionately altered construction schedule to match the total construction duration of 29 months (IS/MND, p. 2-11).[8] All other values were left as default.[9]

Following Office of Environmental Health Hazard Assessment's ("OEHHA") recommendations, we began residential exposure at the third trimester of life. Our CalEEMod emissions indicate that construction will produce approximately 380 pounds of diesel particulate matter ("DPM") over the 730-day period.[10] The AERSCREEN model simulates maximum concentrations from emission sources using an average emission rate. We calculated this average DPM emission rate to account for variations in equipment usage and truck trips during construction using the following equation:

$$\text{Emission Rate } \left(\frac{\text{grams}}{\text{second}}\right) = \frac{380 \text{ lbs}}{730 \text{ days}} \times \frac{453.6 \text{ grams}}{\text{lbs}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3{,}600 \text{ seconds}} = \mathbf{0.00144\ g/s}$$

We estimated a construction emission rate of 0.00144 grams per second ("g/s"). Construction was simulated as a 2.27-acre rectangular area source in AERSCREEN, with approximate dimensions of 136- by 68-meters. A release height of 3 meters was selected to represent the height of stacks of heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of the city of Arcadia was obtained from U.S. 2023 Census data.[11]

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The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. U.S. Environmental Protection Agency ("U.S. EPA") guidance suggests that in screening procedures, the annualized average concentration of an air pollutant to be estimated by multiplying the single-hour concentration by 10%.[12] According to the AERSCREEN output files the maximally exposed individual receptor would be located 75 meters from the Project site. However, the IS/MD states that the nearest sensitive receptors are residences located approximately 280 feet, or 85 meters, from the Project site (p. 3-10). The single-hour concentration estimated by AERSCREEN for Project construction is 2.670 µg/m^3 DPM at around 100 meters downwind.[13] Multiplying this single-hour

[8] See Attachment A for the proportionately altered construction phases' calculations.
[9] See Attachment B for SWAPE's CalEEMod output files.
[10] See Attachment C for health risk calculations.
[11] "Arcadia" U.S. Census Bureau, 2023, *available at:* https://datacommons.org/place/geoId/0602462?q=arcadia.
[12] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* https://www.epa.gov/sites/default/files/2020-09/documents/epa-454r-92-019_ocr.pdf.
[13] *Note:* AERSCREEN output files come in increments of 25 meters, so our emissions calculations are slightly underestimated.

concentration by 10%, we get an annualized average concentration of 0.2670 µg/m^3 for Project construction at the nearest sensitive receptor.[14]

The excess cancer risk to the nearest sensitive receptor was calculated using applicable HRA methodologies as prescribed by OEHHA, in accordance with SCAQMD recommendation. [15] Guidance from OEHHA and California Air Resources Board ("CARB") suggests utilizing a standard point estimate approach, with high-point estimate breathing rates and age sensitivity factors ("ASF") to accurately assess risk, especially for susceptible populations like children. The residential exposure parameters considered in our screening-level HRA include daily breathing rates, exposure duration, ASFs, fraction of time at home, and exposure frequency for different age groups (see table below).

Exposure Assumptions for Residential Individual Cancer Risk

Age Group	Breathing Rate (L/kg-day)[16]	Age Sensitivity Factor[17]	Exposure Duration (years)	Fraction of Time at Home[18]	Exposure Frequency (days/year)[19]	Exposure Time (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 – 2)	1090	10	2	1	350	24
Child (2 – 16)	572	3	14	1	350	24
Adult (16 – 30)	261	1	14	0.73	350	24

The procedure requires the incorporation of several discrete variates to effectively quantify dose per age group for the inhalation pathway. Contaminate dose is then multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day^{-1}) to derive the cancer risk estimate. The following dose algorithm was used to assess exposure assumptions:

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[14] See Attachment D for AERSCREEN output files.
[15] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[16] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[17] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.
[18] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[19] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 5-24.

$$\text{Dose}_{\text{AIR,per age group}} = \text{C}_{\text{air}} \times \text{EF} \times \left[\frac{\text{BR}}{\text{BW}}\right] \times \text{A} \times \text{CF}$$

where:

Dose_{AIR} = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

We used the following equation to calculate the overall cancer risk per appropriate age group:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{\text{AT}}$$

where:

Dose_{AIR} = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(\text{mg/kg/day})^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

34 cont

Consistent with the 730-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and the first 1.75 years of the infantile stage of life (0 – 2 years). The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction

Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	0.2670	3.63E-06
Infant (0 - 2)	1.75	0.2670	7.67E-05
Construction	**2**		**8.04E-05**

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The excess cancer risks for the 3rd trimester of pregnancy and infant stage of life at the nearest sensitive receptor, over the course of Project construction are approximately 3.63 and 76.7 in one million, respectively. The excess cancer risk over just the course of the Project construction is approximately

80.4 in one million, which exceeds the SCAQMD threshold of 10 in one million. This results in a potentially significant impact not previously addressed or identified in the IS/MND.

Our analysis represents a conservative screening-level HRA, which prioritizes public health. It is used to show the potential correlation between Project emissions and adverse health risks. The U.S. EPA recommends the use of a screening-level analysis as the first phase of a tiered approach to conducting exposure assumptions, as outlined in their Exposure Assessment Guidelines.[20] Screening-level analyses require further evaluation with more developed modeling. Our initial HRA demonstrates that Project construction could lead to significant health risks. An EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction. 35 cont

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The IS/MND estimates that the Project will produce a net annual GHG emissions of 2,181-metric-tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. 3-50, Table 17).

TABLE 17
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

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The IS/MND indicates that the GHG emission values are included in Appendix A. However, as previously addressed, the IS/MND's CalEEMod output files do not provide the emissions estimates or include any relevant inputs beyond the land uses. We are therefore unable to verify the legitimacy of the estimates presented in the table above and, as such, the Project's GHG emissions could be underestimated. Until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon for Project significance.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

As the Project would result in a potentially significant health risk impact to individuals in the community surrounding the Project site, the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks. According to CEQA Guidelines § 15096(g)(2):

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[20] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

"When an updated EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

The IS/MND should evaluate the following mitigation measures to reduce the DPM emissions associated with Project construction (see list below).

The Southern California Association of Governments' 2020 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report provides the following mitigation measures:[21]

- Minimize unnecessary vehicular and machinery activities.
- Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project.
- Ensure all construction equipment is properly tuned and maintained.
- Minimizing idling time to 5 minutes or beyond regulatory requirements —saves fuel and reduces emissions.
- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- Develop a traffic plan to minimize community impacts due to traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). If construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and

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[21] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." SCAG, May 2020, *available at:* https://scag.ca.gov/peir.

remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.

The CalEEMod User's Guide confirms that the methods for mitigating DPM emissions include the use of "alternative fuel, electric equipment, diesel particulate filters (DPF), oxidation catalysts, newer tier engines, and dust suppression."[22]

The proposed mitigation measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, thereby minimizing emissions during construction. An EIR should be prepared to include all feasible mitigation measures and updated air quality, health risk, and GHG analyses. This will ensure that necessary mitigation measures are implemented to reduce emissions to the greatest extent possible. 37 cont

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties. 38

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

[22] "Calculation Details for CalEEMod." CAPCOA, May 2021, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-a2020-4-0.pdf?sfvrsn=6, Appendix A, p. 60.

Attachment A: Construction Calculations
Attachment B: CalEEMod Output Files
Attachment C: Health Risk Calculations
Attachment D: AERSCREEN Output Files
Attachment E: Matt Hagemann CV
Attachment F: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	381	0.0525	891	47
Site Preparation	3	381	0.0079	891	7
Grading	6	381	0.0157	891	14
Construction	220	381	0.5774	891	514
Paving	10	381	0.0262	891	23
Architectural Coating	10	381	0.0262	891	23

	Total Default Construction Duration	Revised Construction Duration
Start Date	1/1/2026	1/1/2026
End Date	1/17/2027	6/10/2028
Total Days	381	891

Attachment B

Arcadia Town Center Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Arcadia Town Center
Construction Start Date	1/1/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	24.4
Location	34.140403578150526, -118.03194606892856
County	Los Angeles-South Coast
City	Arcadia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4922
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	181	Dwelling Unit	2.27	173,760	2,000	—	536	—

Enclosed Parking with Elevator	378	Space	0.00	151,200	0.00	—	—	—
City Park	1.00	Acre	0.00	0.00	21,825	21,825	—	—
User Defined Recreational	5.00	User Defined Unit	0.00	5,000	1,000	1,000	—	—
Strip Mall	4.00	1000sqft	0.09	4,000	800	—	—	—
General Office Building	5.00	1000sqft	0.11	5,000	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.71	1.95	45.7	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,843	29,843	1.62	4.38	61.6	31,250
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.67	1.95	47.0	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,847	29,847	1.62	4.38	1.60	31,194
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.62	1.33	10.4	16.5	0.03	0.31	2.16	2.47	0.28	0.59	0.87	—	4,825	4,825	0.22	0.34	4.01	4,936
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.24	1.89	3.01	0.01	0.06	0.40	0.45	0.05	0.11	0.16	—	799	799	0.04	0.06	0.66	817

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.71	1.95	45.7	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,843	29,843	1.62	4.38	61.6	31,250
2027	2.25	1.88	11.9	24.4	0.03	0.33	3.00	3.33	0.31	0.72	1.03	—	6,262	6,262	0.26	0.31	11.9	6,373
2028	0.79	0.66	5.58	9.02	0.01	0.20	0.52	0.54	0.19	0.12	0.23	—	1,440	1,440	0.05	0.02	1.48	1,447
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.67	1.95	47.0	27.6	0.21	0.93	14.7	15.6	0.89	5.49	6.38	—	29,847	29,847	1.62	4.38	1.60	31,194
2027	2.24	1.86	12.1	22.6	0.03	0.33	3.00	3.33	0.31	0.72	1.03	—	6,126	6,126	0.18	0.31	0.31	6,223
2028	2.15	1.78	11.5	21.9	0.03	0.30	3.00	3.29	0.27	0.72	0.99	—	6,049	6,049	0.17	0.31	0.28	6,145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.62	1.30	10.4	15.9	0.03	0.31	2.16	2.47	0.28	0.59	0.87	—	4,825	4,825	0.22	0.34	4.01	4,936
2027	1.60	1.33	8.68	16.5	0.02	0.24	2.11	2.34	0.22	0.51	0.72	—	4,402	4,402	0.13	0.22	3.68	4,474
2028	0.42	0.35	2.31	4.43	0.01	0.06	0.53	0.59	0.06	0.13	0.18	—	1,130	1,130	0.03	0.05	0.83	1,148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.30	0.24	1.89	2.90	0.01	0.06	0.40	0.45	0.05	0.11	0.16	—	799	799	0.04	0.06	0.66	817
2027	0.29	0.24	1.58	3.01	< 0.005	0.04	0.38	0.43	0.04	0.09	0.13	—	729	729	0.02	0.04	0.61	741
2028	0.08	0.06	0.42	0.81	< 0.005	0.01	0.10	0.11	0.01	0.02	0.03	—	187	187	0.01	0.01	0.14	190

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	62.8	57.1	7.13	142	0.32	13.0	7.62	20.7	12.8	1.94	14.7	1,788	14,202	15,990	14.9	0.43	23.9	16,513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.5	55.0	7.22	122	0.31	13.0	7.62	20.6	12.8	1.94	14.7	1,788	13,807	15,595	14.9	0.44	1.87	16,101
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.0	12.1	3.67	46.8	0.09	0.99	7.03	8.01	0.96	1.79	2.75	208	10,417	10,626	10.1	0.37	10.4	10,999
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.36	2.21	0.67	8.54	0.02	0.18	1.28	1.46	0.18	0.33	0.50	34.5	1,725	1,759	1.68	0.06	1.73	1,821

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.07	3.69	2.66	31.9	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	8,161	8,161	0.37	0.31	22.6	8,286
Area	58.7	53.4	3.91	110	0.24	12.9	—	12.9	12.7	—	12.7	1,695	3,296	4,992	5.06	0.06	—	5,137
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	62.8	57.1	7.13	142	0.32	13.0	7.62	20.7	12.8	1.94	14.7	1,788	14,202	15,990	14.9	0.43	23.9	16,513
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	4.03	3.65	2.91	29.4	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	7,823	7,823	0.39	0.33	0.59	7,931
Area	56.5	51.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	60.5	55.0	7.22	122	0.31	13.0	7.62	20.6	12.8	1.94	14.7	1,788	13,807	15,595	14.9	0.44	1.87	16,101
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.75	3.39	2.75	28.2	0.07	0.04	7.03	7.07	0.04	1.79	1.83	—	7,411	7,411	0.36	0.31	9.14	7,522
Area	9.14	8.69	0.37	18.3	0.02	0.90	—	0.90	0.88	—	0.88	116	261	377	0.35	< 0.005	—	387
Energy	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	2,660	2,660	0.18	0.02	—	2,670
Water	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Total	13.0	12.1	3.67	46.8	0.09	0.99	7.03	8.01	0.96	1.79	2.75	208	10,417	10,626	10.1	0.37	10.4	10,999
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.68	0.62	0.50	5.16	0.01	0.01	1.28	1.29	0.01	0.33	0.33	—	1,227	1,227	0.06	0.05	1.51	1,245
Area	1.67	1.59	0.07	3.33	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	43.2	62.4	0.06	< 0.005	—	64.1
Energy	0.01	0.01	0.10	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	440	440	0.03	< 0.005	—	442
Water	—	—	—	—	—	—	—	—	—	—	—	2.52	14.0	16.5	0.26	0.01	—	24.9
Waste	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21
Total	2.36	2.21	0.67	8.54	0.02	0.18	1.28	1.46	0.18	0.33	0.50	34.5	1,725	1,759	1.68	0.06	1.73	1,821

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3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	1.39	12.9	14.6	0.02	0.51	—	0.51	0.47	—	0.47	—	2,494	2,494	0.10	0.02	—	2,503
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.67	1.88	< 0.005	0.07	—	0.07	0.06	—	0.06	—	321	321	0.01	< 0.005	—	322
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.34	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.2	53.2	< 0.005	< 0.005	—	53.4
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.69	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	161	161	0.01	0.01	0.01	163
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	0.03	21.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.47	3.47	< 0.005	< 0.005	0.01	3.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.34	1.13	9.84	10.8	0.03	0.42	—	0.42	0.39	—	0.39	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	52.1	52.1	< 0.005	< 0.005	—	52.3
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.62	8.62	< 0.005	< 0.005	—	8.65
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.41	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.3	96.3	< 0.005	< 0.005	0.01	97.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.9	14.0	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.49	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	94.2	94.2	< 0.005	< 0.005	—	94.5
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.6
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	0.01	< 0.005	0.46	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.97	0.43	32.8	12.9	0.19	0.35	7.43	7.78	0.35	2.03	2.39	—	27,252	27,252	1.51	4.35	61.1	28,649
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.55	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.93	0.41	34.1	13.0	0.19	0.35	7.43	7.78	0.35	2.03	2.39	—	27,264	27,264	1.51	4.35	1.59	28,601
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.00	5.00	< 0.005	< 0.005	0.01	5.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.02	1.32	0.50	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,045	1,045	0.06	0.17	1.01	1,098
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.24	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	173	173	0.01	0.03	0.17	182

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.32	6.19	0.01	0.19	—	0.19	0.17	—	0.17	—	1,159	1,159	0.05	0.01	—	1,163
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.97	1.13	< 0.005	0.03	—	0.03	0.03	—	0.03	—	192	192	0.01	< 0.005	—	192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.73	0.77	12.8	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,694	2,694	0.11	0.09	9.11	2,734
Vendor	0.10	0.04	1.60	0.77	0.01	0.02	0.40	0.42	0.01	0.11	0.12	—	1,447	1,447	0.06	0.21	3.91	1,514
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.73	0.87	11.0	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,553	2,553	0.12	0.09	0.24	2,585
Vendor	0.10	0.04	1.67	0.79	0.01	0.02	0.40	0.42	0.01	0.11	0.12	—	1,448	1,448	0.06	0.21	0.10	1,511
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.38	0.50	6.04	0.00	0.00	1.35	1.35	0.00	0.32	0.32	—	1,364	1,364	0.06	0.05	2.08	1,382
Vendor	0.05	0.02	0.88	0.41	0.01	0.01	0.21	0.22	0.01	0.06	0.06	—	762	762	0.03	0.11	0.89	796
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.10	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	226	226	0.01	0.01	0.34	229
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	126	126	0.01	0.02	0.15	132
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	9.70	11.7	0.02	0.32	—	0.32	0.30	—	0.30	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	1.35	1.13	9.70	11.7	0.02	0.32	—	0.32	0.30	—	0.30	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.97	0.81	6.93	8.36	0.02	0.23	—	0.23	0.21	—	0.21	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.18	0.15	1.26	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.80	0.71	0.69	11.9	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,642	2,642	0.11	0.09	8.23	2,681
Vendor	0.09	0.04	1.53	0.73	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,419	1,419	0.06	0.20	3.70	1,483
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.69	0.86	10.1	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,505	2,505	0.04	0.09	0.21	2,534
Vendor	0.09	0.04	1.59	0.74	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,420	1,420	0.06	0.20	0.10	1,480
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.57	0.49	0.61	7.59	0.00	0.00	1.83	1.83	0.00	0.43	0.43	—	1,815	1,815	0.03	0.07	2.53	1,839
Vendor	0.07	0.03	1.14	0.53	0.01	0.01	0.28	0.29	0.01	0.08	0.08	—	1,014	1,014	0.04	0.14	1.14	1,058
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.39	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	301	301	< 0.005	0.01	0.42	304
Vendor	0.01	0.01	0.21	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	168	168	0.01	0.02	0.19	175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.08	9.23	11.7	0.02	0.28	—	0.28	0.26	—	0.26	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.52	1.92	< 0.005	0.05	—	0.05	0.04	—	0.04	—	362	362	0.01	< 0.005	—	363
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.04	0.03	0.28	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.77	0.67	0.77	9.53	0.00	0.00	2.60	2.60	0.00	0.61	0.61	—	2,460	2,460	0.03	0.09	0.19	2,489
Vendor	0.09	0.03	1.52	0.71	0.01	0.01	0.40	0.41	0.01	0.11	0.12	—	1,387	1,387	0.05	0.20	0.09	1,447
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.13	1.64	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	410	410	0.01	0.02	0.53	416
Vendor	0.02	0.01	0.25	0.12	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	228	228	0.01	0.03	0.25	238
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.30	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	67.9	67.9	< 0.005	< 0.005	0.09	68.8
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.7	37.7	< 0.005	0.01	0.04	39.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.73	0.61	5.53	8.18	0.01	0.20	—	0.20	0.19	—	0.19	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.61	5.53	8.18	0.01	0.20	—	0.20	0.19	—	0.19	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.4	78.4	< 0.005	< 0.005	—	78.6
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.0
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.85	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	196	196	< 0.005	0.01	0.56	198
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.01	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.02	12.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	1.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summ (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.41	8.41	< 0.005	< 0.005	—	8.44
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.39	1.39	< 0.005	< 0.005	—	1.40
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.14	2.24	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	519	519	0.01	0.02	1.48	526
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.5	31.5	< 0.005	< 0.005	0.04	31.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.21	5.21	< 0.005	< 0.005	0.01	5.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.30	2.99	2.15	25.8	0.06	0.04	6.14	6.18	0.04	1.56	1.60	—	6,574	6,574	0.30	0.25	18.2	6,675
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.04	15.5
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Strip Mall	0.60	0.54	0.40	4.80	0.01	0.01	1.15	1.16	0.01	0.29	0.30	—	1,233	1,233	0.06	0.05	3.42	1,252
General Office Building	0.16	0.15	0.11	1.32	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	339	339	0.02	0.01	0.94	344
Total	4.07	3.69	2.66	31.9	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	8,161	8,161	0.37	0.31	22.6	8,286
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.27	2.96	2.35	23.7	0.06	0.04	6.14	6.18	0.04	1.56	1.60	—	6,302	6,302	0.31	0.27	0.47	6,389
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	0.01	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	< 0.005	14.8
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.59	0.54	0.44	4.41	0.01	0.01	1.15	1.16	0.01	0.29	0.30	—	1,182	1,182	0.06	0.05	0.09	1,198
General Office Building	0.16	0.15	0.12	1.21	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	325	325	0.02	0.01	0.02	329
Total	4.03	3.65	2.91	29.4	0.08	0.05	7.62	7.67	0.04	1.94	1.98	—	7,823	7,823	0.39	0.33	0.59	7,931
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.56	0.51	0.41	4.22	0.01	0.01	1.05	1.06	0.01	0.27	0.27	—	1,003	1,003	0.05	0.04	1.24	1,018
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.28	1.28	< 0.005	< 0.005	< 0.005	1.30
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.10	0.09	0.07	0.76	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.05	—	181	181	0.01	0.01	0.22	184
General Office Building	0.02	0.02	0.02	0.17	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	41.2	41.2	< 0.005	< 0.005	0.05	41.8
Total	0.68	0.62	0.50	5.16	0.01	0.01	1.28	1.29	0.01	0.33	0.33	—	1,227	1,227	0.06	0.05	1.51	1,245

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	967	967	0.06	0.01	—	971
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.05	0.01	—	817
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	57.3	57.3	< 0.005	< 0.005	—	57.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,968	1,968	0.12	0.01	—	1,975
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	967	967	0.06	0.01	—	971
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.05	0.01	—	817
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	57.3	57.3	< 0.005	< 0.005	—	57.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	130	130	0.01	< 0.005	—	130
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,968	1,968	0.12	0.01	—	1,975
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	160	160	0.01	< 0.005	—	161
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.01	< 0.005	—	135

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	9.48	9.48	< 0.005	< 0.005	—	9.52
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	326	326	0.02	< 0.005	—	327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.06	0.03	0.51	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	644	644	0.06	< 0.005	—	646
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.67	7.67	< 0.005	< 0.005	—	7.70

General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.6	40.6	< 0.005	< 0.005	—	40.7
Total	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	693	693	0.06	< 0.005	—	694
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.06	0.03	0.51	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	644	644	0.06	< 0.005	—	646
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.67	7.67	< 0.005	< 0.005	—	7.70
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.6	40.6	< 0.005	< 0.005	—	40.7
Total	0.06	0.03	0.55	0.25	< 0.005	0.04	—	0.04	0.04	—	0.04	—	693	693	0.06	< 0.005	—	694
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	107	107	0.01	< 0.005	—	107
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.27
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.72	6.72	< 0.005	< 0.005	—	6.74
Total	0.01	0.01	0.10	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	115	115	0.01	< 0.005	—	115

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	52.4	47.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.22	2.08	0.16	17.5	< 0.005	0.02	—	0.02	0.01	—	0.01	—	57.0	57.0	< 0.005	< 0.005	—	57.2
Total	58.7	53.4	3.91	110	0.24	12.9	—	12.9	12.7	—	12.7	1,695	3,296	4,992	5.06	0.06	—	5,137
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	52.4	47.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080

Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	56.5	51.3	3.76	92.0	0.23	12.9	—	12.9	12.7	—	12.7	1,695	3,239	4,935	5.05	0.06	—	5,080
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.66	0.59	0.05	1.15	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	36.7	56.0	0.06	< 0.005	—	57.6
Consumer Products	0.74	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.28	0.26	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.46	6.46	< 0.005	< 0.005	—	6.49
Total	1.67	1.59	0.07	3.33	< 0.005	0.16	—	0.16	0.16	—	0.16	19.2	43.2	62.4	0.06	< 0.005	—	64.1

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	12.9	67.2	80.1	1.33	0.03	—	123
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.26	5.26	< 0.005	< 0.005	—	5.28
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.24	0.24	< 0.005	< 0.005	—	0.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.57	3.03	3.59	0.06	< 0.005	—	5.47
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.70	8.93	10.6	0.18	< 0.005	—	16.3
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	12.9	67.2	80.1	1.33	0.03	—	123
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	5.26	5.26	< 0.005	< 0.005	—	5.28
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.24	0.24	< 0.005	< 0.005	—	0.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.57	3.03	3.59	0.06	< 0.005	—	5.47
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.70	8.93	10.6	0.18	< 0.005	—	16.3
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	84.7	99.9	1.56	0.04	—	150
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2.14	11.1	13.3	0.22	0.01	—	20.3

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.87	0.87	< 0.005	< 0.005	—	0.87
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.04	0.04	< 0.005	< 0.005	—	0.04
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.09	0.50	0.60	0.01	< 0.005	—	0.91
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.28	1.48	1.76	0.03	< 0.005	—	2.69
Total	—	—	—	—	—	—	—	—	—	—	—	2.52	14.0	16.5	0.26	0.01	—	24.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.9	0.00	11.9	1.19	0.00	—	41.8

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	0.00	—	1.45
Total	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.28	1.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21

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4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2026	3/6/2026	5.00	47.0	—

Site Preparation	Site Preparation	3/7/2026	3/17/2026	5.00	7.00	—
Grading	Grading	3/18/2026	4/6/2026	5.00	14.0	—
Building Construction	Building Construction	4/7/2026	3/24/2028	5.00	514	—
Paving	Paving	3/27/2028	4/26/2028	5.00	23.0	—
Architectural Coating	Architectural Coating	4/27/2028	5/29/2028	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45

Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	401	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—

Building Construction	Worker	199	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	46.4	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.8	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)

Demolition	0.00	0.00	0.00	0.00	—
Site Preparation	—	—	10.5	0.00	—
Grading	—	44,870	6.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Enclosed Parking with Elevator	0.00	100%
City Park	0.00	0%
User Defined Recreational	0.00	0%
Strip Mall	0.00	0%
General Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

Apartments Mid Rise	985	889	740	341,650	8,659	7,815	6,510	3,004,398
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.78	1.96	2.19	420	7.15	18.0	20.1	3,848
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	177	168	81.7	59,249	1,625	1,542	749	543,218
General Office Building	48.7	11.1	3.50	13,455	447	101	32.1	123,365

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	9
Gas Fireplaces	154
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	18
Conventional Wood Stoves	0
Catalytic Wood Stoves	9
Non-Catalytic Wood Stoves	9
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
—	—	—	—	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	663,516	532	0.0330	0.0040	2,010,339
Enclosed Parking with Elevator	558,144	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00
User Defined Recreational	0.00	532	0.0330	0.0040	0.00
Strip Mall	39,285	532	0.0330	0.0040	23,948
General Office Building	89,101	532	0.0330	0.0040	126,732

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	6,746,558	34,282
Enclosed Parking with Elevator	0.00	0.00
City Park	0.00	680,192

User Defined Recreational	0.00	31,166
Strip Mall	296,290	11,220
General Office Building	888,669	14,025

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	134	—
Enclosed Parking with Elevator	0.00	—
City Park	0.09	—
User Defined Recreational	0.00	—
Strip Mall	4.20	—
General Office Building	4.65	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat
Extreme Precipitation	9.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	16.9	annual hectares burned

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Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	70.7
AQ-DPM	57.7
Drinking Water	73.7
Lead Risk Housing	54.4
Pesticides	0.00
Toxic Releases	70.1
Traffic	80.3
Effect Indicators	—
CleanUp Sites	74.9
Groundwater	0.00

Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	6.04
Cardio-vascular	7.47
Low Birth Weights	7.29
Socioeconomic Factor Indicators	—
Education	42.7
Housing	10.2
Linguistic	80.2
Poverty	27.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	84.3320929
Employed	68.92082638
Median HI	57.88528166
Education	—
Bachelor's or higher	80.67496471
High school enrollment	100
Preschool enrollment	84.88387014
Transportation	—
Auto Access	70.20402926
Active commuting	5.915565251

Social	—
2-parent households	35.26241499
Voting	21.00603105
Neighborhood	—
Alcohol availability	87.47593995
Park access	34.12036443
Retail density	39.49698447
Supermarket access	46.73424868
Tree canopy	66.75221352
Housing	—
Homeownership	46.75991274
Housing habitability	43.07712049
Low-inc homeowner severe housing cost burden	33.1707943
Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	52.11086873
Arthritis	0.0
Asthma ER Admissions	94.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	97.0
Cognitively Disabled	87.2
Physically Disabled	80.2

Heart Attack ER Admissions	84.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	97.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	84.9
Elderly	16.5
English Speaking	18.2
Foreign-born	95.7
Outdoor Workers	60.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	34.1
Traffic Density	80.4
Traffic Access	23.0
Other Indices	—
Hardship	23.2
Other Decision Support	—
2016 Voting	20.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Consistent with IS/MND's model.
Construction: Construction Phases	Consistent with information provided by the IS/MND.

Construction			
2026		**Total**	
Annual Emissions (tons/year)	0.06	Total DPM (lbs)	380
Daily Emissions (lbs/day)	0.328767123	Total DPM (g)	90729.86301
Construction Duration (days)	365	Emission Rate (g/s)	0.001438513
Total DPM (lbs)	120	Release Height (meters)	3
Total DPM (g)	54432	Total Acreage	2.27
Start Date	1/1/2026	Max Horizontal (meters)	135.55
End Date	1/1/2027	Min Horizontal (meters)	67.77
Construction Days	365	Initial Vertical Dimension (meters)	1.5
2027		Setting	Arcadia
Annual Emissions (tons/year)	0.04	Population	54,157
Daily Emissions (lbs/day)	0.219178082	Start Date	1/1/2026
Construction Duration (days)	365	End Date	1/1/2028
Total DPM (lbs)	80	Total Construction Days	730
Total DPM (g)	36288	Total Years of Construction	2.00
Start Date	1/1/2027	Total Years of Operation	28.00
End Date	1/1/2028		
Construction Days	365		
2028			
Annual Emissions (tons/year)	0.01		
Daily Emissions (lbs/day)	0.054794521		
Construction Duration (days)	180		
Total DPM (lbs)	9.863013699		
Total DPM (g)	4473.863014		
Start Date	1/1/2028		
End Date	6/29/2028		
Construction Days	180		

The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction			
Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	0.2670	3.63E-06
Infant (0 - 2)	1.75	0.2670	7.67E-05
Construction	**2**		**8.04E-05**

AERSCREEN 21112 / AERMOD 21112 12/16/24
14:10:10

TITLE: ArcadiaTownCenter, Construction

********** AREA PARAMETERS **********

SOURCE EMISSION RATE:	0.144E-02	g/s	0.114E-01	lb/hr
AREA EMISSION RATE:	0.157E-06	g/(s-m2)	0.124E-05	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	135.55	meters	444.72	feet
AREA SOURCE SHORT SIDE:	67.77	meters	222.34	feet
INITIAL VERTICAL DIMENSION:	1.50	meters	4.92	feet
RURAL OR URBAN:	URBAN			
POPULATION:	54157			
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** FLOW SECTOR ANALYSIS **********

25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	4.341	20	75.0	WIN

* = worst case diagonal

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE: Average Moisture
DOMINANT SEASON: Winter

ALBEDO: 0.35
BOWEN RATIO: 1.50
ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	01	10	10	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50

HT	REF TA	HT
10.0	310.0	2.0

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
1.00	3.331	2525.00	0.3360E-01

25.00	3.828	2550.00	0.3315E-01
50.00	4.210	2575.00	0.3271E-01
75.00	4.341	2600.00	0.3228E-01
100.00	2.670	2625.00	0.3186E-01
125.00	1.980	2650.00	0.3145E-01
150.00	1.551	2675.00	0.3104E-01
175.00	1.260	2700.00	0.3065E-01
200.00	1.053	2725.00	0.3027E-01
225.00	0.8974	2750.00	0.2989E-01
250.00	0.7785	2775.00	0.2952E-01
275.00	0.6845	2800.00	0.2916E-01
300.00	0.6082	2825.00	0.2881E-01
325.00	0.5458	2850.00	0.2846E-01
350.00	0.4940	2875.00	0.2813E-01
375.00	0.4496	2900.00	0.2779E-01
400.00	0.4119	2925.00	0.2747E-01
425.00	0.3795	2950.00	0.2715E-01
450.00	0.3511	2975.00	0.2684E-01
475.00	0.3263	3000.00	0.2653E-01
500.00	0.3044	3025.00	0.2623E-01
525.00	0.2849	3050.00	0.2594E-01
550.00	0.2674	3075.00	0.2565E-01
575.00	0.2518	3100.00	0.2537E-01
600.00	0.2376	3125.00	0.2509E-01
625.00	0.2247	3150.00	0.2482E-01
650.00	0.2130	3175.00	0.2455E-01
675.00	0.2023	3200.00	0.2429E-01
700.00	0.1926	3225.00	0.2403E-01
725.00	0.1836	3250.00	0.2378E-01
750.00	0.1753	3275.00	0.2353E-01
775.00	0.1677	3300.00	0.2329E-01
800.00	0.1606	3325.00	0.2305E-01
825.00	0.1540	3350.00	0.2282E-01
850.00	0.1479	3375.00	0.2258E-01
875.00	0.1422	3400.00	0.2236E-01
900.00	0.1368	3425.00	0.2213E-01
925.00	0.1318	3450.00	0.2192E-01
950.00	0.1270	3475.00	0.2170E-01
975.00	0.1226	3500.00	0.2149E-01
1000.00	0.1185	3525.00	0.2128E-01
1025.00	0.1145	3550.00	0.2107E-01
1050.00	0.1108	3575.00	0.2087E-01
1075.00	0.1073	3600.00	0.2068E-01
1100.00	0.1040	3625.00	0.2048E-01
1125.00	0.1009	3650.00	0.2029E-01
1150.00	0.9792E-01	3675.00	0.2010E-01
1175.00	0.9510E-01	3700.00	0.1991E-01
1200.00	0.9242E-01	3725.00	0.1973E-01
1225.00	0.8986E-01	3750.00	0.1955E-01
1250.00	0.8742E-01	3775.00	0.1938E-01

1275.00	0.8570E-01	3800.00	0.1920E-01
1300.00	0.8344E-01	3825.00	0.1903E-01
1325.00	0.8129E-01	3850.00	0.1886E-01
1350.00	0.7923E-01	3875.00	0.1869E-01
1375.00	0.7726E-01	3900.00	0.1853E-01
1400.00	0.7538E-01	3925.00	0.1837E-01
1425.00	0.7357E-01	3950.00	0.1821E-01
1450.00	0.7184E-01	3975.00	0.1805E-01
1475.00	0.7017E-01	4000.00	0.1790E-01
1500.00	0.6857E-01	4025.00	0.1775E-01
1525.00	0.6704E-01	4050.00	0.1760E-01
1550.00	0.6556E-01	4075.00	0.1745E-01
1575.00	0.6414E-01	4100.00	0.1731E-01
1600.00	0.6277E-01	4125.00	0.1716E-01
1625.00	0.6145E-01	4150.00	0.1702E-01
1650.00	0.6017E-01	4175.00	0.1688E-01
1675.00	0.5895E-01	4200.00	0.1674E-01
1700.00	0.5776E-01	4225.00	0.1661E-01
1725.00	0.5662E-01	4250.00	0.1648E-01
1750.00	0.5551E-01	4275.00	0.1634E-01
1775.00	0.5444E-01	4300.00	0.1621E-01
1800.00	0.5341E-01	4325.00	0.1609E-01
1824.99	0.5241E-01	4350.00	0.1596E-01
1850.00	0.5144E-01	4375.00	0.1584E-01
1875.00	0.5050E-01	4400.00	0.1571E-01
1900.00	0.4960E-01	4425.00	0.1559E-01
1924.99	0.4871E-01	4450.00	0.1547E-01
1950.00	0.4786E-01	4475.00	0.1535E-01
1975.00	0.4703E-01	4500.00	0.1524E-01
2000.00	0.4623E-01	4525.00	0.1512E-01
2025.00	0.4545E-01	4550.00	0.1501E-01
2050.00	0.4469E-01	4575.00	0.1490E-01
2075.00	0.4396E-01	4600.00	0.1479E-01
2100.00	0.4324E-01	4625.00	0.1468E-01
2125.00	0.4255E-01	4650.00	0.1457E-01
2150.00	0.4187E-01	4675.00	0.1446E-01
2175.00	0.4121E-01	4700.00	0.1436E-01
2200.00	0.4057E-01	4725.00	0.1425E-01
2225.00	0.3995E-01	4750.00	0.1415E-01
2250.00	0.3934E-01	4775.00	0.1405E-01
2275.00	0.3875E-01	4800.00	0.1395E-01
2300.00	0.3818E-01	4825.00	0.1385E-01
2325.00	0.3761E-01	4850.00	0.1375E-01
2350.00	0.3707E-01	4875.00	0.1366E-01
2375.00	0.3653E-01	4900.00	0.1356E-01
2400.00	0.3601E-01	4925.00	0.1347E-01
2425.00	0.3551E-01	4950.00	0.1337E-01
2450.00	0.3501E-01	4975.00	0.1328E-01
2475.00	0.3453E-01	5000.00	0.1319E-01
2500.00	0.3406E-01		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	4.436	4.436	4.436	4.436	N/A
DISTANCE FROM SOURCE	72.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	3.331	3.331	3.331	3.331	N/A
DISTANCE FROM SOURCE	1.00 meters				

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

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Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

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Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

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Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

EXHIBIT D

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Date: December 18, 2024

To: Hayley Uno
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612

From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: Arcadia Town Center Project – Arcadia, CA.
(IEE File Reference: P-4950)

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Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 µg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 µg is 2 µg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m^3. The median indoor formaldehyde concentration was 36 µg/m^3, and ranged from 4.8 to 136 µg/m^3, which corresponds to a median exceedance of the 2 µg/m^3 NSRL concentration of 18 and a range of 2.3 to 68.

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Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the San Diego County Air Pollution Control District (SDAPCD, 2021).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 µg/m^3 to 28% for the Acute REL of 55 µg/m^3.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and

particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS. 39 cont

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to the Arcadia Town Center project, Arcadia, CA, the buildings consist of residential and commercial spaces.

The residential occupants will potentially have continuous exposure (e.g. 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the residential occupants inhale 20 m^3 of air per day, the average 70-year lifetime formaldehyde daily dose is 482 µg/day for continuous exposure in the residences. This exposure represents a cancer risk of 120 per million, which is more than 12 times the CEQA cancer risk of 10 per million. For occupants that do not have continuous exposure, the cancer risk will be proportionally less but still substantially over the CEQA cancer risk of 10 per million (e.g. for 12/hour/day occupancy, more than 6 times the CEQA cancer risk of 10 per million). 39 cont

The employees of the commercial spaces are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the employees of commercial spaces work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 µg/m^3, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures. 39 cont

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifies an existing cancer risk at the Project site of 537 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project. 39 cont

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

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3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (µg/h) from the product of the area-specific formaldehyde emission rate (µg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (µg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

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If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017). 39 cont

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the

health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

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Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a

result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

The Arcadia Town Center project, Arcadia, CA is close to roads with moderate to high traffic (e.g., South Santa Anita Avenue, West Huntington Drive, East Huntington Drive, etc.). Thus, the Project is located in a sound impacted area.

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According to the Initial Study/Mitigative Negative Declaration – Arcadia Town Center Project, Arcadia, CA there have been only four short-term (20 minute) measurements of the ambient noise levels on April 12, 2023, which ranged from 59.4 to 66.3 dBA Leq, and modeling of the future traffic noise levels which ranged from 59.4 to 73.5 dBA CNEL.

In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study with actual on-site measurements of the existing ambient noise levels and modeled future ambient noise levels needs to be conducted. The acoustic study of the existing ambient noise levels should be conducted over a minimum of a one-week period and report the dBA CNEL or Ldn. This study will allow for the selection of a building envelope and windows with a sufficient STC such that the indoor noise levels are acceptable. A mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors will also be required. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors.

$PM_{2.5}$ Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. The Arcadia Town Center Project, Arcadia, CA is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 537 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards. 39 cont

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. at least MERV 13, or possibly MERV 14 or 15 depending on the results of the Project ambient $PM_{2.5}$ concentrations) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

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Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and

exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

APPENDIX B

CALEEMOD DETAILED REPORT

Arcadia Town Center Detailed Report

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Data Field	Value
Project Name	Arcadia Town Center
Construction Start Date	1/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	24.4
Location	34.140403578150526, -118.03194606892856
County	Los Angeles-South Coast
City	Arcadia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4922
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	181	Dwelling Unit	2.27	173,760	2,000	—	536	—

Enclosed Parking with Elevator	378	Space	0.00	151,200	0.00	—	—	—
Strip Mall	4.00	1000sqft	0.00	4,000	800	—	—	—
City Park	1.00	Acre	0.00	0.00	21,825	21,825	—	Private/Public Open Space
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.00	5,000	1,000	—	—	—
General Office Building	5.00	1000sqft	0.00	5,000	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

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2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.4	21.9	21.7	33.5	0.05	0.80	4.08	4.88	0.74	1.69	2.43	—	7,203	7,203	0.35	0.77	11.1	7,452
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.4	21.9	22.0	32.0	0.05	0.80	4.08	4.88	0.74	1.69	2.43	—	7,200	7,200	0.35	0.77	0.29	7,438
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.13	4.00	11.9	15.4	0.03	0.43	1.94	2.37	0.39	0.63	1.02	—	4,161	4,161	0.20	0.30	3.20	4,260
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.75	0.73	2.17	2.81	0.01	0.08	0.35	0.43	0.07	0.11	0.19	—	689	689	0.03	0.05	0.53	705

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.57	2.17	21.7	23.4	0.05	0.80	4.08	4.88	0.74	1.69	2.43	—	7,203	7,203	0.35	0.77	11.1	7,452
2025	2.43	2.05	12.6	22.5	0.03	0.42	2.07	2.49	0.38	0.50	0.88	—	5,218	5,218	0.23	0.25	9.93	5,307
2026	22.4	21.9	18.9	33.5	0.04	0.65	2.56	3.21	0.59	0.61	1.20	—	7,047	7,047	0.30	0.28	10.9	7,147
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.56	2.16	22.0	22.0	0.05	0.80	4.08	4.88	0.74	1.69	2.43	—	7,200	7,200	0.35	0.77	0.29	7,438
2025	2.42	2.04	12.7	21.2	0.03	0.42	2.07	2.49	0.38	0.50	0.88	—	5,121	5,121	0.24	0.25	0.26	5,202
2026	22.4	21.9	19.0	32.0	0.04	0.65	2.56	3.21	0.59	0.61	1.20	—	6,926	6,926	0.31	0.28	0.28	7,016
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.76	1.43	11.9	14.7	0.03	0.43	1.94	2.37	0.39	0.63	1.02	—	4,161	4,161	0.20	0.30	3.20	4,260
2025	1.72	1.46	9.14	15.4	0.02	0.30	1.46	1.76	0.27	0.35	0.62	—	3,677	3,677	0.17	0.18	3.07	3,736
2026	4.13	4.00	4.35	7.47	0.01	0.14	0.66	0.80	0.13	0.16	0.29	—	1,703	1,703	0.08	0.07	1.25	1,728
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.26	2.17	2.69	0.01	0.08	0.35	0.43	0.07	0.11	0.19	—	689	689	0.03	0.05	0.53	705
2025	0.31	0.27	1.67	2.81	< 0.005	0.05	0.27	0.32	0.05	0.06	0.11	—	609	609	0.03	0.03	0.51	619
2026	0.75	0.73	0.79	1.36	< 0.005	0.03	0.12	0.15	0.02	0.03	0.05	—	282	282	0.01	0.01	0.21	286

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.90	9.32	5.09	43.6	0.11	0.18	9.40	9.58	0.17	2.39	2.56	149	13,745	13,895	15.8	0.52	44.3	14,490
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.85	9.25	5.44	40.2	0.11	0.18	9.40	9.58	0.17	2.39	2.56	149	13,309	13,458	15.8	0.55	10.0	14,027
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.49	8.93	5.65	37.5	0.10	0.20	8.27	8.47	0.20	2.10	2.30	149	12,460	12,609	15.8	0.50	22.7	13,176
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.73	1.63	1.03	6.84	0.02	0.04	1.51	1.55	0.04	0.38	0.42	24.7	2,063	2,088	2.61	0.08	3.75	2,181

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.38	4.87	3.70	42.9	0.10	0.06	9.40	9.47	0.06	2.39	2.45	—	10,433	10,433	0.49	0.41	35.2	10,601
Area	4.36	4.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.16	0.08	1.39	0.75	0.01	0.11	—	0.11	0.11	—	0.11	—	3,178	3,178	0.29	0.02	—	3,191
Water	—	—	—	—	—	—	—	—	—	—	—	40.0	135	175	4.12	0.10	—	307
Waste	—	—	—	—	—	—	—	—	—	—	—	109	0.00	109	10.9	0.00	—	382
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.10	9.10
Stationary	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	9.90	9.32	5.09	43.6	0.11	0.18	9.40	9.58	0.17	2.39	2.56	149	13,745	13,895	15.8	0.52	44.3	14,490

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.32	4.81	4.06	39.4	0.10	0.06	9.40	9.47	0.06	2.39	2.45	—	9,997	9,997	0.51	0.43	0.91	10,138
Area	4.36	4.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.16	0.08	1.39	0.75	0.01	0.11	—	0.11	0.11	—	0.11	—	3,178	3,178	0.29	0.02	—	3,191
Water	—	—	—	—	—	—	—	—	—	—	—	40.0	135	175	4.12	0.10	—	307
Waste	—	—	—	—	—	—	—	—	—	—	—	109	0.00	109	10.9	0.00	—	382
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.10	9.10
Stationary	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	9.85	9.25	5.44	40.2	0.11	0.18	9.40	9.58	0.17	2.39	2.56	149	13,309	13,458	15.8	0.55	10.0	14,027
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.73	4.27	3.66	36.2	0.09	0.06	8.27	8.33	0.05	2.10	2.15	—	9,037	9,037	0.46	0.38	13.6	9,176
Area	4.36	4.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.16	0.08	1.39	0.75	0.01	0.11	—	0.11	0.11	—	0.11	—	3,178	3,178	0.29	0.02	—	3,191
Water	—	—	—	—	—	—	—	—	—	—	—	40.0	135	175	4.12	0.10	—	307
Waste	—	—	—	—	—	—	—	—	—	—	—	109	0.00	109	10.9	0.00	—	382
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.10	9.10
Stationary	0.24	0.22	0.61	0.55	< 0.005	0.03	—	0.03	0.03	—	0.03	—	111	111	< 0.005	< 0.005	—	111
Total	9.49	8.93	5.65	37.5	0.10	0.20	8.27	8.47	0.20	2.10	2.30	149	12,460	12,609	15.8	0.50	22.7	13,176
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.86	0.78	0.67	6.60	0.02	0.01	1.51	1.52	0.01	0.38	0.39	—	1,496	1,496	0.08	0.06	2.25	1,519
Area	0.80	0.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.03	0.01	0.25	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02	—	526	526	0.05	< 0.005	—	528
Water	—	—	—	—	—	—	—	—	—	—	—	6.63	22.3	29.0	0.68	0.02	—	50.9
Waste	—	—	—	—	—	—	—	—	—	—	—	18.1	0.00	18.1	1.80	0.00	—	63.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.51	1.51

Stationa	0.04	0.04	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.4	18.4	< 0.005	< 0.005	—	18.4
Total	1.73	1.63	1.03	6.84	0.02	0.04	1.51	1.55	0.04	0.38	0.42	24.7	2,063	2,088	2.61	0.08	3.75	2,181

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.92	1.61	15.6	16.0	0.02	0.67	—	0.67	0.62	—	0.62	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	1.92	1.92	—	0.29	0.29	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.64	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	102	102	< 0.005	< 0.005	—	103
Demolition	—	—	—	—	—	—	0.08	0.08	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.01	0.01	0.12	0.12	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	17.0	17.0	< 0.005	< 0.005	—	17.0
Demoliti on	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.58	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	115	115	0.01	< 0.005	0.01	116
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.19	0.05	3.37	1.25	0.02	0.03	0.68	0.71	0.03	0.19	0.22	—	2,596	2,596	0.14	0.42	0.15	2,723
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.79	4.79	< 0.005	< 0.005	0.01	4.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	0.01	0.02	0.11	112
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	17.7	17.7	< 0.005	< 0.005	0.02	18.5

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.7	11.4	0.03	0.55	—	0.55	0.51	—	0.51	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.2	37.2	< 0.005	< 0.005	—	37.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.16	6.16	< 0.005	< 0.005	—	6.18
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.35	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	68.9	68.9	< 0.005	< 0.005	0.01	69.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.16	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	127	127	0.01	0.02	0.01	133
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.83
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.30

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.96	1.65	15.9	15.4	0.02	0.74	—	0.74	0.68	—	0.68	—	2,454	2,454	0.10	0.02	—	2,462
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.96	1.65	15.9	15.4	0.02	0.74	—	0.74	0.68	—	0.68	—	2,454	2,454	0.10	0.02	—	2,462
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.38	3.70	3.59	0.01	0.17	—	0.17	0.16	—	0.16	—	571	571	0.02	< 0.005	—	573
Dust From Material Movement	—	—	—	—	—	—	0.64	0.64	—	0.31	0.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.08	0.07	0.68	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	94.6	94.6	< 0.005	< 0.005	—	94.9
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.54	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	96.9	96.9	< 0.005	< 0.005	0.38	98.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.35	0.10	5.82	2.24	0.03	0.06	1.22	1.28	0.06	0.33	0.39	—	4,652	4,652	0.25	0.75	10.7	4,892
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.47	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	91.9	91.9	< 0.005	< 0.005	0.01	93.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.35	0.10	6.04	2.23	0.03	0.06	1.22	1.28	0.06	0.33	0.39	—	4,654	4,654	0.25	0.75	0.28	4,883
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.7	21.7	< 0.005	< 0.005	0.04	22.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	1.43	0.52	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,084	1,084	0.06	0.17	1.08	1,138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	0.01	3.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.26	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	179	179	0.01	0.03	0.18	188

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	11.2	11.9	0.02	0.46	—	0.46	0.42	—	0.42	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	11.2	11.9	0.02	0.46	—	0.46	0.42	—	0.42	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.56	4.81	5.12	0.01	0.20	—	0.20	0.18	—	0.18	—	943	943	0.04	0.01	—	947
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.88	0.93	< 0.005	0.04	—	0.04	0.03	—	0.03	—	156	156	0.01	< 0.005	—	157

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.89	0.81	0.69	10.7	0.00	0.00	1.77	1.77	0.00	0.42	0.42	—	1,926	1,926	0.09	0.07	7.55	1,956
Vendor	0.10	0.04	1.45	0.74	0.01	0.02	0.30	0.32	0.02	0.08	0.10	—	1,150	1,150	0.05	0.16	3.09	1,202
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.80	0.82	9.27	0.00	0.00	1.77	1.77	0.00	0.42	0.42	—	1,826	1,826	0.09	0.07	0.20	1,850
Vendor	0.10	0.04	1.50	0.76	0.01	0.02	0.30	0.32	0.02	0.08	0.10	—	1,151	1,151	0.05	0.16	0.08	1,199
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.34	0.35	4.16	0.00	0.00	0.75	0.75	0.00	0.18	0.18	—	794	794	0.04	0.03	1.40	806
Vendor	0.04	0.02	0.65	0.32	< 0.005	0.01	0.13	0.13	0.01	0.04	0.04	—	493	493	0.02	0.07	0.57	514
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.76	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	131	131	0.01	0.01	0.23	133
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	81.6	81.6	< 0.005	0.01	0.09	85.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.49	1.24	10.6	11.9	0.02	0.40	—	0.40	0.37	—	0.37	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.49	1.24	10.6	11.9	0.02	0.40	—	0.40	0.37	—	0.37	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.88	7.57	8.47	0.02	0.29	—	0.29	0.27	—	0.27	—	1,572	1,572	0.06	0.01	—	1,578
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.38	1.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.85	0.78	0.63	9.92	0.00	0.00	1.77	1.77	0.00	0.42	0.42	—	1,886	1,886	0.09	0.07	6.87	1,916
Vendor	0.09	0.04	1.38	0.71	0.01	0.02	0.30	0.32	0.01	0.08	0.09	—	1,131	1,131	0.05	0.16	3.06	1,183
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.77	0.70	8.58	0.00	0.00	1.77	1.77	0.00	0.42	0.42	—	1,789	1,789	0.09	0.07	0.18	1,813
Vendor	0.09	0.04	1.44	0.72	0.01	0.02	0.30	0.32	0.01	0.08	0.09	—	1,132	1,132	0.05	0.16	0.08	1,180
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.60	0.54	0.53	6.40	0.00	0.00	1.25	1.25	0.00	0.29	0.29	—	1,296	1,296	0.07	0.05	2.12	1,315
Vendor	0.06	0.03	1.03	0.51	0.01	0.01	0.21	0.22	0.01	0.06	0.06	—	808	808	0.04	0.11	0.95	844
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	1.17	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	215	215	0.01	0.01	0.35	218
Vendor	0.01	< 0.005	0.19	0.09	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	134	134	0.01	0.02	0.16	140
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.1	11.8	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.34	2.89	3.36	0.01	0.10	—	0.10	0.09	—	0.09	—	629	629	0.03	0.01	—	631
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.53	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	104	104	< 0.005	< 0.005	—	104
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.68	0.57	9.21	0.00	0.00	1.77	1.77	0.00	0.42	0.42	—	1,848	1,848	0.09	0.07	6.22	1,877
Vendor	0.09	0.04	1.32	0.67	0.01	0.02	0.30	0.32	0.01	0.08	0.09	—	1,111	1,111	0.05	0.16	2.97	1,163
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.75	0.68	0.63	8.02	0.00	0.00	1.77	1.77	0.00	0.42	0.42	—	1,753	1,753	0.09	0.07	0.16	1,776
Vendor	0.09	0.04	1.38	0.69	0.01	0.02	0.30	0.32	0.01	0.08	0.09	—	1,112	1,112	0.05	0.16	0.08	1,161
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.20	2.39	0.00	0.00	0.50	0.50	0.00	0.12	0.12	—	508	508	0.03	0.02	0.77	515
Vendor	0.03	0.01	0.39	0.19	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	318	318	0.01	0.05	0.37	332
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.44	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	84.1	84.1	< 0.005	< 0.005	0.13	85.3
Vendor	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	52.6	52.6	< 0.005	0.01	0.06	54.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.67	5.88	8.19	0.01	0.25	—	0.25	0.23	—	0.23	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.79	0.67	5.88	8.19	0.01	0.25	—	0.25	0.23	—	0.23	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.69	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	147	147	0.01	< 0.005	—	147
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.18	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	24.3	24.3	< 0.005	< 0.005	—	24.3
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	139	139	0.01	0.01	0.47	142
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.01	134

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.62	2.62	< 0.005	< 0.005	< 0.005	2.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	19.0	19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	19.0	19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.15	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.4	23.4	< 0.005	< 0.005	—	23.5
Architectural Coatings	3.34	3.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.88	3.88	< 0.005	< 0.005	—	3.89
Architectural Coatings	0.61	0.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.11	1.84	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	370	370	0.02	0.01	1.24	375
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.13	1.60	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	351	351	0.02	0.01	0.03	355
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.4	62.4	< 0.005	< 0.005	0.09	63.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	2.68	2.43	1.83	21.1	0.05	0.03	4.62	4.65	0.03	1.17	1.20	—	5,125	5,125	0.24	0.20	17.3	5,208

Enclose Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.55	0.50	0.38	4.46	0.01	0.01	0.98	0.99	0.01	0.25	0.26	—	1,089	1,089	0.05	0.04	3.68	1,106
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High Turnover (Sit Down Restaurant)	1.89	1.71	1.31	15.2	0.04	0.02	3.36	3.38	0.02	0.85	0.87	—	3,721	3,721	0.17	0.14	12.6	3,781
General Office Building	0.25	0.23	0.18	2.04	< 0.005	< 0.005	0.45	0.45	< 0.005	0.11	0.12	—	498	498	0.02	0.02	1.68	506
Total	5.38	4.87	3.70	42.9	0.10	0.06	9.40	9.47	0.06	2.39	2.45	—	10,433	10,433	0.49	0.41	35.2	10,601
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	2.65	2.40	2.00	19.4	0.05	0.03	4.62	4.65	0.03	1.17	1.20	—	4,911	4,911	0.25	0.21	0.45	4,980
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.55	0.49	0.42	4.09	0.01	0.01	0.98	0.99	0.01	0.25	0.26	—	1,043	1,043	0.05	0.04	0.10	1,058
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High Turnover (Sit Down Restaurant)	1.87	1.69	1.44	14.0	0.03	0.02	3.36	3.38	0.02	0.85	0.87	—	3,566	3,566	0.18	0.15	0.33	3,616

General Office Building	0.25	0.23	0.19	1.87	< 0.005	< 0.005	0.45	0.45	< 0.005	0.11	0.12	—	477	477	0.02	0.02	0.04	484
Total	5.32	4.81	4.06	39.4	0.10	0.06	9.40	9.47	0.06	2.39	2.45	—	9,997	9,997	0.51	0.43	0.91	10,138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.46	0.41	0.35	3.46	0.01	0.01	0.79	0.79	0.01	0.20	0.21	—	782	782	0.04	0.03	1.17	794
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.09	0.08	0.07	0.70	< 0.005	< 0.005	0.16	0.16	< 0.005	0.04	0.04	—	160	160	0.01	0.01	0.24	162
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High Turnover (Sit Down Restaurant)	0.28	0.25	0.22	2.17	0.01	< 0.005	0.50	0.50	< 0.005	0.13	0.13	—	494	494	0.02	0.02	0.74	502
General Office Building	0.03	0.03	0.03	0.27	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	60.5	60.5	< 0.005	< 0.005	0.09	61.4
Total	0.86	0.78	0.67	6.60	0.02	0.01	1.51	1.52	0.01	0.38	0.39	—	1,496	1,496	0.08	0.06	2.25	1,519

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.06	0.01	—	633
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	529	529	0.05	0.01	—	532
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	37.3	37.3	< 0.005	< 0.005	—	37.5
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	164	164	0.02	< 0.005	—	165
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	84.5	84.5	0.01	< 0.005	—	85.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,445	1,445	0.14	0.02	—	1,453
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.06	0.01	—	633
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	529	529	0.05	0.01	—	532
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	37.3	37.3	< 0.005	< 0.005	—	37.5

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	164	164	0.02	< 0.005	—	165
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	84.5	84.5	0.01	< 0.005	—	85.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,445	1,445	0.14	0.02	—	1,453
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	104	104	0.01	< 0.005	—	105
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	87.6	87.6	0.01	< 0.005	—	88.2
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	6.17	6.17	< 0.005	< 0.005	—	6.21
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	27.2	27.2	< 0.005	< 0.005	—	27.3
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	14.0	14.0	< 0.005	< 0.005	—	14.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	239	239	0.02	< 0.005	—	241

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.12	0.06	1.00	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	1,273	1,273	0.11	< 0.005	—	1,277
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	0.03	0.02	0.31	0.26	< 0.005	0.02	—	0.02	0.02	—	0.02	—	365	365	0.03	< 0.005	—	366
General Office Building	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.3	80.3	0.01	< 0.005	—	80.5
Total	0.16	0.08	1.39	0.75	0.01	0.11	—	0.11	0.11	—	0.11	—	1,733	1,733	0.15	< 0.005	—	1,738
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.12	0.06	1.00	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	1,273	1,273	0.11	< 0.005	—	1,277
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	0.03	0.02	0.31	0.26	< 0.005	0.02	—	0.02	0.02	—	0.02	—	365	365	0.03	< 0.005	—	366
General Office Building	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.3	80.3	0.01	< 0.005	—	80.5
Total	0.16	0.08	1.39	0.75	0.01	0.11	—	0.11	0.11	—	0.11	—	1,733	1,733	0.15	< 0.005	—	1,738
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	211	211	0.02	< 0.005	—	211
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.51	2.51	< 0.005	< 0.005	—	2.52
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
High Turnover (Sit Down Restaurant)	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	60.4	60.4	0.01	< 0.005	—	60.5
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.3	13.3	< 0.005	< 0.005	—	13.3
Total	0.03	0.01	0.25	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02	—	287	287	0.03	< 0.005	—	288

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.33	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.36	4.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	4.03	4.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.33	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.36	4.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.74	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coating	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.80	0.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	28.6	96.3	125	2.94	0.07	—	219
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.25	4.23	5.48	0.13	< 0.005	—	9.64
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.03	0.03	< 0.005	< 0.005	—	0.03
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	6.43	21.7	28.1	0.66	0.02	—	49.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.76	12.7	16.4	0.39	0.01	—	28.9
Total	—	—	—	—	—	—	—	—	—	—	—	40.0	135	175	4.12	0.10	—	307

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	28.6	96.3	125	2.94	0.07	—	219
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.25	4.23	5.48	0.13	< 0.005	—	9.64
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.03	0.03	< 0.005	< 0.005	—	0.03
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	6.43	21.7	28.1	0.66	0.02	—	49.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.76	12.7	16.4	0.39	0.01	—	28.9
Total	—	—	—	—	—	—	—	—	—	—	—	40.0	135	175	4.12	0.10	—	307
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	4.73	15.9	20.7	0.49	0.01	—	36.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.21	0.70	0.91	0.02	< 0.005	—	1.60
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1.06	3.59	4.65	0.11	< 0.005	—	8.17
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.62	2.10	2.72	0.06	< 0.005	—	4.79
Total	—	—	—	—	—	—	—	—	—	—	—	6.63	22.3	29.0	0.68	0.02	—	50.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	32.1	0.00	32.1	3.20	0.00	—	112

General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	109	0.00	109	10.9	0.00	—	382
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	72.2	0.00	72.2	7.21	0.00	—	252
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.26	0.00	2.26	0.23	0.00	—	7.92
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	32.1	0.00	32.1	3.20	0.00	—	112
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.77
Total	—	—	—	—	—	—	—	—	—	—	—	109	0.00	109	10.9	0.00	—	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.9	0.00	11.9	1.19	0.00	—	41.8
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.37	0.00	0.37	0.04	0.00	—	1.31
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	5.31	0.00	5.31	0.53	0.00	—	18.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	0.00	—	1.45
Total	—	—	—	—	—	—	—	—	—	—	—	18.1	0.00	18.1	1.80	0.00	—	63.2

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.82	7.82

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.10	9.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.24	1.24
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.82	7.82
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.10	9.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21	0.21
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.29	1.29

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.51	1.51

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emerge Generator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.04	0.04	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.4	18.4	< 0.005	< 0.005	—	18.4
Total	0.04	0.04	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.4	18.4	< 0.005	< 0.005	—	18.4

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	1/19/2024	5.00	15.0	—
Site Preparation	Site Preparation	1/20/2024	1/26/2024	5.00	5.00	—
Grading	Grading	1/27/2024	5/26/2024	5.00	85.0	—
Building Construction	Building Construction	5/27/2024	5/26/2026	5.00	522	—
Paving	Paving	3/27/2026	5/26/2026	5.00	43.0	—
Architectural Coating	Architectural Coating	2/25/2026	5/25/2026	5.00	64.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37

Site Preparation	Tractors/Loaders/Back	Diesel	Average	1.00	7.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	12.6	LDA,LDT1,LDT2
Demolition	Vendor	—	7.75	HHDT,MHDT
Demolition	Hauling	36.8	20.0	HHDT

Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	12.6	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.75	HHDT,MHDT
Site Preparation	Hauling	1.80	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	12.6	LDA,LDT1,LDT2
Grading	Vendor	—	7.75	HHDT,MHDT
Grading	Hauling	66.0	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	199	12.6	LDA,LDT1,LDT2
Building Construction	Vendor	46.4	7.75	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.6	LDA,LDT1,LDT2
Paving	Vendor	—	7.75	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.8	12.6	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.75	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	351,864	117,288	21,000	7,000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,205	—
Site Preparation	—	70.0	7.50	0.00	—
Grading	—	44,870	87.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Enclosed Parking with Elevator	0.00	100%
Strip Mall	0.00	0%

City Park	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
General Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	349	0.03	< 0.005
2025	0.00	349	0.03	< 0.005
2026	0.00	346	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	740	666	556	256,710	6,510	5,857	4,886	2,257,448
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	151	143	69.5	50,458	1,384	1,313	637	462,616
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High Turnover (Sit Down Restaurant)	406	443	516	155,860	3,722	4,062	4,732	1,428,989
General Office Building	69.0	15.6	4.90	19,074	633	143	44.9	174,877

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
351864	117,288	21,000	7,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	663,516	346	0.0330	0.0040	3,972,303
Enclosed Parking with Elevator	558,144	346	0.0330	0.0040	0.00
Strip Mall	39,285	346	0.0330	0.0040	47,319
City Park	0.00	346	0.0330	0.0040	0.00
High Turnover (Sit Down Restaurant)	173,152	346	0.0330	0.0040	1,137,464
General Office Building	89,101	346	0.0330	0.0040	250,415

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	14,912,530	3,922
Enclosed Parking with Elevator	0.00	0.00
Strip Mall	654,916	102
City Park	0.00	6,208
High Turnover (Sit Down Restaurant)	3,354,641	128
General Office Building	1,964,305	128

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	134	—
Enclosed Parking with Elevator	0.00	—
Strip Mall	4.20	—
City Park	0.09	—
High Turnover (Sit Down Restaurant)	59.5	—
General Office Building	4.65	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.00	72.0	670	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat
Extreme Precipitation	9.15	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	16.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6

AQ-PM	70.7
AQ-DPM	57.7
Drinking Water	73.7
Lead Risk Housing	54.4
Pesticides	0.00
Toxic Releases	70.1
Traffic	80.3
Effect Indicators	—
CleanUp Sites	74.9
Groundwater	0.00
Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	6.04
Cardio-vascular	7.47
Low Birth Weights	7.29
Socioeconomic Factor Indicators	—
Education	42.7
Housing	10.2
Linguistic	80.2
Poverty	27.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	84.3320929
Employed	68.92082638
Median HI	57.88528166
Education	—
Bachelor's or higher	80.67496471
High school enrollment	100
Preschool enrollment	84.88387014
Transportation	—
Auto Access	70.20402926
Active commuting	5.915565251
Social	—
2-parent households	35.26241499
Voting	21.00603105
Neighborhood	—
Alcohol availability	87.47593995
Park access	34.12036443
Retail density	39.49698447
Supermarket access	46.73424868
Tree canopy	66.75221352
Housing	—
Homeownership	46.75991274
Housing habitability	43.07712049
Low-inc homeowner severe housing cost burden	33.1707943
Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	52.11086873
Arthritis	0.0

Asthma ER Admissions	94.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	97.0
Cognitively Disabled	87.2
Physically Disabled	80.2
Heart Attack ER Admissions	84.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	97.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	84.9
Elderly	16.5
English Speaking	18.2
Foreign-born	95.7

Outdoor Workers	60.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	34.1
Traffic Density	80.4
Traffic Access	23.0
Other Indices	—
Hardship	23.2
Other Decision Support	—
2016 Voting	20.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Project Description - Assumes Paving and Architectural Coating Occurs simultaneously within BC
Construction: Dust From Material Movement	Data Needs
Operations: Hearths	Data Needs States No Fireplaces
Land Use	Mixed use.
Operations: Vehicle Data	Trips for Private/Public Open Space land use are included in calculations for Residential land use.
Operations: Energy Use	Data provided by applicant
Operations: Water and Waste Water	Data provided by applicant

APPENDIX C

HEALTH RISK ASSESSMENT

Arcadia Town Center

CONSTRUCTION HEALTH RISK ASSESSMENT

CITY OF ARCADIA

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FEBRUARY 17, 2025

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
ASF	Age Sensitivity Factor
AQMD	Air Quality Management District
ARB	Air Resources Board
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
DPM	Diesel Particulate Matter
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
FAH	Fraction of Time at Home
HHD	Heavy Heavy-Duty
HI	Hazard Index
HRA	Health Risk Assessment
IS/MND	Initial Study/Mitigated Negative Declaration
LHD	Light Heavy-Duty
MEIR	Maximally Exposed Individual Receptor
MHD	Medium Heavy-Duty
NAD	North American Datum
NED	National Elevation Dataset
OEHHA	Office of Environmental Health Hazard Assessment
PM_{10}	Particulate Matter 10 microns in diameter or less
Project	Arcadia Town Center
REL	Reference Exposure Level
RM	Recommended Measures
SCAQMD	South Coast Air Quality Management District
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
URF	Unit Risk Factor
UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

This report evaluates the potential health risk impacts to sensitive receptors (which are residents) associated with the development of the Project, more specifically, health risk impacts as a result of exposure to Toxic Air Contaminants (TACs) including diesel particulate matter (DPM) as a result of heavy-duty diesel trucks and construction equipment used during construction of the proposed Project. This section summarizes the significance criteria and Project health risks.

The results of the health risk assessment from Project construction-generated DPM emissions are provided in Table ES-1 below for the Project. Because the proposed Project would not generate TAC emissions during long-term operation, an operational HRA is not required.

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R1 which is located approximately 406 feet northwest of the Project site at an existing residence located at 200 San Miguel Drive. R1 is placed in the private outdoor living areas (backyard) facing the Project site. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 3.57 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be less than 0.01, which would not exceed the applicable threshold of 1.0. Although Location R1 is not the nearest receptor to the Project site, it would experience the highest concentrations of DPM during Project construction due to meteorological conditions in the vicinity of the Project site. Because all other modeled receptors would experience lower concentrations of DPM during Project construction, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The modeled receptors are illustrated on Exhibit 2-B.

TABLE ES-1: SUMMARY OF CONSTRUCTION CANCER AND NON-CANCER RISKS

Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
2.40 Year Exposure[1]	Maximum Exposed Sensitive Receptor (Location R1)	3.57	10	NO
Time Period	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Annual Average	Maximum Exposed Sensitive Receptor (Location R1)	<0.01	1.0	NO

[1] 2.40 years Is the expected duration of construction activities.

1 INTRODUCTION

This HRA has been prepared in accordance with the document Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1) and is comprised of all relevant and appropriate procedures presented by the United States Environmental Protection Agency (U.S. EPA), California EPA and SCAQMD. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten (10) persons per million as the maximum acceptable incremental cancer risk due to TAC exposure from a project such as the proposed Project. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulatively considerable impact.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (2). In this report the AQMD states (Page D-3):

"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

The SCAQMD has also established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). A REL is a concentration at or below which health effects are not likely to occur. A hazard index less than one (1.0) means that adverse health effects are not expected. In this HRA, non-carcinogenic exposures of less than 1.0 are considered less-than-significant. Both the cancer risk and non-carcinogenic risk thresholds are applied to the nearest sensitive receptors below.

1.1 SITE LOCATION

The proposed Project is located at the northwest corner of Santa Anita Avenue and Huntington Drive in the City of Arcadia. The Project's location in relation to the surrounding area is shown on Exhibit 1-A.

1.2 PROJECT DESCRIPTION

The Project consists of the development of a mixed-use development on the approximately 2.27-acre site consisting of 181 residential dwelling units, 3,890 square feet (sf) of residential amenities, 38,713 sf of public and private open space, and 13,130 sf of ground-floor commercial uses.

EXHIBIT 1-A: LOCATION MAP

LEGEND:

N

Site Boundary

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2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

This HRA is based on applicable guidelines to produce conservative estimates of human health risk posed by exposure to DPM. The conservative nature of this analysis is due primarily to the following factors:

- The ARB-adopted diesel exhaust Unit Risk Factor (URF) of 300 in one million per $\mu g/m^3$ is based upon the upper 95 percentile of estimated risk for each of the epidemiological studies utilized to develop the URF. Using the 95^{th} percentile URF represents a very conservative (health-protective) risk posed by DPM because it represents breathing rates that are high for the human body.

2.2 CONSTRUCTION HEALTH RISK ASSESSMENT

2.2.1 EMISSIONS CALCULATIONS

The emissions calculations for the construction HRA component are based on an assumed mix of construction equipment and hauling activity as presented in the *Arcadia Town Center Initial Study/Mitigated Negative Declaration* ("IS/MND") prepared by Psomas (3).

Construction related DPM emissions are expected to occur primarily as a function of the operation of heavy-duty construction equipment.

As discussed in the IS/MND, the Project would result in approximately 627 total working days of construction activity. The construction duration by phase is shown on Table 2-1. It should be noted that the dates modeled in the IS/MND are conservative in nature and overstate potential impacts should construction occur anytime after the dates identified in Table 2-1 since emissions decrease due to the turnover of an older fleet of construction equipment being replaced by newer less polluting equipment as the analysis year increases. A detailed summary of construction equipment assumptions by phase is provided at Table 2-2. The CalEEMod emissions outputs are presented in Appendix 2.1. The modeled emission sources for construction activity are illustrated on Exhibit 2-A. It should be noted that emissions from overlapping construction activities is accounted for in the analysis.

TABLE 2-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Demolition	1/1/2024	1/19/2024	15
Site Preparation	1/20/2024	1/26/2024	5
Grading	1/27/2024	5/26/2024	85
Building Construction	5/27/2024	5/26/2026	522
Paving	3/27/2026	5/26/2026	43
Architectural Coating	2/25/2026	5/25/2026	64

TABLE 2-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day
Demolition	Concrete/Industrial Saws	1	8
	Tractors/Loaders/Backhoes	3	8
	Rubber Tired Dozers	1	8
Site Preparation	Tractors/Loaders/Backhoes	1	7
	Graders	1	8
	Scrapers	1	8
Grading	Graders	1	8
	Rubber Tired Dozers	1	8
	Tractors/Loaders/Backhoes	2	7
Building Construction	Cranes	1	8
	Forklifts	2	7
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	1	6
	Welders	3	8
	Pavers	1	8
	Paving Equipment	1	8
	Rollers	2	8
	Cement and Mortar Mixers	1	8
	Tractors/Loaders/Backhoes	1	8
Architectural Coating	Air Compressors	1	6

EXHIBIT 2-A: MODELED CONSTRUCTION EMISSION SOURCES

2.3 EXPOSURE QUANTIFICATION

The analysis herein has been conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1). The Environmental Protection Agency's (U.S. EPA's) AERMOD model has been utilized. For purposes of this analysis, the Lakes AERMOD View (Version 13.0.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View was utilized to incorporate the U.S. EPA's latest AERMOD Version 24142 (4).

The model offers additional flexibility by allowing the user to assign an initial release height and vertical dispersion parameters for mobile sources representative of a roadway. For this HRA, the roadways were modeled as adjacent volume sources. Roadways were modeled using the U.S. EPA's haul route methodology for modeling construction haul truck and vendor truck movement. More specifically, the Haul Road Volume Source Calculator in Lakes AERMOD View has been utilized to determine the release height parameters. Based on the US EPA methodology, the Project's modeled sources would result in a release height of 3.49 meters and an initial lateral dimension of 4.0 meters, and an initial vertical dimension of 3.25 meters.

Model parameters are presented in Table 2-5 (5). The model requires additional input parameters including emission data and local meteorology. Meteorological data from the SCAQMD's Azusa monitoring station was used to represent local weather conditions and prevailing winds (6).

TABLE 2-5: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban (population 9,663,345)
Terrain (Flat/Elevated)	Elevated (Regulatory Default)
Averaging Time	1 year (5-year Meteorological Data Set)
Receptor Height	0 meters (Regulatory Default)

Universal Transverse Mercator (UTM) coordinates for World Geodetic System (WGS) 84 were used to locate the Project site boundaries, each volume source location, and receptor locations in the Project vicinity. The AERMOD dispersion model summary output files for the Project are presented in Appendix 2.2. Modeled sensitive receptors were placed at residential and non-residential locations.

Receptors may be placed at applicable structure locations for residential property and not necessarily the boundaries of the properties containing these uses because the human receptors spend a majority of their time at the residence's building, and not on the property line. It should be noted that the primary purpose of receptor placement is focused on long-term exposure. Notwithstanding, as a conservative measure, receptors were placed at either the outdoor living area or the building façade, whichever is closer to the Project site.

For purposes of this HRA, receptors include residential land uses in the vicinity of the Project. These receptors are included in the HRA since residents may be exposed at these locations over the course of Project construction. This methodology is consistent with SCAQMD and OEHHA recommended guidance.

Any impacts to residents located further away from the Project site than the modeled receptors would have a lesser impact than what has already been disclosed in the HRA at the MEIR because concentrations dissipate with distance.

All receptors were set to existing elevation height so that only ground-level concentrations are analyzed. United States Geological Survey (USGS) National Elevation Data (NED) terrain data using AERMAP was utilized in the HRA modeling to set elevations (7).

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 OEHHA Guidelines. Table 2-3 summarizes the exposure parameters for Residents based on 2015 OEHHA Guidelines. Appendix 2.3 includes the detailed risk calculation.

TABLE 2-3: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
-0.25 to 0	361	10	0.25	1.00	250	8
0 to 2	1,090	10	2.00	1.00	250	8
2 to 16	572	3	0.15	1.00	250	8

2.4 CARCINOGENIC CHEMICAL RISK

Excess cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens over a specified exposure duration. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level of 10 in one million implies a likelihood that up to 10 people, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time.

Guidance from CARB and the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) recommends a refinement to the standard point estimate approach when alternate human body weights and breathing rates are utilized to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to assess exposures, the following dose algorithm was utilized.

$$DOSE_{AIR} = \left(C_{AIR} \times \frac{BR}{BW} \times A \times EF\right) \times (1 \times 10^{-6})$$

Where:

$DOSE_{AIR}$	=	chronic daily intake (mg/kg/day)
C_{AIR}	=	concentration of contaminant in air (µg/m^3)
$\frac{BR}{BW}$	=	daily breathing rate normalized to body weight (L/kg BW-day)
A	=	inhalation absorption factor
EF	=	exposure frequency (days/365 days)
BW	=	body weight (kg)
1×10^{-6}	=	conversion factors (µg to mg, L to m^3)

$$RISK_{AIR} = DOSE_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

Where:

$DOSE_{AIR}$	=	chronic daily intake (mg/kg/day)
CPF	=	cancer potency factor
ASF	=	age sensitivity factor
ASF	=	fraction of time at home
ED	=	number of years within particular age group
AT	=	averaging time

2.5 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The chronic reference exposure level (REL) for DPM was established by OEHHA as 5 µg/m^3 (8).

Non-cancer health effects are expressed as a hazard index (HI), which is calculated using the following equation:

$$HI_{DPM} = \frac{C_{DPM}}{REL_{DPM}}$$

Where:

HI_{DPM}	=	Hazard index (unitless)

C_{DPM} = Annual average DPM concentration (µg/m^3)

REL_{DPM} = REL for DPM (the DPM concentration at which no adverse health effects are anticipated).

2.6 POTENTIAL PROJECT DPM-SOURCE CANCER AND NON-CANCER RISKS

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R1 which is located approximately 406 feet northwest of the Project site at an existing residence located at 200 San Miguel Drive. R1 is placed in the private outdoor living areas (backyard) facing the Project site. At the MEIR, the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 3.57 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be less than 0.01, which would not exceed the applicable threshold of 1.0. Although Location R1 is not the nearest receptor to the Project site, it would experience the highest concentrations of DPM during Project construction due to meteorological conditions in the vicinity of the Project site. Because all other modeled receptors would experience lower concentrations of DPM during Project construction, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The modeled receptors are illustrated on Exhibit 2-B.

It should be noted that the receptors presented in Exhibit 2-B do not represent all modeled receptors, rather it is intended to represent the nearest and/or most impacted receptors. A total of 54 receptors were modeled in the vicinity of the Project site. Appendix 2.4 graphically presents all modeled receptors.

EXHIBIT 2-B: RECEPTOR LOCATIONS

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3 REFERENCES

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4 CERTIFICATIONS

The contents of this health risk assessment represent an accurate depiction of the impacts to sensitive receptors associated with the proposed Arcadia Town Center Project. The information contained in this health risk assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me at (949) 660-1994.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Professionals
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June 2013
Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

EMISSION CALCULATIONS

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Emissions	Phase	Lb/Day	# Days	Emissions	Avg/Lb Day	Avg/Hourly	
On-Site	Demolition	0.67	15	10.05	0.67	0.08375	
Exhaust PM-10	Site Preparation	0.55	5	2.75	0.55	0.06875	
	Grading	0.74	85	62.9	0.74	0.0925	
	Building Construction	0.41	522	212.28	0.406666667	0.050833333	
	Paving	0.25	43	10.75	0.25	0.03125	
	Architectural Coating	0.02	64	1.28	0.02	0.0025	
							lb/hour/source
		2.64	627	300.01	0.478484848	0.059810606	3.52E-03
Off-Site	Demolition	3.00E-02	15	0.45	0.03	0.00375	
Exhaust PM-10	Site Preparation	5.00E-03	5	0.025	0.005	0.000625	
	Grading	6.00E-02	85	5.1	0.06	0.0075	
	Building Construction	2.00E-02	522	10.44	0.02	0.0025	
	Paving	0.00E+00	43	0	0	0	
	Architectural Coating	0.00E+00	64	0	0	0	
							lb/hour/source
		1.15E-01	627	16.015	0.025542265	0.003192783	3.19E-03

	Phase	Start Date	End Date	No. Days
	Demolition	1/1/2024	1/19/2024	15
	Site Preparation	1/20/2024	1/26/2024	5
	Grading	1/27/2024	5/26/2024	85
	Building Construction	5/27/2024	5/26/2026	522
	Paving	3/27/2026	5/26/2026	43
	Architectural Coating	2/25/2026	5/25/2026	64
Total Days of Construction				**627**

APPENDIX 2.2:

AERMOD MODEL INPUT/OUTPUT

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```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 13.0.0
** Lakes Environmental Software Inc.
** Date: 2/11/2025
** File: C:\Users\Michael Tirohn\Desktop\HRAs\16493 Arcadia Town Ctr\16493
Cons\16493 Cons.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\16493 Arcadia Town Ctr\16493 Co
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   URBANOPT 9663345 Los_Angeles_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "16493 Cons.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     404806.200  3778282.540      148.690
   LOCATION VOL2         VOLUME     404810.081  3778192.652      146.880
   LOCATION VOL3         VOLUME     404828.629  3778284.169      148.690
   LOCATION VOL4         VOLUME     404848.196  3778284.169      148.660
   LOCATION VOL5         VOLUME     404868.782  3778284.984      148.800
   LOCATION VOL6         VOLUME     404827.814  3778260.118      148.590
   LOCATION VOL7         VOLUME     404849.215  3778259.914      148.490
   LOCATION VOL8         VOLUME     404869.598  3778260.729      148.580
   LOCATION VOL9         VOLUME     404826.183  3778237.493      148.480
   LOCATION VOL10        VOLUME     404869.394  3778237.493      148.440
   LOCATION VOL11        VOLUME     404847.381  3778237.901      148.450
   LOCATION VOL12        VOLUME     404870.413  3778192.448      147.160
   LOCATION VOL13        VOLUME     404826.387  3778192.041      146.880
```

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   LOCATION VOL14        VOLUME     404848.604  3778192.245      147.200
   LOCATION VOL15        VOLUME     404869.801  3778215.888      148.040
   LOCATION VOL16        VOLUME     404826.591  3778214.461      148.110
   LOCATION VOL17        VOLUME     404848.196  3778214.461      147.970
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0004019332
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 404899.556, 3778182.698, 147.25, 3.49, 6.51
** 404899.556, 3778484.614, 151.51, 3.49, 6.51
** 404896.340, 3778845.224, 156.74, 3.49, 6.51
** 404898.350, 3779056.283, 160.32, 3.49, 6.51
** 404898.350, 3779090.455, 160.98, 3.49, 6.51
** ----------------------------------------------------------------------
   LOCATION L0000001     VOLUME   404899.556 3778189.698 147.36
   LOCATION L0000002     VOLUME   404899.556 3778203.698 147.59
   LOCATION L0000003     VOLUME   404899.556 3778217.698 147.76
   LOCATION L0000004     VOLUME   404899.556 3778231.698 147.95
   LOCATION L0000005     VOLUME   404899.556 3778245.698 148.20
   LOCATION L0000006     VOLUME   404899.556 3778259.698 148.30
   LOCATION L0000007     VOLUME   404899.556 3778273.698 148.47
   LOCATION L0000008     VOLUME   404899.556 3778287.698 148.66
   LOCATION L0000009     VOLUME   404899.556 3778301.698 148.83
   LOCATION L0000010     VOLUME   404899.556 3778315.698 149.02
   LOCATION L0000011     VOLUME   404899.556 3778329.698 149.18
   LOCATION L0000012     VOLUME   404899.556 3778343.698 149.40
   LOCATION L0000013     VOLUME   404899.556 3778357.698 149.64
   LOCATION L0000014     VOLUME   404899.556 3778371.698 149.97
   LOCATION L0000015     VOLUME   404899.556 3778385.698 150.27
   LOCATION L0000016     VOLUME   404899.556 3778399.698 150.57
   LOCATION L0000017     VOLUME   404899.556 3778413.698 150.71
   LOCATION L0000018     VOLUME   404899.556 3778427.698 150.80
   LOCATION L0000019     VOLUME   404899.556 3778441.698 150.97
   LOCATION L0000020     VOLUME   404899.556 3778455.698 151.15
   LOCATION L0000021     VOLUME   404899.556 3778469.698 151.33
   LOCATION L0000022     VOLUME   404899.556 3778483.698 151.52
   LOCATION L0000023     VOLUME   404899.439 3778497.698 151.72
   LOCATION L0000024     VOLUME   404899.315 3778511.697 151.93
   LOCATION L0000025     VOLUME   404899.190 3778525.697 152.22
   LOCATION L0000026     VOLUME   404899.065 3778539.696 152.43
   LOCATION L0000027     VOLUME   404898.940 3778553.696 152.63
   LOCATION L0000028     VOLUME   404898.815 3778567.695 152.78
   LOCATION L0000029     VOLUME   404898.690 3778581.695 152.97
```

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   LOCATION L0000030     VOLUME   404898.566 3778595.694 153.24
   LOCATION L0000031     VOLUME   404898.441 3778609.694 153.72
   LOCATION L0000032     VOLUME   404898.316 3778623.693 154.09
   LOCATION L0000033     VOLUME   404898.191 3778637.692 154.12
   LOCATION L0000034     VOLUME   404898.066 3778651.692 154.18
   LOCATION L0000035     VOLUME   404897.941 3778665.691 154.41
   LOCATION L0000036     VOLUME   404897.816 3778679.691 154.65
   LOCATION L0000037     VOLUME   404897.692 3778693.690 154.63
   LOCATION L0000038     VOLUME   404897.567 3778707.690 154.71
   LOCATION L0000039     VOLUME   404897.442 3778721.689 154.88
   LOCATION L0000040     VOLUME   404897.317 3778735.689 155.07
   LOCATION L0000041     VOLUME   404897.192 3778749.688 155.28
   LOCATION L0000042     VOLUME   404897.067 3778763.687 155.52
   LOCATION L0000043     VOLUME   404896.942 3778777.687 155.74
   LOCATION L0000044     VOLUME   404896.818 3778791.686 155.87
   LOCATION L0000045     VOLUME   404896.693 3778805.686 156.09
   LOCATION L0000046     VOLUME   404896.568 3778819.685 156.33
   LOCATION L0000047     VOLUME   404896.443 3778833.685 156.59
   LOCATION L0000048     VOLUME   404896.363 3778847.684 156.82
   LOCATION L0000049     VOLUME   404896.497 3778861.683 157.06
   LOCATION L0000050     VOLUME   404896.630 3778875.683 157.30
   LOCATION L0000051     VOLUME   404896.763 3778889.682 157.52
   LOCATION L0000052     VOLUME   404896.897 3778903.681 157.78
   LOCATION L0000053     VOLUME   404897.030 3778917.681 158.04
   LOCATION L0000054     VOLUME   404897.163 3778931.680 158.28
   LOCATION L0000055     VOLUME   404897.297 3778945.680 158.48
   LOCATION L0000056     VOLUME   404897.430 3778959.679 158.72
   LOCATION L0000057     VOLUME   404897.563 3778973.678 158.97
   LOCATION L0000058     VOLUME   404897.697 3778987.678 159.20
   LOCATION L0000059     VOLUME   404897.830 3779001.677 159.44
   LOCATION L0000060     VOLUME   404897.963 3779015.676 159.60
   LOCATION L0000061     VOLUME   404898.097 3779029.676 159.83
   LOCATION L0000062     VOLUME   404898.230 3779043.675 160.08
   LOCATION L0000063     VOLUME   404898.350 3779057.675 160.34
   LOCATION L0000064     VOLUME   404898.350 3779071.675 160.63
   LOCATION L0000065     VOLUME   404898.350 3779085.675 160.90
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
   SRCPARAM VOL1         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL2         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL3         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL4         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL5         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL6         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL7         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL8         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL9         0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL10        0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL11        0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL12        0.0004435125     1.524     5.877     1.400
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   SRCPARAM VOL13        0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL14        0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL15        0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL16        0.0004435125     1.524     5.877     1.400
   SRCPARAM VOL17        0.0004435125     1.524     5.877     1.400
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000002     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000003     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000004     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000005     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000006     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000007     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000008     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000009     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000010     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000011     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000012     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000013     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000014     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000015     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000016     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000017     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000018     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000019     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000020     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000021     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000022     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000023     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000024     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000025     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000026     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000027     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000028     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000029     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000030     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000031     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000032     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000033     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000034     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000035     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000036     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000037     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000038     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000039     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000040     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000041     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000042     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000043     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000044     0.000006184      3.49      6.51      3.25
```

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   SRCPARAM L0000045     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000046     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000047     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000048     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000049     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000050     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000051     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000052     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000053     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000054     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000055     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000056     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000057     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000058     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000059     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000060     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000061     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000062     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000063     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000064     0.000006184      3.49      6.51      3.25
   SRCPARAM L0000065     0.000006184      3.49      6.51      3.25
** ------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

```
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

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   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000001     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000002     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000003     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000004     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000005     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000006     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000007     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000008     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000009     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000010     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000011     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000012     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000013     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000014     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000015     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000016     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000017     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000018     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000019     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000020     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000021     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000022     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000023     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000024     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000025     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000026     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000027     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000028     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000029     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000030     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000031     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000031     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000031     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000032     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000033     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000034     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000034     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000034     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000035     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000035     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000035     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000036     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000036     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000037     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000054     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000055     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000055     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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** Saturday:
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   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000029     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000036     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000037     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000037     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000039     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000040     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000040     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000040     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000041     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000041     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000041     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000042     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000043     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000047     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000048     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000050     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000064     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "16493 Cons.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE azus_sfc_pfl\AZUS_V11_trimmed.sfc
   PROFFILE azus_sfc_pfl\AZUS_V11_trimmed.PFL
   SURFDATA 3179 2017
   UAIRDATA 3190 2017
   SITEDATA 60370002 2017
   PROFBASE 187.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL "16493 Cons.AD\PE00GALL.PLT" 31
   SUMMFILE "16493 Cons.sum"
OU FINISHED
```

```
 *** Message Summary For AERMOD Model Setup ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of            0 Informational Message(s)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186    1287       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
ME W187    1287       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
```

```
      * Model Uses URBAN Dispersion Algorithm for the SBL for    82 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   9663345.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: DPM

 **Model Calculates PERIOD Averages Only

 **This Run Includes:     82 Source(s);       1 Source Group(s); and      54
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     82 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  22112

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   187.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
VOL1	0	0.44351E-03	404806.2	3778282.5	148.7	1.52	5.88	1.40	YES	HRDOW	NO
VOL2	0	0.44351E-03	404810.1	3778192.7	146.9	1.52	5.88	1.40	YES	HRDOW	NO
VOL3	0	0.44351E-03	404828.6	3778284.2	148.7	1.52	5.88	1.40	YES	HRDOW	NO
VOL4	0	0.44351E-03	404848.2	3778284.2	148.7	1.52	5.88	1.40	YES	HRDOW	NO
VOL5	0	0.44351E-03	404868.8	3778285.0	148.8	1.52	5.88	1.40	YES	HRDOW	NO
VOL6	0	0.44351E-03	404827.8	3778260.1	148.6	1.52	5.88	1.40	YES	HRDOW	NO
VOL7	0	0.44351E-03	404849.2	3778259.9	148.5	1.52	5.88	1.40	YES	HRDOW	NO
VOL8	0	0.44351E-03	404869.6	3778260.7	148.6	1.52	5.88	1.40	YES	HRDOW	NO
VOL9	0	0.44351E-03	404826.2	3778237.5	148.5	1.52	5.88	1.40	YES	HRDOW	NO
VOL10	0	0.44351E-03	404869.4	3778237.5	148.4	1.52	5.88	1.40	YES	HRDOW	NO

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 VOL11            0   0.44351E-03  404847.4 3778237.9   148.5     1.52     5.88
1.40     YES   HRDOW            NO
 VOL12            0   0.44351E-03  404870.4 3778192.4   147.2     1.52     5.88
1.40     YES   HRDOW            NO
 VOL13            0   0.44351E-03  404826.4 3778192.0   146.9     1.52     5.88
1.40     YES   HRDOW            NO
 VOL14            0   0.44351E-03  404848.6 3778192.2   147.2     1.52     5.88
1.40     YES   HRDOW            NO
 VOL15            0   0.44351E-03  404869.8 3778215.9   148.0     1.52     5.88
1.40     YES   HRDOW            NO
 VOL16            0   0.44351E-03  404826.6 3778214.5   148.1     1.52     5.88
1.40     YES   HRDOW            NO
 VOL17            0   0.44351E-03  404848.2 3778214.5   148.0     1.52     5.88
1.40     YES   HRDOW            NO
 L0000001         0   0.61840E-05  404899.6 3778189.7   147.4     3.49     6.51
3.25     YES   HRDOW            NO
 L0000002         0   0.61840E-05  404899.6 3778203.7   147.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000003         0   0.61840E-05  404899.6 3778217.7   147.8     3.49     6.51
3.25     YES   HRDOW            NO
 L0000004         0   0.61840E-05  404899.6 3778231.7   148.0     3.49     6.51
3.25     YES   HRDOW            NO
 L0000005         0   0.61840E-05  404899.6 3778245.7   148.2     3.49     6.51
3.25     YES   HRDOW            NO
 L0000006         0   0.61840E-05  404899.6 3778259.7   148.3     3.49     6.51
3.25     YES   HRDOW            NO
 L0000007         0   0.61840E-05  404899.6 3778273.7   148.5     3.49     6.51
3.25     YES   HRDOW            NO
 L0000008         0   0.61840E-05  404899.6 3778287.7   148.7     3.49     6.51
3.25     YES   HRDOW            NO
 L0000009         0   0.61840E-05  404899.6 3778301.7   148.8     3.49     6.51
3.25     YES   HRDOW            NO
 L0000010         0   0.61840E-05  404899.6 3778315.7   149.0     3.49     6.51
3.25     YES   HRDOW            NO
 L0000011         0   0.61840E-05  404899.6 3778329.7   149.2     3.49     6.51
3.25     YES   HRDOW            NO
 L0000012         0   0.61840E-05  404899.6 3778343.7   149.4     3.49     6.51
3.25     YES   HRDOW            NO
 L0000013         0   0.61840E-05  404899.6 3778357.7   149.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000014         0   0.61840E-05  404899.6 3778371.7   150.0     3.49     6.51
3.25     YES   HRDOW            NO
 L0000015         0   0.61840E-05  404899.6 3778385.7   150.3     3.49     6.51
3.25     YES   HRDOW            NO
 L0000016         0   0.61840E-05  404899.6 3778399.7   150.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000017         0   0.61840E-05  404899.6 3778413.7   150.7     3.49     6.51
3.25     YES   HRDOW            NO
 L0000018         0   0.61840E-05  404899.6 3778427.7   150.8     3.49     6.51
3.25     YES   HRDOW            NO
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 L0000019         0   0.61840E-05  404899.6 3778441.7   151.0     3.49     6.51
3.25     YES   HRDOW            NO
 L0000020         0   0.61840E-05  404899.6 3778455.7   151.2     3.49     6.51
3.25     YES   HRDOW            NO
 L0000021         0   0.61840E-05  404899.6 3778469.7   151.3     3.49     6.51
3.25     YES   HRDOW            NO
 L0000022         0   0.61840E-05  404899.6 3778483.7   151.5     3.49     6.51
3.25     YES   HRDOW            NO
 L0000023         0   0.61840E-05  404899.4 3778497.7   151.7     3.49     6.51
3.25     YES   HRDOW            NO
```



```
                                                    *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE   AIRCRAFT
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 L0000024         0   0.61840E-05  404899.3 3778511.7   151.9     3.49     6.51
3.25     YES   HRDOW            NO
 L0000025         0   0.61840E-05  404899.2 3778525.7   152.2     3.49     6.51
3.25     YES   HRDOW            NO
 L0000026         0   0.61840E-05  404899.1 3778539.7   152.4     3.49     6.51
3.25     YES   HRDOW            NO
 L0000027         0   0.61840E-05  404898.9 3778553.7   152.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000028         0   0.61840E-05  404898.8 3778567.7   152.8     3.49     6.51
3.25     YES   HRDOW            NO
 L0000029         0   0.61840E-05  404898.7 3778581.7   153.0     3.49     6.51
3.25     YES   HRDOW            NO
 L0000030         0   0.61840E-05  404898.6 3778595.7   153.2     3.49     6.51
3.25     YES   HRDOW            NO
 L0000031         0   0.61840E-05  404898.4 3778609.7   153.7     3.49     6.51
3.25     YES   HRDOW            NO
 L0000032         0   0.61840E-05  404898.3 3778623.7   154.1     3.49     6.51
3.25     YES   HRDOW            NO
 L0000033         0   0.61840E-05  404898.2 3778637.7   154.1     3.49     6.51
3.25     YES   HRDOW            NO
```

```
 L0000034         0   0.61840E-05  404898.1 3778651.7   154.2     3.49     6.51
3.25     YES   HRDOW            NO
 L0000035         0   0.61840E-05  404897.9 3778665.7   154.4     3.49     6.51
3.25     YES   HRDOW            NO
 L0000036         0   0.61840E-05  404897.8 3778679.7   154.7     3.49     6.51
3.25     YES   HRDOW            NO
 L0000037         0   0.61840E-05  404897.7 3778693.7   154.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000038         0   0.61840E-05  404897.6 3778707.7   154.7     3.49     6.51
3.25     YES   HRDOW            NO
 L0000039         0   0.61840E-05  404897.4 3778721.7   154.9     3.49     6.51
3.25     YES   HRDOW            NO
 L0000040         0   0.61840E-05  404897.3 3778735.7   155.1     3.49     6.51
3.25     YES   HRDOW            NO
 L0000041         0   0.61840E-05  404897.2 3778749.7   155.3     3.49     6.51
3.25     YES   HRDOW            NO
 L0000042         0   0.61840E-05  404897.1 3778763.7   155.5     3.49     6.51
3.25     YES   HRDOW            NO
 L0000043         0   0.61840E-05  404896.9 3778777.7   155.7     3.49     6.51
3.25     YES   HRDOW            NO
 L0000044         0   0.61840E-05  404896.8 3778791.7   155.9     3.49     6.51
3.25     YES   HRDOW            NO
 L0000045         0   0.61840E-05  404896.7 3778805.7   156.1     3.49     6.51
3.25     YES   HRDOW            NO
 L0000046         0   0.61840E-05  404896.6 3778819.7   156.3     3.49     6.51
3.25     YES   HRDOW            NO
 L0000047         0   0.61840E-05  404896.4 3778833.7   156.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000048         0   0.61840E-05  404896.4 3778847.7   156.8     3.49     6.51
3.25     YES   HRDOW            NO
 L0000049         0   0.61840E-05  404896.5 3778861.7   157.1     3.49     6.51
3.25     YES   HRDOW            NO
 L0000050         0   0.61840E-05  404896.6 3778875.7   157.3     3.49     6.51
3.25     YES   HRDOW            NO
 L0000051         0   0.61840E-05  404896.8 3778889.7   157.5     3.49     6.51
3.25     YES   HRDOW            NO
 L0000052         0   0.61840E-05  404896.9 3778903.7   157.8     3.49     6.51
3.25     YES   HRDOW            NO
 L0000053         0   0.61840E-05  404897.0 3778917.7   158.0     3.49     6.51
3.25     YES   HRDOW            NO
 L0000054         0   0.61840E-05  404897.2 3778931.7   158.3     3.49     6.51
3.25     YES   HRDOW            NO
 L0000055         0   0.61840E-05  404897.3 3778945.7   158.5     3.49     6.51
3.25     YES   HRDOW            NO
 L0000056         0   0.61840E-05  404897.4 3778959.7   158.7     3.49     6.51
3.25     YES   HRDOW            NO
 L0000057         0   0.61840E-05  404897.6 3778973.7   159.0     3.49     6.51
3.25     YES   HRDOW            NO
 L0000058         0   0.61840E-05  404897.7 3778987.7   159.2     3.49     6.51
3.25     YES   HRDOW            NO
```

```
 L0000059         0   0.61840E-05  404897.8 3779001.7   159.4     3.49     6.51
3.25     YES   HRDOW            NO
 L0000060         0   0.61840E-05  404898.0 3779015.7   159.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000061         0   0.61840E-05  404898.1 3779029.7   159.8     3.49     6.51
3.25     YES   HRDOW            NO
 L0000062         0   0.61840E-05  404898.2 3779043.7   160.1     3.49     6.51
3.25     YES   HRDOW            NO
 L0000063         0   0.61840E-05  404898.3 3779057.7   160.3     3.49     6.51
3.25     YES   HRDOW            NO
```



```
                                                    *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE   AIRCRAFT
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 L0000064         0   0.61840E-05  404898.3 3779071.7   160.6     3.49     6.51
3.25     YES   HRDOW            NO
 L0000065         0   0.61840E-05  404898.3 3779085.7   160.9     3.49     6.51
3.25     YES   HRDOW            NO
```



```
                                                *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------
```

```
  ALL        VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
VOL6        , VOL7        , VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       ,
VOL14       , VOL15       , VOL16       ,

             VOL17       , L0000001    , L0000002    , L0000003    , L0000004    ,
L0000005    , L0000006    , L0000007    ,

             L0000008    , L0000009    , L0000010    , L0000011    , L0000012    ,
L0000013    , L0000014    , L0000015    ,

             L0000016    , L0000017    , L0000018    , L0000019    , L0000020    ,
L0000021    , L0000022    , L0000023    ,

             L0000024    , L0000025    , L0000026    , L0000027    , L0000028    ,
L0000029    , L0000030    , L0000031    ,

             L0000032    , L0000033    , L0000034    , L0000035    , L0000036    ,
L0000037    , L0000038    , L0000039    ,

             L0000040    , L0000041    , L0000042    , L0000043    , L0000044    ,
L0000045    , L0000046    , L0000047    ,

             L0000048    , L0000049    , L0000050    , L0000051    , L0000052    ,
L0000053    , L0000054    , L0000055    ,

             L0000056    , L0000057    , L0000058    , L0000059    , L0000060    ,
L0000061    , L0000062    , L0000063    ,

             L0000064    , L0000065    ,
 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP                                    SOURCE IDs
  --------   ---------                                    ----------


              9663345.   VOL1        , VOL2        , VOL3        , VOL4        ,
VOL5        , VOL6        , VOL7        ,
 VOL8        ,
```

```
             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       ,
VOL14       , VOL15       , VOL16       ,

             VOL17       , L0000001    , L0000002    , L0000003    , L0000004    ,
L0000005    , L0000006    , L0000007    ,

             L0000008    , L0000009    , L0000010    , L0000011    , L0000012    ,
L0000013    , L0000014    , L0000015    ,

             L0000016    , L0000017    , L0000018    , L0000019    , L0000020    ,
L0000021    , L0000022    , L0000023    ,

             L0000024    , L0000025    , L0000026    , L0000027    , L0000028    ,
L0000029    , L0000030    , L0000031    ,

             L0000032    , L0000033    , L0000034    , L0000035    , L0000036    ,
L0000037    , L0000038    , L0000039    ,

             L0000040    , L0000041    , L0000042    , L0000043    , L0000044    ,
L0000045    , L0000046    , L0000047    ,

             L0000048    , L0000049    , L0000050    , L0000051    , L0000052    ,
L0000053    , L0000054    , L0000055    ,

             L0000056    , L0000057    , L0000058    , L0000059    , L0000060    ,
L0000061    , L0000062    , L0000063    ,

             L0000064    , L0000065    ,
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL2          ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
```

14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = VOL3   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - -

```
 SOURCE ID = VOL4          ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL5          ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL6         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
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22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL7         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
                                                  DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL8         ; SOURCE TYPE = VOLUME   :
```

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL9         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
```

```
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL10        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL11   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                          DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                          DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                          DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL12   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR

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 - - -
```

14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                                              DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL14   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -

                                              DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                                              DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                                              DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL15   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL16   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -

```
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = VOL17        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
```

```
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000001     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000002   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000003   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00

```
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000004     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
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    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000005     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000006     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000007     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
```

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14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000008     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
```

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000009     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
```

OF WEEK (HRDOW) *

 SOURCE ID = L0000010   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - -

22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00

9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00

17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00

9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00

17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000012   ; SOURCE TYPE = VOLUME   :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00

9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01

17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00

9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00

17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00

9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00

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   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000013     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
                                                  DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *
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```
 SOURCE ID = L0000014     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000015     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000016     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
```

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000017   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -

                                                  DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                  DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                  DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000018   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR

HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - -

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000020     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000021   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -

                                                   DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                   DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                   DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000022   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -

```
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  46
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000023     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
```

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   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
```

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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000024     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37
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* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000025   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000026   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000027     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
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                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000028     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000029     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000030     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
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    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000031     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                            DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
```

6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000032   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                 DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000033     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000034     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000035     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
```

14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000036   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
                                                  DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                  DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                  DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000037     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000038     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  62
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000039     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
```

22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000040   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -

                                                  DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                  DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                  DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000041   ; SOURCE TYPE = VOLUME   :

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  65
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000042     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
```

```
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                   PAGE  66
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000043     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000044   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                          DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                          DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                          DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000045   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR

```
 - - -
```

```
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
1*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000047     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                            DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
1*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000048   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000049   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000050   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01
14 .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00
22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00
6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00
14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00

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22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  74
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000051     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37
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* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000052   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000053   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00

```
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000054     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000055     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  79
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000056     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000057     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
```

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14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
*** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000058     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
```

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000059     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
```

OF WEEK (HRDOW) *

 SOURCE ID = L0000060   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - -

```
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000062     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                        ***        14:36:37

                                   PAGE  86
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000063     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↑ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                        ***        14:36:37

                                   PAGE  87
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *
```

```
 SOURCE ID = L0000064     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  88
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY
OF WEEK (HRDOW) *

 SOURCE ID = L0000065     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01
14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00
6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00
14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00
22  .0000E+00   23  .0000E+00   24  .0000E+00
 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  89
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 404922.8, 3778297.2,     149.0,    1878.7,       0.0);        ( 404857.5,
3778322.5,     149.4,    1878.7,       0.0);
     ( 404835.5, 3778319.9,     148.7,    1878.7,       0.0);        ( 404795.1,
3778312.1,     148.6,    1878.7,       0.0);
     ( 404814.2, 3778315.2,     148.7,    1878.7,       0.0);        ( 404775.0,
3778302.9,     148.4,    1878.7,       0.0);
     ( 404747.2, 3778286.5,     147.9,    1878.7,       0.0);        ( 404721.9,
3778271.1,     147.6,    1878.7,       0.0);
     ( 404694.5, 3778255.1,     147.5,    1878.7,       0.0);        ( 404793.2,
3778266.6,     149.2,    1878.7,       0.0);
     ( 404790.3, 3778195.6,     148.4,    1878.7,       0.0);        ( 404791.5,
3778228.6,     149.0,    1878.7,       0.0);
     ( 404921.9, 3778319.5,     149.4,    1878.7,       0.0);        ( 404916.5,
3778193.8,     147.4,    1878.7,       0.0);
     ( 404925.2, 3778205.9,     147.5,    1878.7,       0.0);        ( 404947.2,
3778203.2,     147.4,    1878.7,       0.0);
     ( 404920.2, 3778337.4,     149.5,    1878.7,       0.0);        ( 404938.8,
3778130.1,     146.8,    1878.7,       0.0);
     ( 404961.3, 3778150.1,     146.9,    1878.7,       0.0);        ( 404919.5,
3778098.6,     146.3,    1878.7,       0.0);
     ( 404879.7, 3778150.4,     146.8,    1878.7,       0.0);        ( 404823.4,
3778150.2,     146.5,    1878.7,       0.0);
     ( 404749.6, 3778149.9,     146.1,    1878.7,       0.0);        ( 404933.1,
3778100.2,     146.2,    1878.7,       0.0);
     ( 404965.8, 3778098.2,     146.3,    1878.7,       0.0);        ( 404714.9,
```

```
3778442.7,     150.8,    1878.7,       0.0);
     ( 404713.7, 3778419.0,     150.1,    1878.7,       0.0);         ( 404716.4,
3778392.2,     149.7,    1878.7,       0.0);
     ( 404701.9, 3778375.4,     149.5,    1878.7,       0.0);         ( 404684.0,
3778354.7,     148.9,    1878.7,       0.0);
     ( 404671.3, 3778337.1,     148.6,    1878.7,       0.0);         ( 404656.7,
3778318.3,     148.4,    1878.7,       0.0);
     ( 404642.3, 3778298.7,     148.0,    1878.7,       0.0);         ( 404621.0,
3778277.4,     147.8,    1878.7,       0.0);
     ( 404606.8, 3778257.1,     147.4,    1878.7,       0.0);         ( 404574.9,
3778257.9,     147.1,    1878.7,       0.0);
     ( 404484.8, 3778210.0,     146.0,    1878.7,       0.0);         ( 404483.2,
3778255.3,     146.6,    1878.7,       0.0);
     ( 404693.0, 3778151.1,     145.8,    1878.7,       0.0);         ( 404917.8,
3777789.3,     142.3,    1878.7,       0.0);
     ( 404768.3, 3778394.5,     149.8,    1878.7,       0.0);         ( 404839.4,
3778411.9,     150.6,    1878.7,       0.0);
     ( 404765.1, 3778179.5,     146.3,    1878.7,       0.0);         ( 404705.7,
3778203.3,     146.6,    1878.7,       0.0);
     ( 404959.3, 3778715.3,     155.3,    1878.7,       0.0);         ( 404879.2,
3778787.7,     156.0,    1878.7,       0.0);
     ( 404874.5, 3778890.9,     157.9,    1878.7,       0.0);         ( 404916.3,
3778882.5,     157.7,    1878.7,       0.0);
     ( 404917.5, 3778818.1,     156.6,    1878.7,       0.0);         ( 404916.5,
3778835.7,     156.8,    1878.7,       0.0);
     ( 404919.0, 3778848.9,     157.1,    1878.7,       0.0);         ( 404872.9,
3779103.2,     161.4,    1878.7,       0.0);
     ( 404918.4, 3779136.5,     162.1,    1878.7,       0.0);         ( 404475.2,
3778114.7,     144.6,    1878.7,       0.0);
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                          ***       14:36:37

                                   PAGE  90
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                                  (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
```

```
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                    *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                          (METERS/SEC)

                                                  1.54,   3.09,   5.14,   8.23,
10.80,
↟ *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                   PAGE  91
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   azus_sfc_pfl\AZUS_V11_trimmed.sfc
                Met Version:  22112
   Profile file:   azus_sfc_pfl\AZUS_V11_trimmed.PFL

   Surface format: FREE

   Profile format: FREE

   Surface station no.:     3179                  Upper air station no.:     3190
                Name: UNKNOWN                                 Name: UNKNOWN

                Year:   2017                                  Year:   2017

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 17 01 01   1 01  -11.3  0.154 -9.000 -9.000 -999.  145.     28.6  0.34   0.75
1.00    1.36   97.   10.0  281.4    9.5
 17 01 01   1 02   -5.9  0.110 -9.000 -9.000 -999.   88.     20.0  0.29   0.75
```

```
1.00    1.05   88.   10.0  281.0    9.5
 17 01 01   1 03   -6.6  0.117 -9.000 -9.000 -999.   95.     21.1  0.29   0.75
1.00    1.11   69.   10.0  280.5    9.5
 17 01 01   1 04   -6.9  0.119 -9.000 -9.000 -999.   99.     21.7  0.33   0.75
1.00    1.08  132.   10.0  279.8    9.5
 17 01 01   1 05   -4.1  0.091 -9.000 -9.000 -999.   66.     16.1  0.17   0.75
1.00    1.00  314.   10.0  279.5    9.5
 17 01 01   1 06  -18.0  0.193 -9.000 -9.000 -999.  204.     41.0  0.21   0.75
1.00    1.96   35.   10.0  279.8    9.5
 17 01 01   1 07  -10.5  0.147 -9.000 -9.000 -999.  136.     27.0  0.29   0.75
1.00    1.38   80.   10.0  279.6    9.5
 17 01 01   1 08   -6.3  0.118 -9.000 -9.000 -999.   97.     22.9  0.29   0.75
0.55    1.12   74.   10.0  279.4    9.5
 17 01 01   1 09   25.4  0.209  0.420  0.005  103.  230.    -31.8  0.29   0.75
0.32    1.55   70.   10.0  282.2    9.5
 17 01 01   1 10   64.6  0.296  1.020  0.005  581.  386.    -35.4  0.33   0.75
0.25    2.13  126.   10.0  283.6    9.5
 17 01 01   1 11   91.0  0.325  1.350  0.005  956.  444.    -33.2  0.33   0.75
0.22    2.32  130.   10.0  284.1    9.5
 17 01 01   1 12   87.8  0.248  1.393  0.005 1087.  299.    -15.3  0.32   0.75
0.21    1.62  152.   10.0  285.1    9.5
 17 01 01   1 13  103.2  0.182  1.514  0.005 1188.  187.     -5.1  0.33   0.75
0.21    0.97  144.   10.0  286.1    9.5
 17 01 01   1 14   74.8  0.225  1.385  0.005 1256.  255.    -13.4  0.23   0.75
0.22    1.61  214.   10.0  286.9    9.5
 17 01 01   1 15   50.9  0.150  1.233  0.005 1300.  142.     -5.9  0.07   0.75
0.26    1.37  273.   10.0  286.7    9.5
 17 01 01   1 16    1.2  0.122  0.356  0.005 1300.  102.   -130.2  0.23   0.75
0.35    1.08  210.   10.0  286.6    9.5
 17 01 01   1 17  -13.1  0.175 -9.000 -9.000 -999.  176.     36.0  0.32   0.75
0.62    1.55  172.   10.0  286.3    9.5
 17 01 01   1 18  -13.7  0.171 -9.000 -9.000 -999.  169.     32.2  0.32   0.75
1.00    1.53  179.   10.0  285.8    9.5
 17 01 01   1 19   -9.0  0.136 -9.000 -9.000 -999.  121.     24.7  0.23   0.75
1.00    1.38  215.   10.0  285.4    9.5
 17 01 01   1 20   -3.7  0.086 -9.000 -9.000 -999.   61.     14.9  0.12   0.75
1.00    1.03  259.   10.0  285.0    9.5
 17 01 01   1 21   -1.8  0.070 -9.000 -9.000 -999.   44.     16.4  0.16   0.75
1.00    0.58  349.   10.0  284.9    9.5
 17 01 01   1 22   -3.4  0.086 -9.000 -9.000 -999.   61.     16.6  0.29   0.75
1.00    0.78   61.   10.0  284.8    9.5
 17 01 01   1 23  -14.0  0.170 -9.000 -9.000 -999.  168.     31.8  0.21   0.75
1.00    1.74   43.   10.0  284.2    9.5
 17 01 01   1 24  -21.5  0.220 -9.000 -9.000 -999.  248.     53.3  0.21   0.75
1.00    2.22   43.   10.0  283.9    9.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 17 01 01 01    9.5 0 -999.  -99.00   281.4   99.0  -99.00  -99.00
```

```
 17 01 01 01   10.0 1   97.    1.36  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                         ***       14:36:37

                                   PAGE  92
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE PERIOD ( 43824 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2
 , VOL3        , VOL4        , VOL5        ,
                 VOL6        , VOL7        , VOL8        , VOL9        , VOL10
 , VOL11       , VOL12       , VOL13       ,
                 VOL14       , VOL15       , VOL16       , VOL17       , L0000001
 , L0000002    , L0000003    , L0000004    ,
                 L0000005    , L0000006    , L0000007    , L0000008    , L0000009
 , L0000010    , L0000011    ,  . . .      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF DPM      IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         404922.77    3778297.21        0.10727                      404857.48
3778322.49        0.11796
         404835.49    3778319.90        0.12460                      404795.14
3778312.10        0.09675
         404814.19    3778315.22        0.12280                      404775.05
3778302.93        0.06907
         404747.17    3778286.47        0.03794                      404721.88
3778271.06        0.02396
         404694.52    3778255.13        0.01560                      404793.23
3778266.56        0.21337
         404790.29    3778195.56        0.19015                      404791.50
3778228.63        0.15539
         404921.90    3778319.55        0.07805                      404916.53
3778193.82        0.11034
         404925.19    3778205.95        0.10456                      404947.18
3778203.18        0.06338
         404920.17    3778337.39        0.05707                      404938.75
3778130.14        0.02092
```

```
         404961.27    3778150.06        0.02251                      404919.53
3778098.62        0.01513
         404879.70    3778150.40        0.07249                      404823.42
3778150.23        0.08973
         404749.64    3778149.88        0.02686                      404933.13
3778100.24        0.01391
         404965.81    3778098.17        0.01043                      404714.88
3778442.70        0.00548
         404713.71    3778419.00        0.00669                      404716.36
3778392.20        0.00866
         404701.93    3778375.42        0.00885                      404683.97
3778354.67        0.00874
         404671.31    3778337.15        0.00852                      404656.74
3778318.30        0.00796
         404642.31    3778298.72        0.00729                      404620.96
3778277.38        0.00611
         404606.83    3778257.06        0.00543                      404574.89
3778257.95        0.00405
         404484.79    3778209.96        0.00205                      404483.17
3778255.30        0.00206
         404693.04    3778151.08        0.01173                      404917.76
3777789.26        0.00107
         404768.32    3778394.46        0.01249                      404839.39
3778411.95        0.01343
         404765.15    3778179.55        0.05559                      404705.73
3778203.29        0.01794
         404959.30    3778715.28        0.00278                      404879.18
3778787.70        0.00542
         404874.49    3778890.90        0.00420                      404916.34
3778882.46        0.00556
         404917.46    3778818.10        0.00549                      404916.52
3778835.74        0.00559
         404918.96    3778848.87        0.00512                      404872.86
3779103.21        0.00144
         404918.38    3779136.51        0.00078                      404475.19
3778114.68        0.00170
 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  93
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                       *** THE SUMMARY OF MAXIMUM PERIOD ( 43824
HRS) RESULTS ***


                                    ** CONC OF DPM      IN MICROGRAMS/M**3
              **
```

```
                         NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.21337 AT (  404793.23,  3778266.56,
149.16,  1878.68,    0.00)  DC
          2ND HIGHEST VALUE IS       0.19015 AT (  404790.29,  3778195.56,
148.38,  1878.68,    0.00)  DC
          3RD HIGHEST VALUE IS       0.15539 AT (  404791.50,  3778228.63,
149.01,  1878.68,    0.00)  DC
          4TH HIGHEST VALUE IS       0.12460 AT (  404835.49,  3778319.90,
148.68,  1878.68,    0.00)  DC
          5TH HIGHEST VALUE IS       0.12280 AT (  404814.19,  3778315.22,
148.65,  1878.68,    0.00)  DC
          6TH HIGHEST VALUE IS       0.11796 AT (  404857.48,  3778322.49,
149.40,  1878.68,    0.00)  DC
          7TH HIGHEST VALUE IS       0.11034 AT (  404916.53,  3778193.82,
147.39,  1878.68,    0.00)  DC
          8TH HIGHEST VALUE IS       0.10727 AT (  404922.77,  3778297.21,
148.98,  1878.68,    0.00)  DC
          9TH HIGHEST VALUE IS       0.10456 AT (  404925.19,  3778205.95,
147.54,  1878.68,    0.00)  DC
         10TH HIGHEST VALUE IS       0.09675 AT (  404795.14,  3778312.10,
148.60,  1878.68,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION 24142  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\16493
Arcadia Town Ctr\16493 Co ***        02/11/25
 *** AERMET - VERSION  22112 ***   ***
                       ***        14:36:37

                                  PAGE  94
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of          474 Informational Message(s)
```

```
A Total of        43824 Hours Were Processed

A Total of           41 Calm Hours Identified

A Total of          433 Missing Hours Identified (  0.99 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186    1287       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
ME W187    1287       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

APPENDIX 2.3:

RISK CALCULATIONS

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Construction Risk

Receptor No.	Age Bin	DPM Conc. ($\mu g/m^3$)	Exposure Frequency (days)	Exposure Duration (years)	Inhalation Rate (L/kg-day)	Inhalation Absorption Factor	Averaging Time (years)	FAH	ASF	Cancer Risk				Non-Cancer Risk								
										URF	CPF	Dose	Risk (per million)	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	REPRO	EYES
1 (MEIR)	-0.25 to 0	0.01513	250	0.25	361	1	70	1.00	10	3.0E-04	1.1E+00	3.7E-06	0.14	5.0E+00	1.4E-03	3.0E-03						
	0 to 2	0.01513	250	2.00	1090	1	70	1.00	10	3.0E-04	1.1E+00	1.1E-05	3.39	5.0E+00	1.4E-03	3.0E-03						
	2 to 16	0.01513	250	0.15	572	1	70	1.00	3	3.0E-04	1.1E+00	5.9E-06	0.04	5.0E+00	1.4E-03	3.0E-03						
												Total	3.57			9.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	-0.25 to 0	0.00885	250	0.25	361	1	70	1.00	10	3.0E-04	1.1E+00	2.2E-06	0.08	5.0E+00	1.4E-03	1.8E-03						
	0 to 2	0.00885	250	2.00	1090	1	70	1.00	10	3.0E-04	1.1E+00	6.6E-06	1.98	5.0E+00	1.4E-03	1.8E-03						
	2 to 16	0.00885	250	0.15	572	1	70	1.00	3	3.0E-04	1.1E+00	3.5E-06	0.02	5.0E+00	1.4E-03	1.8E-03						
												Total	2.09			5.3E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3 (MEIW)	16 to 41	0.21337	250	2.40	230	1	70	1.00	1	3.0E-04	1.1E+00	3.4E-05	1.21	5.0E+00	1.4E-03	4.3E-02						
												Total	1.21			4.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4	4 to 13	0.08973	180	2.40	572	1	70	1.00	3	3.0E-04	1.1E+00	2.5E-05	2.73	5.0E+00	1.4E-03	1.8E-02						
												Total	2.73			1.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
5 (MEISC)	4 to 13	0.00107	180	2.40	572	1	70	1.00	3	3.0E-04	1.1E+00	3.0E-07	0.03	5.0E+00	1.4E-03	2.1E-04						
												Total	0.03			2.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

APPENDIX 2.4:

MODELED RECEPTORS

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Mitigation Monitoring and Reporting Program

Arcadia Town Center Project
SCH No. 2024110749

Prepared for

City of Arcadia
Development Services Department
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Contact: Edwin Arreola
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Prepared by

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January 2025

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SECTION 1.0 MITIGATION MONITORING AND REPORTING PROGRAM

1.1 INTRODUCTION

In accordance with the requirements of Section 21081.6 of the *California Public Resources Code,* and as part of its adoption of Initial Study and Mitigated Negative Declaration (IS/MND) for the Arcadia Town Center Project, the City of Arcadia (City) adopts this Mitigation Monitoring and Reporting Program (MMRP). The City adopts this MMRP in its capacity as the lead agency for the IS/MND in accordance with the provisions of the California Environmental Quality Act (CEQA) (*California Public Resources Code* Section 21000 et seq.) and the State CEQA Guidelines (*California Code of Regulations,* Title 14, Section 15000 et seq.).

The principal purpose of this MMRP is to ensure that the mitigation measures and regulatory requirements for the approved Project are reported and monitored to ensure compliance with their requirements. In general, the City of Arcadia Development Services Department is responsible for overseeing implementation and completion of the adopted measures. This includes the review of all monitoring reports, enforcement actions, and document disposition, unless otherwise noted in the attached MMRP table.

1.2 MITIGATION MONITORING AND REPORTING PROGRAM

The MMRP is provided in tabular format to facilitate effective tracking and documentation of the status of mitigation measures. The attached MMRP table provides the following monitoring information:

- **Regulatory Requirements and Mitigation Measures.** The text of all adopted mitigation measures (MMs) from the IS/MND has been provided in this MMRP. Regulatory requirements (RRs) that are applicable to the Project are also included in the MMRP, which include laws, rules, regulations, and ordinances that would avoid and/or minimize environmental impacts of the Project.
- **Responsible for Implementation.** This MMRP identifies the party that is responsible for implementing each of the RRs and MMs that is specified in the IS/MND.
- **Timing.** This MMRP includes information related to when each RR and MM in the IS/MND will be implemented.
- **Responsibility for Monitoring.** This MMRP identifies the City Department(s) or other public agency(ies) that are responsible for overseeing the implementation and completion of each mitigation measure.
- **Completion Date.** The completion date column of this MMRP is used to record the date that each mitigation measure is completed. This column of the MMRP table will be filled in by the City in the future as the Project is implemented and the RRs and MMs are completed. Upon completion, the MMRP and associated documentation will be kept on file at the City of Arcadia Development Services Department.

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Regulatory Requirements and Mitigation Measures	Responsible for Implementation	Timing	Responsibility for Monitoring	Completion Date (Signature Required)
Aesthetics				
RR AES-1 The Project Applicant/Property Owner shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting would be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code.	Applicant/Property Owner	Prior to issuance of a building permit	City of Arcadia Development Services Department, Planning Division	
Air Quality				
RR AQ-1 The Project shall be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to: • SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short term particulate pollutant emissions. • SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property". • SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project.	Applicant/Property Owner Construction Contractor	Throughout construction	City of Arcadia Development Services Department, Building Division	
Biological Resources				
RR BIO-1 Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA): To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned.	Applicant/Property Owner Construction Contractor Qualified Biologist	Prior to approval of grading plans Within 5 days of vegetation clearing if between February 1 and August 31	City of Arcadia Development Services Department Planning Division	
RR BIO-2 As required by the City's Comprehensive Tree Management Program, the Project Applicant/Property Owner shall obtain a permit from the Arcadia Public Works Services Department for the removal and planting of street trees associated with the Project. The Project Applicant/Property Owner will abide by the standards set forth in the permit, as well as standards contained in the Comprehensive Tree Management Program and other applicable sections of the Arcadia Development and Municipal Codes.	Applicant/Property Owner	Prior to issuance of a building permit.	City of Arcadia Public Works Services Department	
RR BIO-3 The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.	Applicant/Property Owner	During plan-check for approval and the trees must be planted prior to issuance of a Certificate of Occupancy	City of Arcadia Public Works Services Department	

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Regulatory Requirements and Mitigation Measures	Responsible for Implementation	Timing	Responsibility for Monitoring	Completion Date (Signature Required)
Cultural Resources				
RR CUL-1 If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code §5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code §5097.98).	Applicant/Property Owner Construction Contractor Los Angeles County Coroner Native American Heritage Commission and MLD	During excavation activities	City of Arcadia Development Services Department, Planning and Building Divisions	
MM CUL-1 Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Project Applicant/Property Owner. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Project Applicant/Property Owner shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.	Applicant/Property Owner Construction Contractor Qualified Archaeologist	Prior to issuance of a demolition permit	City of Arcadia Development Services Department, Planning Division	
Energy				
RR ENR-1 The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen code. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles.	Applicant/Property Owner Construction Contractor	Prior to issuance of a building permit and during construction activities	City of Arcadia Development Services Department, Building Division	
Geology and Soils				
RR GEO-1 Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes (CBSC 2022). Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved.	Applicant/Property Owner	Prior to approval of grading plans	City of Arcadia Development Services Department, Building Division	
RR GEO-2 The Project building design specifications shall include recommendations from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geocon West, Inc. 2021, Appendix D). These recommendations include, but are not limited to, specifications for the following: • Demolition and site preparation • Fill placement • Remedial grading and over excavation • Foundation recommendations • Building Floor Slabs and reinforcement The Project building design specifications shall be verified by the City of Arcadia Building Official prior to issuance of a demolition permit.	Applicant/Property Owner City of Arcadia Building Official	Prior to issuance of a demolition permit	City of Arcadia Development Services Department, Building Division	

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Regulatory Requirements and Mitigation Measures	Responsible for Implementation	Timing	Responsibility for Monitoring	Completion Date (Signature Required)
Hazards and Hazardous Materials				
RR HAZ-1 Activities at the Project site shall comply with existing federal, State, and local regulations regarding hazardous material use, storage, disposal, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards.	Applicant/Property Owner Construction Contractor	During construction	City of Arcadia Development Services Department, Building Division	
Hydrology and Water Quality				
RR HWQ-1 Prior to the City's issuance of a demolition permit, the Project Applicant/Property Owner shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002), which will require the development and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP).	Applicant/Property Owner Construction Contractor	Prior to issuance of a demolition permit	City of Arcadia Development Services Department – Engineering and Building Divisions	
Noise				
MM NOI-1 The Project Applicant/Property Owner shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition.	Applicant/Property Owner Construction Contractor	During any demolition, grading, and construction	City of Arcadia Development Services Department, Building Division	
Public Services				
RR PUB-1 The Project Applicant/Property Owner shall comply with all applicable codes, ordinances, and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy.	Applicant/Property Owner	Prior to issuance of a building permit Implementation prior to issuance of a Certificate of Occupancy permit	City of Arcadia Development Services Department, Planning and Building Divisions City of Arcadia Fire Department	
RR PUB-2 In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.	Applicant/Property Owner	Prior to issuance of a building permit	City of Arcadia Development Services Department, Building Division and Arcadia's Fire Department	
RR PUB-3 Prior to issuance of the building permit, the Project Applicant/Property Owner shall pay new development fees to the AUSD pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Property Owner can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit.	Applicant/Property Owner Arcadia Unified School District	Prior to issuance of a building permit	City of Arcadia Development Services Department, Building Division	
RR PUB-4 In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.	Applicant/Property Owner	Prior to issuance of a building permit	City of Arcadia Development Services Department, Building Division	

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Regulatory Requirements and Mitigation Measures	Responsible for Implementation	Timing	Responsibility for Monitoring	Completion Date (Signature Required)
Transportation/Traffic				
RR TRANS-1 Require the Applicant/Property Owner to contribute, on a cost-share basis, to the City's Transportation Impact Fee program, for any intersections affected by the Project, based on the net new PM Peak House vehicle trips generated, per the City's Transportation Impact Fee Program Update adopted on October 18, 2016.	Applicant/Property Owner	Prior to issuance of a building permit	City of Arcadia Development Services Department, Building and Engineering Divisions	
MM TRANS-1 Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Project Applicant/Property Owner for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Applicant/Property Owner will coordinate begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown. At a minimum, the Construction Management Plan shall: • Describe the duration and location of lane closures (if any). • Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage. • Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets. • Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets. • Identify of emergency access points/routes. • Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets. • Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas. • All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays. • Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer. • Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users. • Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer. • Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown.	Applicant/Property Owner Construction Contractor	Prior to issuance of a grading permit	City of Arcadia Development Services Department, Planning and Engineering Divisions	

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Regulatory Requirements and Mitigation Measures	Responsible for Implementation	Timing	Responsibility for Monitoring	Completion Date (Signature Required)
Tribal Cultural Resources				
MM TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities A. The Project Applicant/Property Owner shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity. C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered tribal cultural resources, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the Project Applicant/City upon written request to the Tribe. D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.	Applicant/Property Owner Construction Contractor Native American Monitor – Kizh Nation	Prior to commencement a grading permit or any ground disturbing activities During construction	City of Arcadia Development Services Department, Planning and Building Divisions	
MM TCR-2 Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial) Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.	Applicant/Property Owner Construction Contractor Native American Monitor – Kizh Nation	During any grading or ground-disturbing activities	City of Arcadia Development Services Department, Planning and Building Divisions	
MM TCR-3 Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects A. Native American human remains are defined in Public Resources Code section 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute. B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed. C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.	Applicant/Property Owner Construction Contractor Los Angeles County Coroner Native American Heritage Commission and MLD	During any grading or ground-disturbing activities	City of Arcadia Development Services Department, Planning and Building Divisions	

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Regulatory Requirements and Mitigation Measures	Responsible for Implementation	Timing	Responsibility for Monitoring	Completion Date (Signature Required)
Utilities and Service Systems				
RR UTIL-1 The Project Applicant/Property Owner shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826.	Applicant/Property Owner	During construction	City of Arcadia Public Works Services Department	
MM UTIL-1 Sewer Upsizing Fair Share Payment. Prior to issuance of a Certificate of Occupancy permit for the Project, the Applicant/Property Owner shall make a fair share contribution of 9 percent of the total Santa Anita Avenue sewer upsizing project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue within 12-inch diameter pipelines. The Santa Anita Avenue sewer upsizing project shall be split into three phases and included in the City's 2024-25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue sewer upsizing project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate.	Applicant/Property Owner	Prior to issuance of a Certificate of Occupancy permit	City of Arcadia Public Works Services Department	

Arcadia Town Center Project

Initial Study/Mitigated Negative Declaration

Submitted to

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SECTION 1.0 INTRODUCTION

1.1 PURPOSE OF THIS INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

In accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.), this Initial Study (IS) has been prepared as documentation for a Mitigated Negative Declaration (MND) for the Arcadia Town Center Project (Project). This Initial Study and Mitigated Negative Declaration (IS/MND) includes a description of the Project; the location of the Project site; and an evaluation of the potential environmental impacts that would result from Project implementation. It includes significance determinations from the environmental analyses; identifies regulatory requirements (RRs) that must be implemented; and sets forth mitigation measures (MMs) that will lessen or avoid potentially significant Project impacts on the environment. RRs are based on local, State, and/or federal regulations or laws that are required independent of CEQA review, yet also serve to offset or prevent certain impacts.

Pursuant to Section 15367 of the State CEQA Guidelines, the City of Arcadia (City) is the lead agency for the Project. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment. The City, as lead agency, has the authority for Project approval and certification of the accompanying environmental documentation.

1.2 PROJECT OVERVIEW

New World International Investment, LLC (Project Applicant/Property Owner) proposes to consolidate and redevelop an approximate 2.27-acre site with a mixed-use development consisting of a 440,938 square foot (sf), five story (above ground) building with one level of subterranean parking and one level of ground level parking. The Project includes 181 residential units; 3,890 sf of residential amenities; 38,713 sf of public and private open space; 13,130 sf of ground-floor commercial uses facing toward Huntington Drive and Santa Anita Avenue; and 378 parking spaces. More detailed information on the Project is provided in Section 2.2, Project Description, of this IS/MND.

1.3 SUMMARY OF ENVIRONMENTAL IMPACTS

The analysis in Section 3, Environmental Checklist Form, of this IS/MND finds that implementation of the Project would have no impact or less than significant impacts for the following environmental topics:

- Aesthetics;
- Air Quality;
- Agriculture and Forestry Resources;
- Biological Resources;
- Energy;
- Greenhouse Gas Emissions;
- Geology and Soils;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Population and Housing;
- Public Services;
- Recreation; and
- Wildfire.

As described in Section 3, Environmental Checklist Form, of this IS/MND, construction and operation of the Project would have significant impacts related to the following environmental topics unless the recommended mitigation measures (MMs) described below in Table 1, Summary of Regulatory Requirements and Mitigation Measures, are implemented:

- Cultural Resources;
- Hazards and Hazardous Materials;
- Noise and Vibration;
- Transportation;
- Tribal Cultural Resources; and
- Utilities and Service Systems.

With implementation of the identified MMs, the Project would have less than significant impacts for each of these environmental topics. Therefore, no significant and unavoidable impacts would result due to Project implementation.

According to the Section 15070 to 15075 of the State CEQA Guidelines, an IS/MND is the appropriate environmental document for the Project because, after incorporation of the recommended MMs, potentially significant environmental impacts would be eliminated or reduced to a level considered less than significant. Table 1, Summary of Regulatory Requirements and Mitigation Measures, presents all actions that would be part of the Project that would reduce or avoid environmental impacts.

TABLE 1
SUMMARY OF REGULATORY REQUIREMENTS
AND MITIGATION MEASURES

ID	Applicable Regulatory Requirements (RR) and Mitigation Measures (MM)
Aesthetics	
RR AES-1	The Project Applicant/Property Owner shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting would be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code.
Air Quality	
RR AQ-1	The Project shall be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to: • SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short-term particulate pollutant emissions. • SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property". • SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project.

TABLE 1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

ID	Applicable Regulatory Requirements (RR) and Mitigation Measures (MM)
Biological Resources	
RR BIO-1	Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code: To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned.
RR BIO-2	As required by the City's Tree Preservation Ordinance (Section 9110.01 et. seq. of the Development Code) and Comprehensive Tree Management Program (Section 9800 et. seq. of the Arcadia Municipal Code), the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project. The Project Applicant/Property Owner will abide by the standards set forth in the permit, as well as standards contained in the Tree Preservation Ordinance, Comprehensive Tree Management Program, and other applicable sections of the Arcadia Development and Municipal Codes.
RR BIO-3	The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.
Cultural Resources	
RR CUL-1	If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code Section 5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code Section 5097.98).
MM CUL-1	Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Project Applicant/Property Owner. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Project Applicant/Property Owner shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.

TABLE 1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

ID	Applicable Regulatory Requirements (RR) and Mitigation Measures (MM)
Energy	
RR ENR-1	The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen code. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles.
Geology and Soils	
RR GEO-1	Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes (CBSC 2022). Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved.
RR GEO-2	The Project building design specifications shall include recommendations from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geocon West, Inc. 2021, Appendix D). These recommendations include, but are not limited to, specifications for the following: • Demolition and site preparation • Fill placement • Remedial grading and over excavation • Foundation recommendations • Building Floor Slabs and reinforcement The Project building design specifications shall be verified by the City of Arcadia Building Official prior to issuance of a demolition permit.
Hazards and Hazardous Materials	
RR HAZ-1	Activities at the Project site shall comply with existing federal, State, and local regulations regarding hazardous material use, storage, disposal, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards.
MM TRANS-1, provided below, is also applicable to hazards and hazardous materials.	
Hydrology and Water Quality	
RR HWQ-1	Prior to the City's issuance of a demolition permit, the Project Applicant/Property Owner shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002), which will require the development and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP).

TABLE 1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

ID	Applicable Regulatory Requirements (RR) and Mitigation Measures (MM)
Noise	
MM NOI-1	The Project Applicant/Property Owner shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition.
Public Services	
RR PUB-1	The Project Applicant/Property Owner shall comply with all applicable codes, ordinances, and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy.
RR PUB-2	In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.
RR PUB-3	Prior to issuance of the building permit, the Project Applicant/Property Owner shall pay new development fees to the AUSD pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Property Owner can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit.
RR PUB-4	In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.
Transportation	
RR TRANS-1	Require the Applicant/Property Owner to contribute, on a cost-share basis, to the City's Transportation Impact Fee program, for any intersections affected by the Project, based on the net new PM Peak House vehicle trips generated, per the City's Transportation Impact Fee Program Update adopted on October 18, 2016.
MM TRANS-1	Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Project Applicant/Property Owner for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Applicant/Property Owner will coordinate begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown. At a minimum, the Construction Management Plan shall: • Describe the duration and location of lane closures (if any).

TABLE 1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

ID	Applicable Regulatory Requirements (RR) and Mitigation Measures (MM)
	• Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage. • Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets. • Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets. • Identify of emergency access points/routes. • Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets. • Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas. • All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays. • Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer. • Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users. • Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer. • Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown.
Tribal Cultural Resources	
MM TCR-1	**Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities** A. The Project Applicant/Property Owner shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity. C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered tribal cultural resources, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any

TABLE 1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

ID	Applicable Regulatory Requirements (RR) and Mitigation Measures (MM)
	discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the Project Applicant/City upon written request to the Tribe. D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.
MM TCR-2	**Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial)** Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.
MM TCR-3	**Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects** A. Native American human remains are defined in Public Resources Code section 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute. B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed. C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.
Utilities and Service Systems	
RR UTIL-1	The Project Applicant/Property Owner shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826.
MM UTIL-1	**Sewer Upsizing Fair Share Payment.** Prior to issuance of a Certificate of Occupancy permit for the Project, the Applicant/Property Owner shall make a fair share contribution of 9 percent of the total Santa Anita Avenue sewer upsizing project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue with 12-inch diameter pipelines. The Santa Anita Avenue sewer upsizing project shall be split into three phases and included in the City's 2024-25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue sewer upsizing project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate.

1.4 PROJECT REVIEW AND APPROVAL PROCESS

Pursuant to Section 15072 of the State CEQA Guidelines, a Notice of the Intent (NOI) to adopt an MND for the Project was sent on November 19, 2024, by the City to the public, applicable responsible and trustee agencies, and other agencies and organizations. The NOI and associated public review period has been filed by the County of Los Angeles Recorder's Office in Norwalk, published in the Arcadia Weekly, and mailed to the last known name and address of all organizations and individuals who have previously requested such notice in writing.

The Initial Study and Draft Mitigated Negative Declaration may be accessed on the City's website at www.arcadiaca.gov/projects. You may also review a copy in-person by visiting the following two locations during regular business hours: Arcadia City Hall - Planning Division (240 West Huntington Drive) and Arcadia Public Library (20 West Duarte Road).

In accordance with the requirements set forth in Sections 15073 and 15105 of the State CEQA Guidelines, this IS/MND will be available for public review and comment for 30 days from Thursday, November 21, 2024, through Friday, December 20, 2024. In reviewing the IS/MND, affected public agencies and the interested public should focus on the adequacy of the document in identifying and analyzing the Project's environmental impacts and the ways in which the potentially significant effects of the Project can be reduced or avoided.

Written comments must be received by 5:30 pm on Friday, December 20, 2024. Comments on the IS/MND must be sent in writing to Edwin Arreola, Senior Planner, ATTN: Arcadia Town Center Project, via email at EArreola@arcadiaca.gov or via by mail to the address listed below.

City of Arcadia Development Services Department
Edwin Arreola, Senior Planner
P.O. Box 60021, Arcadia, California 91066

Following receipt and evaluation of comments from agencies, organizations, and/or individuals that are received during the public review period, the City will determine whether any substantial new environmental issues have been raised that necessitate changes to the IS/MND in accordance with CEQA requirements. If so, further documentation, such as an environmental impact report (EIR) or recirculation of the IS/MND may be required. If not, the Project and the environmental documentation would be submitted to the City's Planning Commission and would subsequently be submitted to the City Council for consideration. In accordance with Section 15074 of the State CEQA Guidelines, prior to approving the Project, the City Council may consider the MND together with any comments received during the public review process. The City Council will adopt the proposed MND only if it finds on the basis of the whole record before it (including the initial study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the MND reflects the City Council's independent judgment and analysis.

1.5 ORGANIZATION OF THIS INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

The IS/MND is organized into the following sections:

- **Section 1 – Introduction.** This section provides an overview of the purpose and conclusions of the IS/MND, as well as a discussion of the public review and approval process for the Project.
- **Section 2 – Environmental Setting and Project Description.** This section provides a description of the Project location; a discussion of the existing environmental setting of the Project site and vicinity; a description of the Project; and a list of discretionary approvals required for the Project.
- **Section 3 – Environmental Checklist Form.** This section contains a summary checklist with Project information and environmental factors potentially affected, as well as a signature block for the Lead Agency. This section also contains an analysis of the Project's environmental setting and environmental impacts. This section describes applicable RRs that the Project would comply with, which would minimize environmental impacts. This section also includes MMs that would be implemented to eliminate potentially significant effects or reduce potentially significant effects to a level considered less than significant. The environmental checklist form also includes "mandatory findings of significance" required by CEQA.
- **Section 4 – Report Preparers and Contributors.** This section identifies the individuals prepared and contributed to the preparation of the IS/MND.
- **Section 5 – References.** This section identifies references used in preparation of the IS/MND.

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SECTION 2.0 ENVIRONMENTAL SETTING AND PROJECT DESCRIPTION

2.1 ENVIRONMENTAL SETTING

2.1.1 PROJECT LOCATION

The approximate 2.27-acre Project site is located at the northwest corner of Santa Anita Avenue and Huntington Drive in the downtown area of the City of Arcadia in Los Angeles County, California. Exhibit 1, Regional Location and Local Vicinity, depicts the Project site in the context of the local and regional roadway system. The southern portion of the Project site fronts Huntington Drive, a principal east-west travel corridor[1], and the eastern portion of the site fronts Santa Anita Avenue, a principal north-south travel corridor. The Project is located at 5-19 West Huntington Drive and 25-75 North Santa Anita Avenue. The Los Angeles County Metropolitan Transportation Authority (Metro) A Line (formerly L Line and Gold Line) alignment and the Arcadia Station are both located approximately 950 feet (ft) northeast of the Project site, near the intersection of North First Avenue and Santa Clara Street. The Project site can be regionally accessed from the eastbound/westbound Interstate 210 (I-210; Foothill Freeway), located approximately 0.4 mile north and northwest of the Project site, with freeway access ramps via the Santa Anita Avenue interchange to the north and the Huntington Drive interchange to the east.

The City is surrounded by other municipalities, including City of Sierra Madre to the north; City of Monrovia to the east; City of Temple City and El Monte to the south; and City of Pasadena and the unincorporated communities of East Pasadena and East San Gabriel to the west.

2.1.2 EXISTING PROJECT SITE CONDITIONS

The Project site consists of five contiguous parcels (Assessor Parcel Numbers [APNs] 5775-025-032, -033, -034, -037, and -038). Exhibit 2, Aerial Photograph, depicts the existing on-site and surrounding land uses. The Project site contains a total of 11 existing commercial buildings and associated surface parking lots. The existing structures within the Project site are all one story high except for the building in the northeastern corner, which is two stories in height. There are eight vehicular access points to the existing uses including four on Huntington Drive to the south, two on Santa Anita Avenue to the east, and two on Morlan Place to the north. There are existing 5-foot-wide to 10-foot-wide sidewalks along Huntington Drive, Santa Anita Avenue, and Morlan Place adjacent to the Project site. Table 2, Summary of Existing Land Uses, on the following page, provides the address, APN, and size of the 11 existing buildings on the site.

The Project site contains limited ornamental landscaping and trees located along the site perimeters and adjacent to some of the existing structures. A total of 26 trees are present on the Project site (23 trees) or the adjacent public right-of-way (ROW) (3 trees) along Huntington Drive and Santa Anita Avenue. Of these, there are a total of 3 trees along the eastern frontage of the site that meet the City's requirements for consideration as a Protected Tree under the City's Tree Preservation Ordinance (Section 9110.01.030 of the Development Code). These trees include two evergreen pears (*Pyrus kawakamii*) and one sour gum (*Nyssa sylvatica*). There are 3 London plane trees (*Platanus* × *hispanica*) within the public ROW of Huntington Drive. These are not subject to the Tree Preservation Ordinance, being on public property, and are protected pursuant to the City's Comprehensive Tree Management Program (Section 9800 et. seq. of the AMC).

[1] A principal travel corridor is a term used for roadways with a capacity to carry the highest volumes of vehicles (in the range of 22,000 to 35,000 vehicles daily) that generally connect adjacent cities and are typically four-lane streets.

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Regional Location and Local Vicinity

Exhibit 1

Arcadia Town Center

N W E S

1,000 500 0 1,000 Feet

974

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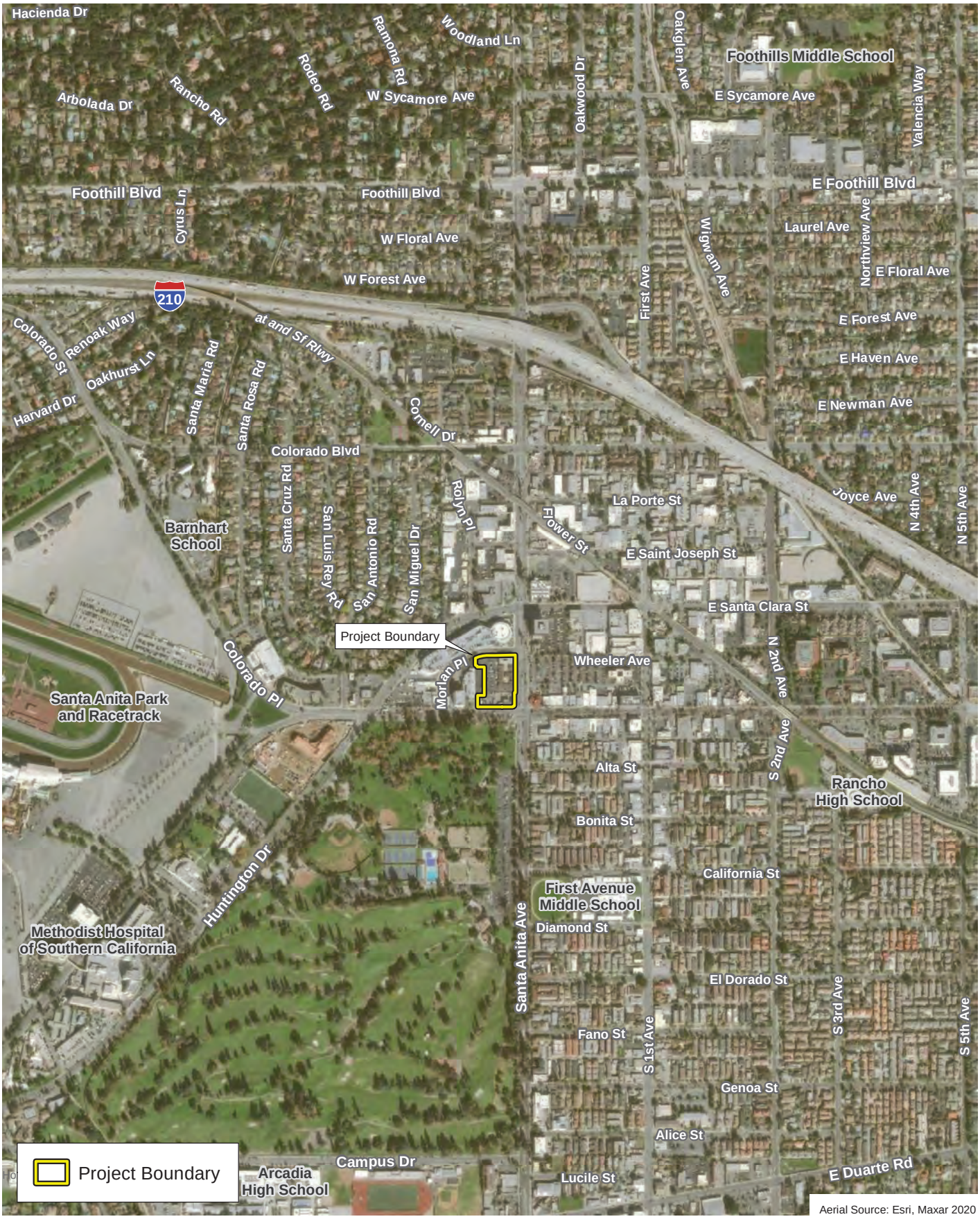

Aerial Source: Esri, Maxar 2020

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Aerial Photograph

Exhibit 2

Arcadia Town Center

N W E S

1,000 500 0 1,000 Feet

975

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TABLE 2
SUMMARY OF EXISTING LAND USES

Building No. and Address	Assessor Parcel Number	Building Size (sf)
1. (25-75 Santa Anita Avenue)	5775-025-037	4,278
2. (25-75 Santa Anita Avenue)		1,903
3. (25-75 Santa Anita Avenue)		1,005
4. (25-75 Santa Anita Avenue)		836
5. (25-75 Santa Anita Avenue)		3,929
6. (25-75 Santa Anita Avenue)		2,755
7. (25-75 Santa Anita Avenue)		3,843
8. (11 Huntington Drive)	5775-025-034	889
9. (15 Huntington Drive)	5775-025-033	780
10. (19 Huntington Drive)	5775-025-032	3,188
11. (5 Huntington Drive)	5775-025-038	1,575
	Total Existing Building Area	**24,981**
sf: square feet		

The Project site is relatively flat with a gentle slope that trends to the south. Elevations within the Project site range from approximately 483 feet above mean sea level (msl) along the northern boundary of the Project site to approximately 473 feet above msl along the southwest corner of the Project site.

2.1.3 SURROUNDING AREA CONDITIONS

As shown on Exhibit 2, the Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development, consisting of retail, a restaurant, a donut shop, coffeehouse, offices, an Elks Lodge, the Rusnak Mercedez-Benz of Arcadia dealership, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and the car dealership, and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site along Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive.

Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

In the Project site vicinity, Huntington Drive is a four-lane divided road with dedicated turn lanes; Santa Anita Avenue is a four-lane divided road with dedicated turn lanes; Morlan Place is a two-lane road connecting Huntington Drive and Santa Anita Avenue; and Santa Clara Street is a four-lane undivided road with dedicated turn lanes. Street parking is permitted on the north side of Huntington Drive, on the west side of Santa Anita Avenue, and on either side of Morlan Place. There is no street parking permitted on the south side of Santa Clara Street.

2.1.4 RELEVANT PLANNING CONSIDERATIONS

City of Arcadia

All parcels within the Project site (APNs 5775-025-032, -033, -034, -037, and -038) have a land use designation of Downtown Mixed-Use (DMU) and are zoned as Downtown Mixed-Use (DMU). According to applicable design standards, all parcels within the Project site are permitted a maximum building height of 60 feet with an additional 10-foot height allowance for mechanical equipment (e.g., elevators, stairways, tanks, ventilating fans, heating, cooling and air conditioning equipment) provided no area above the maximum height is used to provide additional floor space (Sections 9102.05.030 and 9103.01.060 of the Arcadia Development Code). The Project site permits a maximum residential density of 80 units per acre, and maximum Floor Area Ratio (FAR) of 1.0 applicable only to the non-residential component of a development. The Project would advance the City's goal as embodied in the General Plan of providing the residential uses necessary to support and complement the existing and proposed businesses in the downtown area as well as the nearby Metro A Line Station. A goal of the Project is to transform the Project site within the City's downtown into a more vibrant, dynamic, transit- and pedestrian-oriented mixed-use development consistent with the Arcadia General Plan (General Plan) and related development standards and requirements.

Southern California Association of Governments

Because of its proximity to the Metro A Line Station, the Project site is within both a Transit Priority Area (TPA) as defined under Senate Bill (SB) 743 (Section 21099 of the Public Resources Code), as the geographic area within 0.5-mile of a major transit stop included in a regional transportation plan; and a High Quality Transit Area (HQTA) as defined under SB 375 and codified in the Public Resources Code, as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. For the City of Arcadia, these areas are identified by the Southern California Association of Governments (SCAG)[2] and its *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020 RTP/SCS), adopted by SCAG's Regional Board on September 3, 2020.

Additionally, the Project qualifies as a Transit Priority Project (TPP), defined under SB 375 (Section 21155 of the Public Resources Code) as a development (1) that is consistent with land use regulations (e.g., land use designations, zoning); (2) contains at least 50 percent residential use based on the total building square footage or, if between 26 and 50 percent non-residential uses, an FAR of at least 0.75; (3) a minimum net density of at least 20 dwelling units per acre (du/ac); and (4) is located within ½-mile of a local transit stop or a high quality transit corridor. The Project is consistent with the land use designations and zoning for the site, has approximately 79 percent residential and residential-related amenities, and a density of 79.7 du/ac.

[2] SCAG is the Metropolitan Planning Organization (MPO) serving six of the ten southern California counties of Los Angeles, Orange, San Bernardino, Riverside, Imperial, and Ventura.

2.2 PROJECT DESCRIPTION

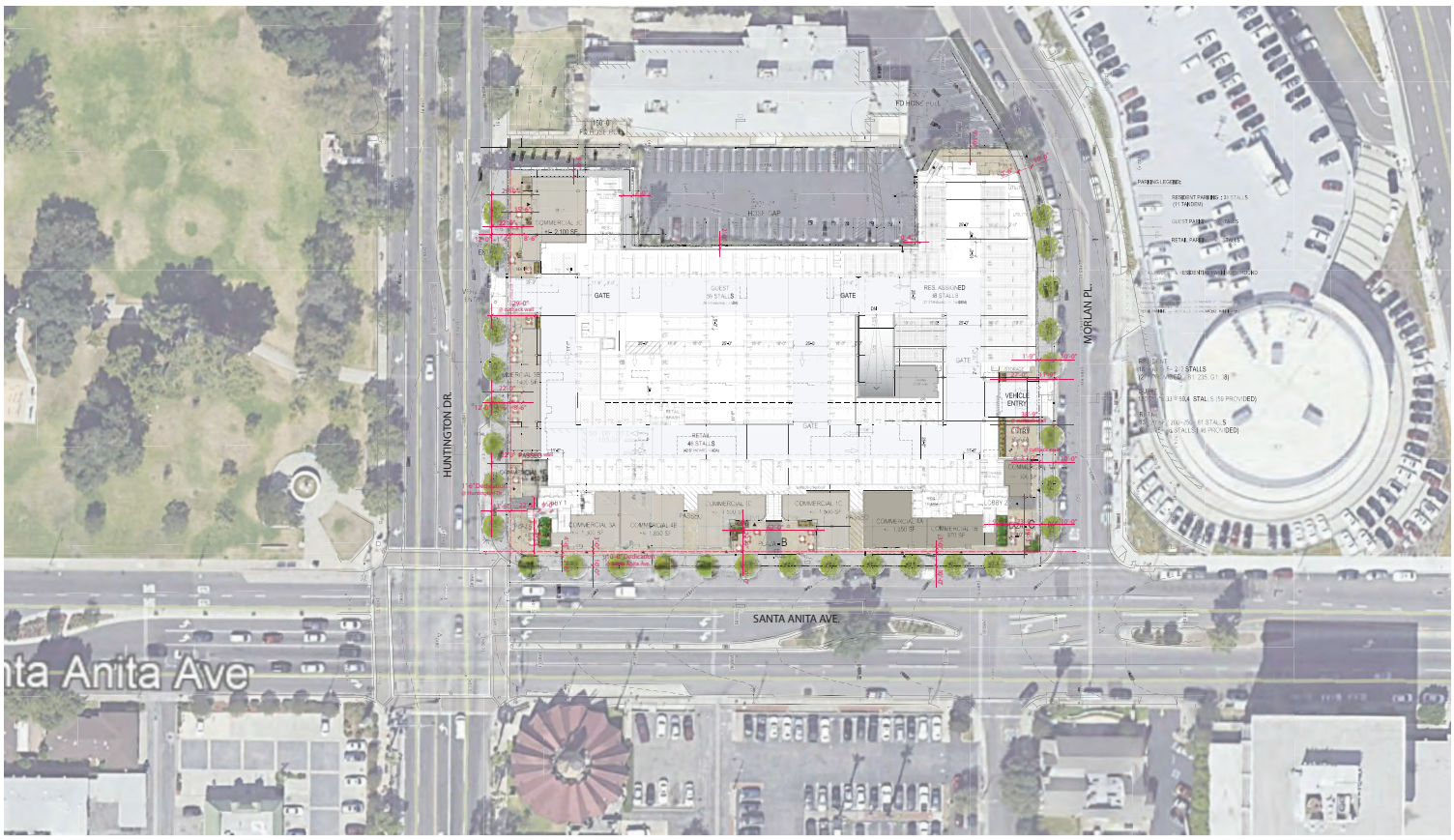
2.2.1 OVERVIEW

The Project includes preparation of a tract map to consolidate the five separate parcels encompassing 2.27 acres into a single legal lot of 2.19 net acres, after ROW dedications on Santa Anita Avenue and Huntington Drive; and subdivide the airspace for the residential condo units. The Applicant/Property Owner proposes construction of a mixed-use development consisting of one 440,938 sf, five story (above ground) building with one level of subterranean parking and one level of ground level parking. The Project includes 181 residential units; 3,890 sf of residential amenities; 38,713 sf of public and private open space; 13,130 sf of ground-floor commercial uses facing toward Huntington Drive and Santa Anita Avenue; and 378 parking spaces.

The Project would include four public plazas and additional outdoor seating on the ground level near commercial uses; residential amenities on Levels 2 through 4 including a swimming pool, recreation center, fitness center, and two clubhouses; private landscape and hardscape features on Levels 2, 4, and 5; and connections to off-site utilities. The Project would provide a total of 378 parking spaces on Level 1 (ground level) and Level B1 (subterranean), including 273 resident spaces, 59 guest spaces, and 46 commercial spaces; and a total of 43 bicycle parking stalls, with 40 resident/long-term stalls and 3 retail/short-term stalls. All existing development and ancillary uses (e.g., surface parking, dividing walls, landscaping) would be demolished with Project implementation. The Project site plan and floor plans are presented on Exhibit 3, Illustrative Site Plan; Exhibit 4, Level B1 Plan; Exhibit 5, Level 1 (Ground Level) Plan; Exhibit 6, Level 2 Plan; Exhibit 7, Level 3 Plan; Exhibit 8, Level 4 Plan; Exhibit 9, Level 5 Plan; and Exhibit 10, Roof Plan. The Project elevations, sections, and perspective views, respectively, are presented on Exhibits 11a and 11b, Proposed Project Elevations; Exhibits 12a and 12b, Proposed Project Sections; and Exhibits 13a through 13d, Proposed Project Perspective Views.

2.2.2 PROJECT COMPONENTS

The Project would include 181 multifamily residential units, including 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units. Six of the two-bedroom units will be two-stories and the remaining residential units would be one story. A breakdown of the mix of units is summarized in Table 3, Project Residential Unit Summary. Exhibits 6 through 9 depict that layout of residential units on Levels 2 through 5.



Source: New World International Investment LLC 2022

Illustrative Site Plan

Exhibit 3

Arcadia Town Center Project

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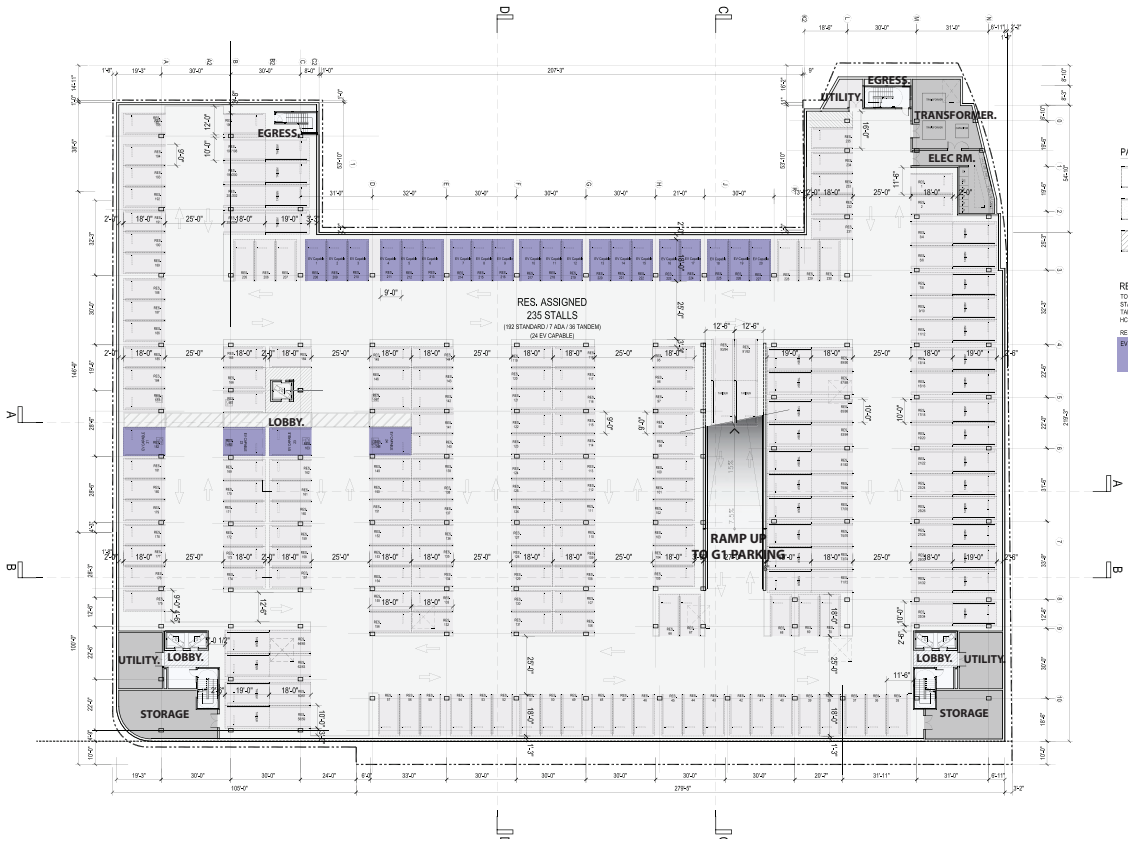

PARKING LEGEND:

- RESIDENT PARKING : 235 STALLS
- GUEST PARKING
- RETAIL PARKING

RESIDENTIAL PARKING - BASEMENT 1

TOTAL : 235 STALLS
STANDARD : 192
TANDEM :36
HC :7

RESIDENTIAL PARKING : 235 STALLS (STANDARD: 192, TANDEM: 36 HANDICAP: 7)
EV READINESS (EV CAPABLE):24 STALLS

LEVEL B1		
BUILDING AREA:	92,497	SF
MVP:	1,160	SF
MEP:	2,702	SF
LOADING/ TRASH/ STORAGE:	1,564	SF
PARKING	87,071	SF
GRSF:	-	SF
NRSF:	-	SF
TOTAL PARKING:	235	SPACES

Source: New World International Investment and Humphreys & Partners Architects 2022

Level B1 Plan

Exhibit 4

Arcadia Town Center Project

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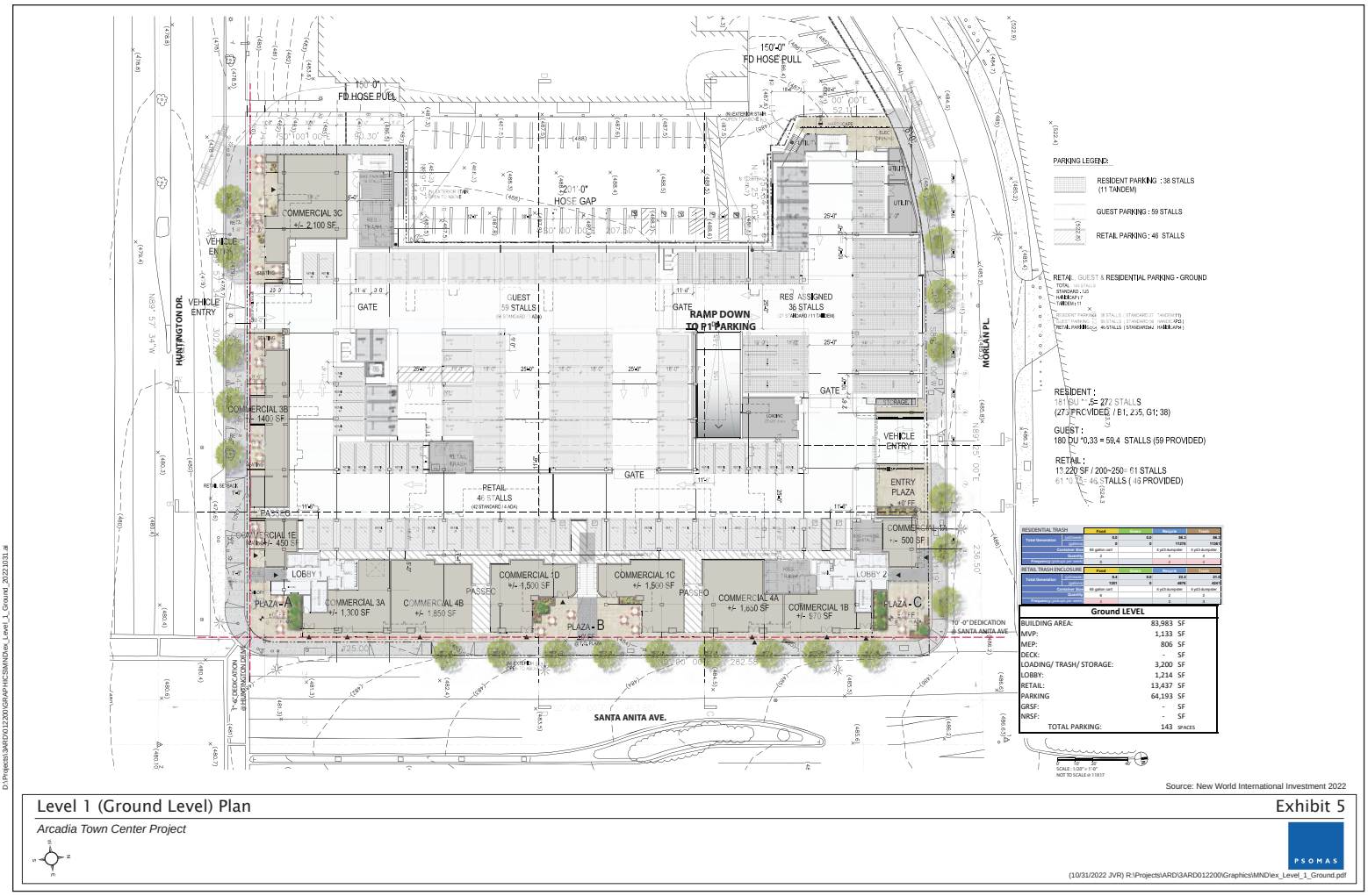

Source: New World International Investment 2022

Level 1 (Ground Level) Plan

Exhibit 5

Arcadia Town Center Project

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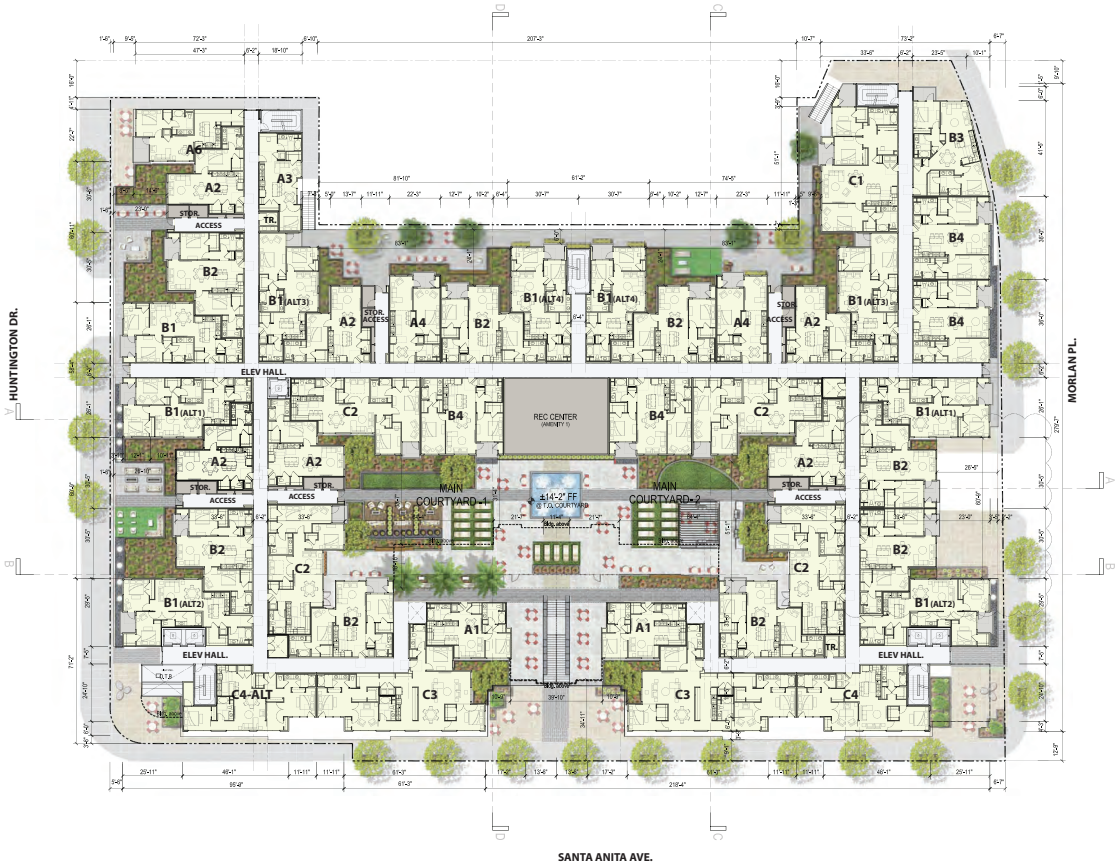

LEVEL 2		
BUILDING AREA:	63,938	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	1,903	SF
AMENITY:	1,524	SF
TRASH/ STORAGE:	955	SF
GRSF:	57,915	SF
CIRCULATION:	8,768	SF
NRSF (FOR SALE):	49,147	SF
EFFICIENCY:	84.9%	
TOTAL CONDO UNITS:	43	UNITS

Source: New World International Investment 2022

Level 2 Plan

Exhibit 6

Arcadia Town Center Project

PSOMAS

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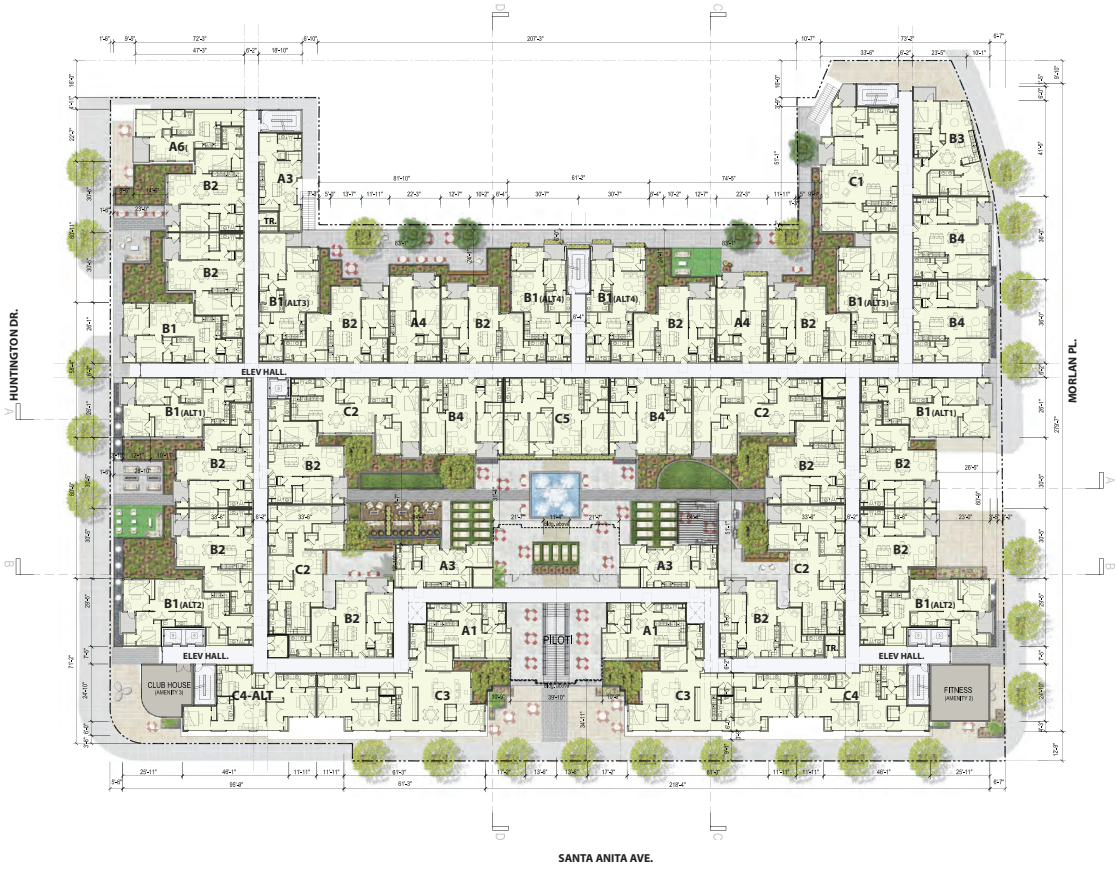

LEVEL 3		
BUILDING AREA:	67,080	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	2,337	SF
AMENITY:	1,118	SF
TRASH/ STORAGE:	169	SF
GRSF:	61,815	SF
CIRCULATION:	7,933	SF
NRSF (FOR SALE):	53,882	SF
EFFICIENCY:	87.2%	
TOTAL CONDO UNITS:	46	UNITS

Source: New World International Investment 2022

Level 3 Plan

Exhibit 7

Arcadia Town Center Project

PSOMAS

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LEVEL 4		
BUILDING AREA:	68,642	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	4,277	SF
AMENITY:	1,030	SF
TRASH/ STORAGE:	169	SF
GRSF:	61,525	SF
CIRCULATION:	8,065	SF
NRSF (FOR SALE):	53,460	SF
EFFICIENCY:	86.9%	
TOTAL TOWN UNITS:	6	UNITS
TOTAL CONDO UNITS:	43	UNITS

Source: New World International Investment 2022

Level 4 Plan

Exhibit 8

Arcadia Town Center Project

PSOMAS

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LEVEL 5		
BUILDING AREA:	67,633	SF
MVP:	1,317	SF
MEP:	324	SF
DECK:	4,510	SF
AMENITY:	248	SF
TRASH/ STORAGE:	169	SF
GRSF:	61,313	SF
CIRCULATION:	8,049	SF
NRSF (FOR SALE):	53,264	SF
EFFICIENCY:	86.9%	
TOTAL TOWN UNITS:	-	UNITS
TOTAL CONDO UNITS:	43	UNITS

Source: New World International Investment 2022

Level 5 Plan

Exhibit 9

Arcadia Town Center Project

PSOMAS

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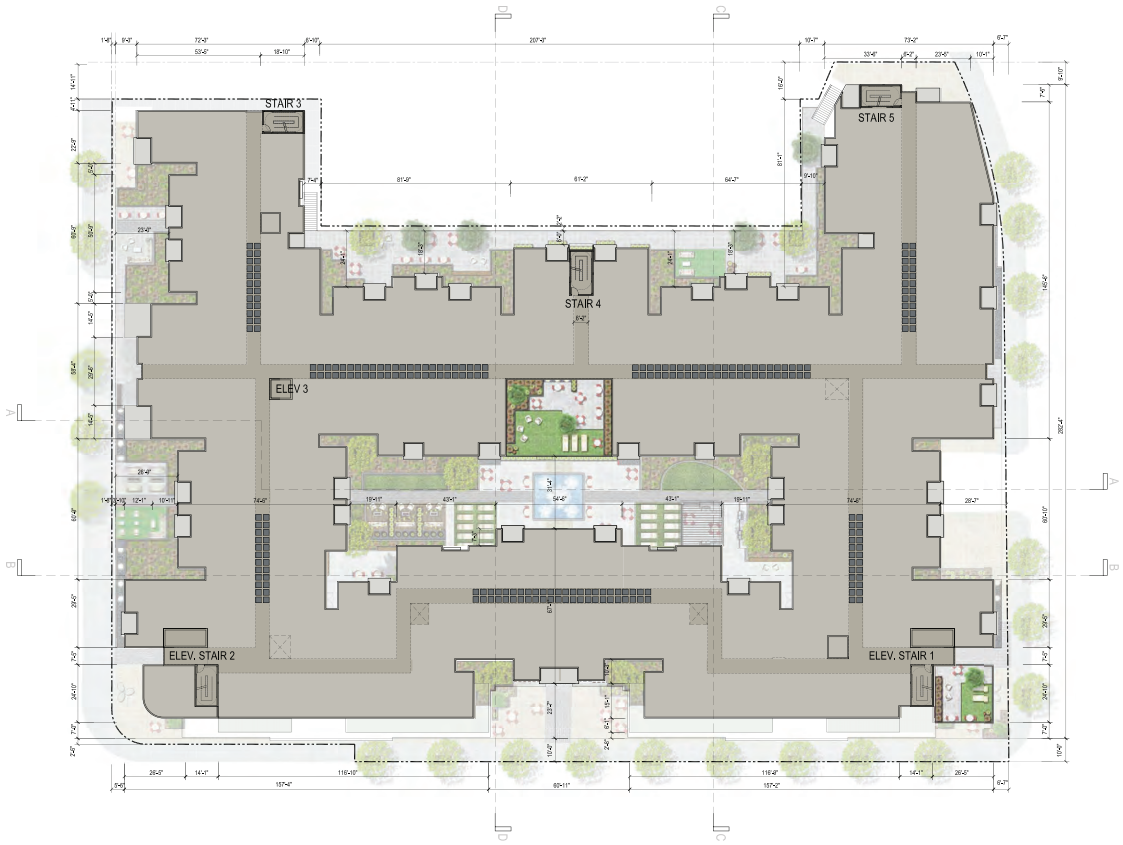

Source: New World International Investment 2022

Roof Plan

Arcadia Town Center Project

Exhibit 10

PSOMAS

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1. EAST ELEVATION : VIEW SANTA ANITA AVE.

2. NORTH ELEVATION : VIEW FROM MORLAN PL.

Source: New World International Investment 2022

Proposed Project Elevations

Exhibit 11a

Arcadia Town Center Project

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Elev.pdf

D:\Projects\3ARD\012200\GRAPHICS\MND\ex_Proposed_Elev_A_20221031.ai

3. SOUTH ELEVATION : VIEW HUNTINGTON DRIVE.

4. WEST ELEVATION : FACING NEIGHBOR RESTAURANT

Source: New World International Investment 2022

Proposed Project Elevations

Exhibit 11b

Arcadia Town Center Project

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Elev.pdf

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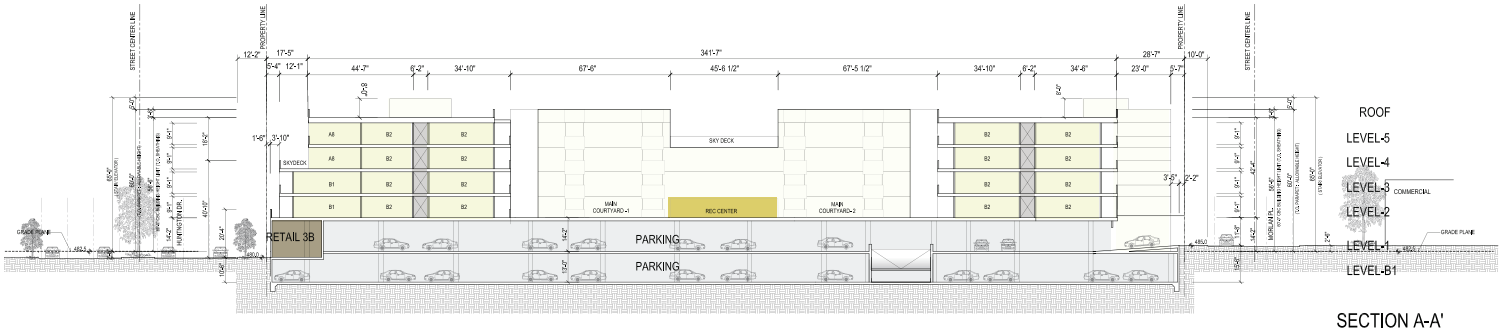
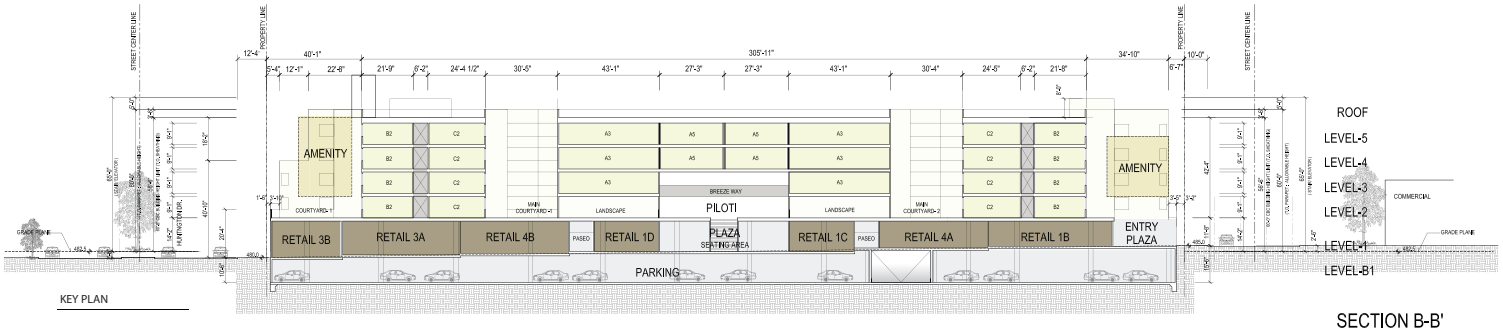


SECTION A-A'



SECTION B-B'

KEY PLAN

Source: New World International Investment 2022

Proposed Project Sections

Arcadia Town Center Project

Exhibit 12a

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Sections.pdf

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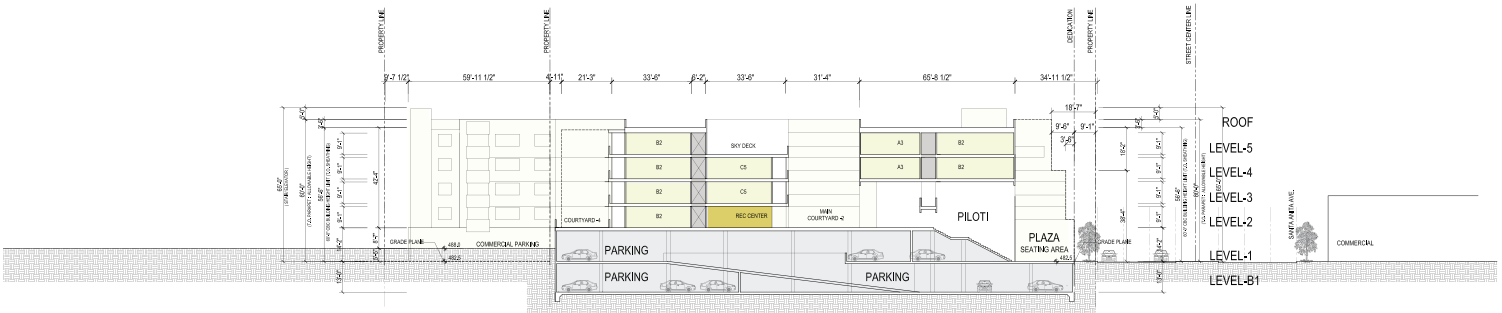
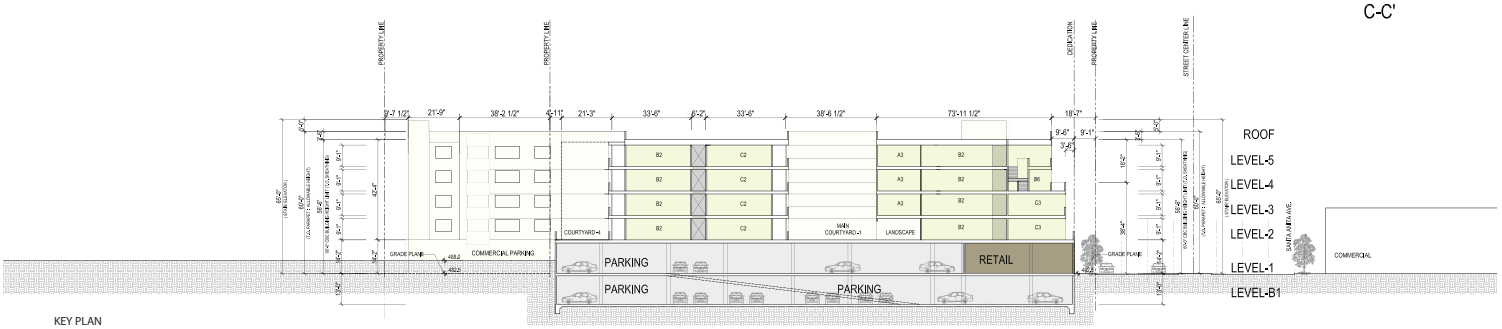
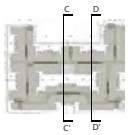


SECTION C-C'



SECTION D-D'

KEY PLAN



Source: New World International Investment 2022

Proposed Project Sections

Exhibit 12b

Arcadia Town Center Project

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Sections.pdf

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1 : AERIAL PERSPECTIVE VIEW

2 : AERIAL PERSPECTIVE VIEW

3 : CORNER AERIAL PERSPECTIVE VIEW

4 : VIEW FROM ARCADIA COUNTY PARK

Source: New World International Investment 2022

Proposed Project Perspective Views

Exhibit 13a

Arcadia Town Center Project

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Perspective.pdf

D:\Projects\3ARD012200\GRAPHICS\MND\ex_Proposed_Perspective_A_20221031.ai

1 : MAIN CORNER VIEW FROM SANTA ANITA AVE. & MORLAN PL.

2 : CORNER VIEW FROM SANTA ANITA AVE. & HUNTINGTON DR.

Source: New World International Investment 2022

Proposed Project Perspective Views

Exhibit 13b

Arcadia Town Center Project

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Perspective.pdf

D:\Projects\3ARD\012200\GRAPHICS\MND\ex_Proposed_Perspective_B_20221031.ai

1 : VIEW OF SANTA ANITA AVE. CENTRAL PLAZA AND STREET SCAPE

2 : LOOKING WEST FROM SANTA ANITA / MID-BLOCK PODIUM CONNECTION

3 : LOOKING NORTH FROM SANTA ANITA AVE. RETAIL & STREET SCAPE

Source: New World International Investment 2022

Proposed Project Perspective Views

Exhibit 13c

Arcadia Town Center Project

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Perspective.pdf

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1 : LOOKING EAST FROM HUNTINGTON DR.

2 : LOOKING WEST FROM HUNTINGTON DR. MAIN ENTRY

3 : VIEW OF HUNTNGTON DR. FROM ARCADIA COUNTY PARK

Source: New World International Investment 2022

Proposed Project Perspective Views

Exhibit 13d

Arcadia Town Center Project

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Perspective.pdf

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TABLE 3
PROJECT RESIDENTIAL UNIT SUMMARY

Unit Type	Net Space per Unit (sf)	Number of Units	Total Area by Unit (sf)	Deck Area per Unit (sf)
A1	808	4	3,232	0
A2	842	6	5,052	0
A3	709	4	2,836	0
A3-alt1	788	6	4,728	0
A4	796	8	6,368	58
A5	713	6	4,278	58
A6	791	4	3,164	76
A7	930	2	1,860	0
A8	1,030	1	1,030	0
Unit A (One Bedroom) Subtotals		***41***	***32,548***	***N/A***
B1	1,108	2	2,216	58
B1-alt1	1,207	6	7,242	58
B1-alt2	1,236	8	9,888	58
B1-alt3	1,170	8	9,360	36
B1-alt4	999	8	7,992	58
B2	1,128	50	56,400	58
B3	1,180	4	4,720	61
B4	1,157	16	18,512	58
B5 TH1	1,398	2	2,796	267
B6 TH1	1,529	4	6,116	188
Unit B (Two Bedroom) Subtotals		***108***	***125,242***	***N/A***
C1	1,724	4	6,896	130
C2	1,443	20	28,860	52
C3	2,014	4	8,056	0
C4	1,329	2	2,658	0
C4-alt1	1,246	2	2,492	0
Unit C (Three Bedroom) Subtotals		***32***	***48,962***	***N/A***
Project Totals		**181**	**206,752**	**9,714**

sf: square feet
Source: New World International Investment, LLC 2022.

The Project would include 13,130 sf of ground-level commercial space that would be divided amongst 10 separate units ranging in size from approximately 500 sf to 2,100 sf, as depicted on Exhibits 3 and 5. The commercial spaces are anticipated to be developed with retail, restaurant, and/or office professional uses. As noted previously, in conjunction with the commercial uses, four public plazas and additional ground-level seating areas would be constructed, as discussed further below.

2.2.3 DEVELOPMENT CHARACTERISTICS

Building Design

Views of the Project design from various vantage points showing the size, scale, appearance, and key features are presented on Exhibits 11a and 11b, Exhibits 12a and 12b, and Exhibits 13a through 13e, above. The height of the proposed building is depicted on Exhibits 11a, 11b, 12a, and 12b. As shown, when measured from the grade plan (482.5 feet above msl), the Project would be constructed to a height of 60 feet to the top of the parapet and up to 65 feet when including stair well and elevator overruns. The five-story building would be constructed above one level of subterranean parking. As shown on Exhibits 14a through 14d, Material Finishes, the exterior of the building would include sand finish plaster walls in a coordinating mix of tans; stamped concrete; crown molding; fiber cement pattern veneer; fiber cement facade panel in two shades; painted metal tube steel railing with glass insert or painted metal tube steel railing with vertical pickets; bronze finish vinyl window casings; extruded metal openings; painted metal awnings, some with louvers and signage; painted awnings; anodized aluminum storefront windows; single-glazed vertical and horizontal glass facade system; and high performance garage doors. The Project is designed to activate the street-level conditions by orienting the Project's commercial uses as well as three of the public plazas and additional seating toward the Huntington Drive and Santa Anita Avenue streetscapes.

The Land Use and Community Design Element of the City's General Plan identifies Arcadia County Park and the nearby Metro A Line Station as Activity Nodes, which are defined as "places of pedestrian activity and excitement. These are places where people congregate, socialize, and shop. Activity Nodes are also places where residents can leisurely stroll, participate in a recreational activity, or relax and experience the outdoors". Additionally, the General Plan identifies the Huntington Drive and Santa Anita Avenue intersection as a Focal Intersection, which occurs at junctions of Major Corridors. Focal Intersections are important focal points of the community, which provide visual anchors, points of interest, and enhanced pedestrian connections (Arcadia 2010a). The City's General Plan states the following standards should be applied at all Focal Intersections:

- Buildings at Focal Intersections should be of the highest architectural quality to make them memorable and recognizable.
- Buildings should be oriented toward public streets and spaces to make the public space vibrant and pedestrian friendly.
- Activities that attract or generate pedestrian traffic such as cafés, retail functions, and public art are highly desirable at Focal Intersections. Define prominent intersections by locating new buildings or other structures closer to the street and defining the intersection space.
- Main building entrances of corner buildings should be close to the corner.
- Intersections should include raised crosswalks with textured materials to help improve pedestrian visibility and reduce pedestrian/vehicle conflicts.

Of the above standards, all but one is related to design. The last standard is related to City infrastructure and is outside of a developer's authority to implement.

Consistent with the Project site's proximity to two Activity Nodes and a Focal Intersection, the Project would include ground level commercial uses on Huntington Drive and Santa Anita Avenue; four pedestrian-scaled outdoor plazas that open the Project to the Huntington Drive, Santa Anita Avenue, and Morlan Place streetscapes; additional outdoor seating associated with the

NUMBERS DENOTE MATERIALS

1. EXT. PLASTER SAND FINISH

2. STAMPED CONCRETE

3. CROWN MOULDING

4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET

5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE

7. PAINTED AWNING

8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

11. METAL EXTRUDED OPENING

12. FIBER CEMENT FACADE PANEL

13. FIBER CEMENT FACADE PANEL

14. HIGH PERFORMANCE GARAGE DOOR

15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM (U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS

A. DUNN EDWARDS CRYSTAL WHITE

B. DUNN EDWARDS ASPEN

C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

VIEW OF HUNTINGTON DRIVE.

Source: New World International Investment 2022

Material Finishes

Arcadia Town Center Project

Exhibit 14a

PSOMAS

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NUMBERS DENOTE MATERIALS

1. EXT. PLASTER SAND FINISH

2. STAMPED CONCRETE

3. CROWN MOULDING

4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET

5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE

7. PAINTED AWNING

8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

11. METAL EXTRUDED OPENING

12. FIBER CEMENT FACADE PANEL

13. FIBER CEMENT FACADE PANEL

14. HIGH PERFORMANCE GARAGE DOOR

15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM (U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS

A. DUNN EDWARDS CRYSTAL WHITE

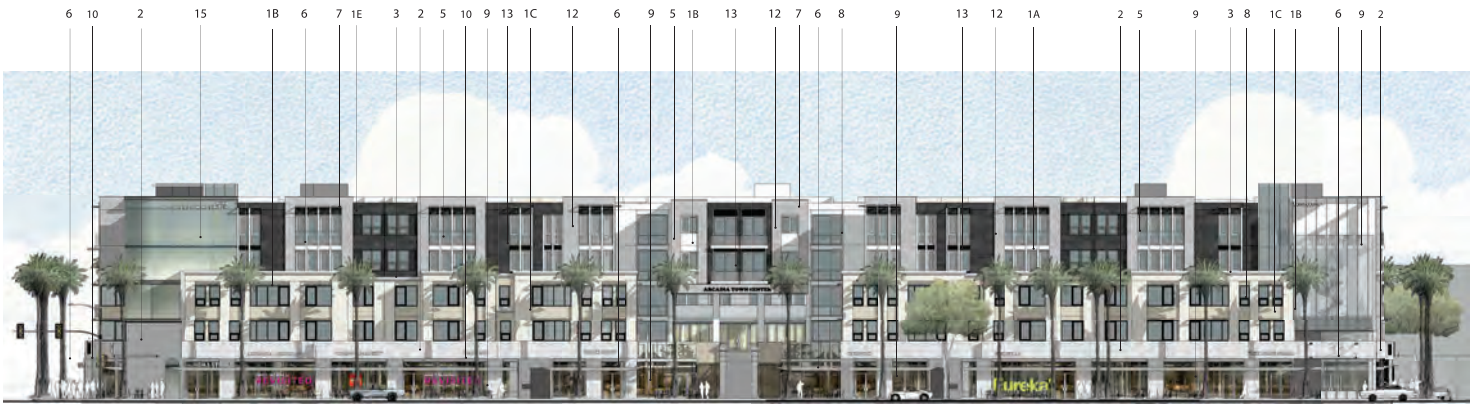
B. DUNN EDWARDS ASPEN

C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL



VIEW OF SANTA ANITA AVE.

Source: New World International Investment 2022

Material Finishes

Arcadia Town Center Project

Exhibit 14b

PSOMAS

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NUMBERS DENOTE MATERIALS

1. EXT. PLASTER SAND FINISH

2. STAMPED CONCRETE

3. CROWN MOULDING

4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET

5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE

7. PAINTED AWNING

8. VINYL WINDOW COLOR: BRONZE COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

11. METAL EXTRUDED OPENING

12. FIBER CEMENT FACADE PANEL

13. FIBER CEMENT FACADE PANEL

14. HIGH PERFORMANCE GARAGE DOOR

15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM (U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS

A. DUNN EDWARDS CRYSTAL WHITE

B. DUNN EDWARDS ASPEN

C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

VIEW OF MORLAN PL.
NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

Source: New World International Investment 2022

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Material Finishes

Arcadia Town Center Project

Exhibit 14c

PSOMAS

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NUMBERS DENOTE MATERIALS

1. EXT. PLASTER SAND FINISH

2. STAMPED CONCRETE

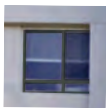
3. CROWN MOULDING

4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET

5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT

6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE

7. PAINTED AWNING



8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR

9. ALUMINUM STOREFRONT ANODIZED

10. FIBER CEMENT PATTERN VENEER

11. METAL EXTRUDED OPENING

12. FIBER CEMENT FACADE PANEL

13. FIBER CEMENT FACADE PANEL

14. HIGH PERFORMANCE GARAGE DOOR

15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM (U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS

A. DUNN EDWARDS CRYSTAL WHITE

B. DUNN EDWARDS ASPEN

C. DUNN EDWARDS MISTY

D. DUNN EDWARDS SANTA FE

F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

VIEW OF NORTH COURTYARD
NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

Source: Humphreys & Partners Architects, L.P. 2022

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Material Finishes

Arcadia Town Center Project

Exhibit 14d

PSOMAS

(10/31/2022 SAK) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Material_Finishes.pdf

commercial uses on Huntington Drive; a single vehicle ingress/egress point on Huntington Drive with a secondary access on Morlan Place to minimize disruption of pedestrian traffic; use of high-quality building materials and finishes with a cohesive color palette and a variety of complementary textures; and use of high-quality hardscape materials, such as pavers, lighting, and furniture.

The Project design has been developed to comply with the development standards defined in Section 9102.05, Downtown Zones, of the City's Development Code; the Commercial and Mixed Use Design Guidelines (Design Guidelines) (Arcadia 2019); and the City Center Design Plan (Onyx Architects 2018) to ensure a high standard of design and architectural quality. The General Plan stresses the importance of quality in design and the impact that site design and building form has on enhancing the visual image of Arcadia and establishing places that people enjoy. The Design Guidelines have been written to reinforce these goals and objectives and provide general guidelines for any addition, remodel, or construction requiring a building permit within any commercial or mixed-use land use district (Arcadia 2019). As part of the City's development standards, pursuant to Section 9102.05.060 of the City's Development Code, the Project is subject to Site Plan and Design Review. Further, Section 9107.19.030 of the Development Code states that, where required, Site Plan and Design Review approval shall be required before the issuance of a Building or Grading Permit, Business License, or Certificate of Occupancy.

Open Space, Landscape, and Hardscape

The City requires 100 sf per unit minimum open space for residential uses in the DMU zone, which results in a required minimum of 18,100 sf of open space for the 181 proposed residential units. Per the City's Development Code, open space may be in the form of private or common open space via balconies, courtyards, at-grade patios, rooftop gardens, and/or terraces. The Project includes 38,713 sf of open space, including 9,714 sf of private open space, which is approximately 2.1 times more than the amount of open space that is required for the Project. Exhibit 15, Typical Project Landscape/Hardscape Elements and Conceptual Plant Palette; and Exhibits 16a through 16h, Proposed Landscape Plan, illustrate the public and private open spaces that would be provided as part of the Project.

As shown on Exhibits 16a and 16b, there would be 6,211 sf of plazas and other outdoor areas situated at the Morlan Place entry, the northeast corner of the site, in the central portion of the east side, in the southeast corner, and associated with the commercial uses on Huntington Drive that would provide tables and seating, decorative paving, and/or ornamental plantings. The plazas would be open to the public but would be owned and maintained by the Project Applicant/Property Owner.

Open spaces on Levels 2 through 5 would be for residents and guest use only. As shown on Exhibits 16c through 16f, Level 2 would provide 21,825 sf of open space distributed across several courtyards. The two larger "main courtyards" would be connected by a paved walkway with seating areas and include a swimming pool, spa, large artificial turf area, barbeque grills with counter space, additional seating areas, decorative paving, and landscaping. The remaining 4 courtyards throughout Level 2 would vary in size and include seating of various types and configurations, decorative paving, and landscaping. As shown on Exhibits 16a through 16h, Levels 4 and 5 would provide 963 sf of open space distributed across a total of 2 skydecks and roof decks as gathering spaces and include seating, umbrellas, decorative paving, and landscaping. All proposed landscaping and related irrigation systems would comply with the City's Water Efficient Landscaping Ordinance.

EVENT / ACTIVITY LAWN

ACCENT PAVING

DECORATIVE ROCK

OUTDOOR BBQ

ORNAMENTAL PLANTING

OUTDOOR FURNITURE

CUSTOM CAST IN PLACE CONCRETE BENCH

PALM TREE PREFAB PLANTER

HAMMOCK ON TURF

CAVE

PREFAB FIRE FEATURE

MULTI-TONE LINEAR PAVERS

CONCEPTUAL PLANT PALETTE

TREES:	SIZE:
ARBUTUS UNEDO STRAWBERRY TREE	36"
LAGERSTROEMIA INDICA CRAPE MYRTLE	36"
OLEA EUROPAEA OLIVE TREE	36"
PARKINSONIA FLORIDA PALO VERDE	36"
TRISTANIA CONFERTA BRISBANE BOX	36"

SHRUBS AND GROUNDCOVERS:			
ASCLEPIAS CURA. ' RED BUTTERFLIES' RED BUTTERFLIES MILKWEED	5 GAL.	LANTANA CAMARA 'MISS HUFF' MISS HUFF HARDY LANTANA	5 GAL.
BUDDLEJA 'BLUE CHIP' DWARF SUMMER LILAC	5 GAL.	LEUCOPHYLLUM SPP. TEXAS RANGER	5 GAL.
CARISSA MACROCARPA NATAL PLUM	3 GAL.	RHAPHIOLEPIS INDICA INDIAN HAWTHORNE	5 GAL.
CEANOTHUS GRIS. HORIZ. 'YANKEE POINT' YANKEE POINT CEANOTHUS	5 GAL.	ROSMARINUS OFF. 'LOCKWOOD DE FOREST' PROSTRATE ROSMARY	1 GAL.
DIANELLA REVOLUTA 'CLARITY BLUE' CLARITY BLUE FLAXLILY	3 GAL.	SALVIA SPP. SAGE	5 GAL.
ECHINOCACTUS GRUSONII BARREL CACTUS	3 GAL.		

HEDGES:	
LIGUSTRUM JAPONICUM JAPANESE PRIVET	5 GAL.
PITTOSPORUM TOBIRA 'MOJO' MOJO PITTOSPORUM	3 GAL.
PODOCARPUS ELONGATUS 'MONMAL' ICEE BLUE YELLOWWOOD	5 GAL.
PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	5 GAL.

SUCCULENTS:			
AGAVE AMERI. VAR. MEDIO-PICTA 'ALBA' WHITE STRIPED CENTURY PLANT	3 GAL.	ALOE STRIATA CORAL ALOE	1 GAL
AGAVE 'BLUE GLOW' BLUE GLOW AGAVE	1 GAL.	ECHEVERIA SPP. HEN AND CHICKS	1 GAL.
AGAVE DESMETTIANA SMOOTH AGAVE	5 GAL.	SEDUM SPP. STONECROP	1 GAL.
AGAVE WEBERI WEBER'S AGAVE	5 GAL.	SENECIO MANDRALISCAE BLUE CHALKSTICKS	1 GAL.

GRASSES:	
MUHLENBERGIA LINDHEIMERI AUTUMN GLOW MUHLY	3 GAL.
PENNISETUM ALOPECUROIDES 'HAMELN' DWARF FOUNTAIN GRASS	3 GAL.
VINES:	
BOUGAINVILLEA SPP. BOUGAINVILLEA	5 GAL.
CLYTOSTOMA CALLISTEGIOIDES VIOLET TRUMPET VINE	5 GAL.

Source: New World International Investment 2022

Typical Project Landscape/Hardscape Elements and Conceptual Plant Palette

Exhibit 15

Arcadia Town Center Project

PSOMAS

(11/02/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\tex_Typical_Landscape_Hardscape.pdf

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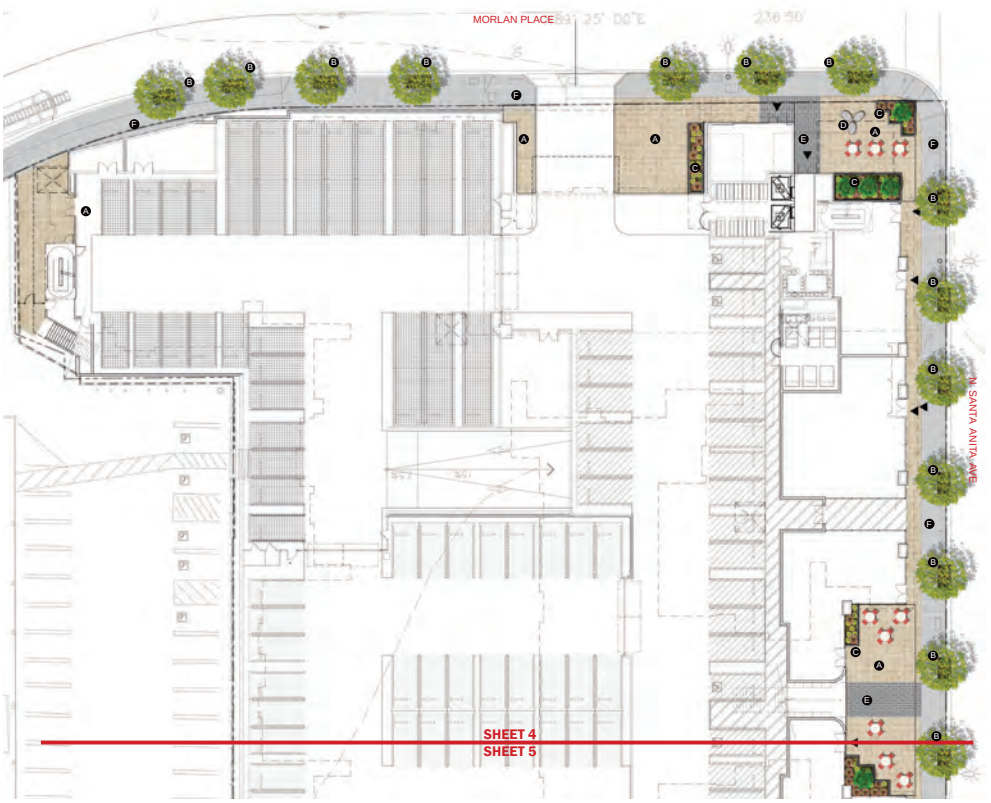
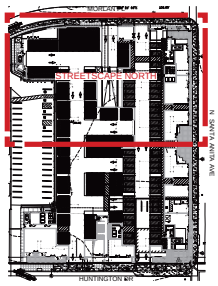


STREETSCAPE NORTH

Legend

- A 2' x 2' Concrete Pavers
- B 4' x 8' Tree Well w/ Shade Tree
- C Ornamental Planting
- D Pebble Seating
- E Accent Linear Pavers
- F Existing Sidewalk

GROUND LEVEL KEY MAP



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Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan

Exhibit 16a

Arcadia Town Center Project

PSOMAS

(08/01/2023 PLO) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_ProposesLandscapePlan.pdf

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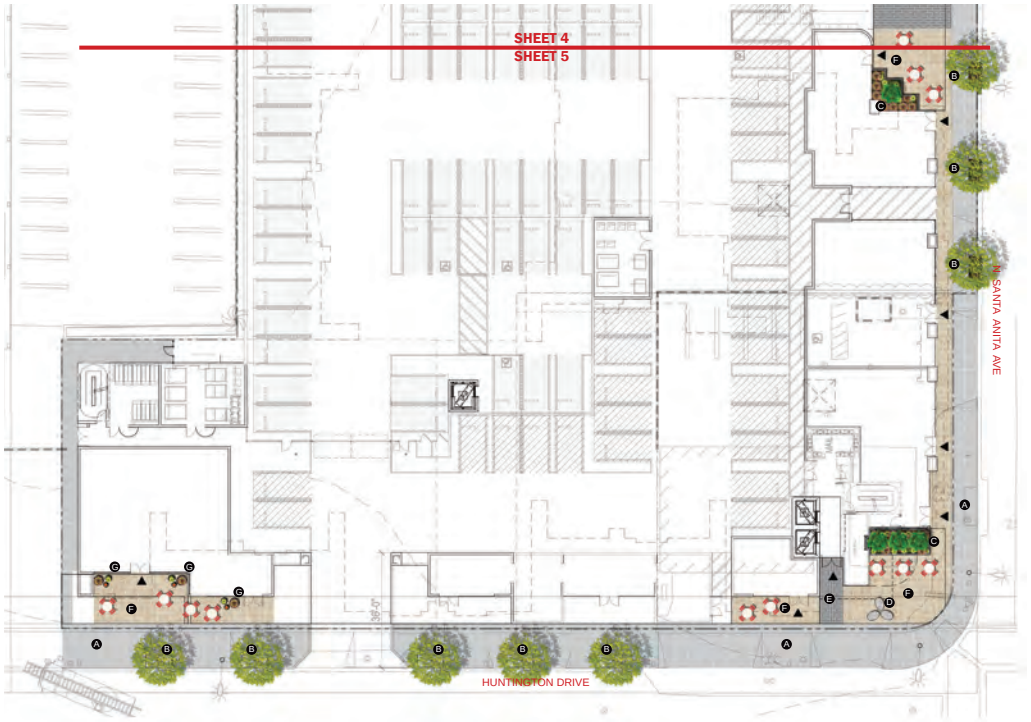
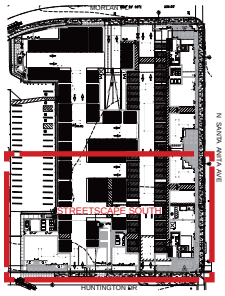


STREETSCAPE SOUTH

Legend

- A Existing Sidewalk
- B 4' x 8' Tree Well w/ Shade Tree
- C Ornamental Planting
- D Pebble Seating
- E Accent Linear Pavers
- F 2' x 2' Concrete Pavers
- G Circular Planting Pots

GROUND LEVEL KEY MAP



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Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan — Exhibit 16b

Arcadia Town Center Project

PSOMAS

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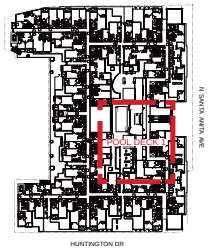
AMENITY DECK 1

Legend

- A Swimming Pool
- B Lounge Seating without Artificial Turf
- C Artificial Turf w/ Lounge Seating
- D Pre-Fab Planter w/ Shade/Palm Tree
- E 12" Tall Built-In Planter
- F Circular Ornamental Planting Pot
- G Rectangular Pre-Fab Planter
- H Accent Linear Pavers
- I 2' x 2' Concrete Pavers
- J Pool Fence & Gate
- K Decorative Rock
- L Wood Decking
- M Pre-Fab Fire Trough
- N Bocce Ball Court
- O String Lighting

2ND LEVEL KEY MAP



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Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan

Exhibit 16c

Arcadia Town Center Project

PSOMAS

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AMENITY DECK 2

Legend

- A Custom Steel Shade Structure
- B Wood-Cap Planter Bench
- C Artificial Turf Area
- D Raised Planter w/ Ornamental Planting
- E Circular Ornamental Planting Pot
- F 4' x 4' Pre-Fab Planter w/ Shade Tree
- G 2' x 2' Concrete Pavers
- H Accent Linear Pavers
- I Barbeque Grill & Counter
- J Pool Fence & Gate

2ND LEVEL KEY MAP

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Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan

Exhibit 16d

Arcadia Town Center Project

PSOMAS

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COURTYARD 1

Legend

- A Contemporary Fire Trough
- B Decorative Rock
- C Accent Linear Pavers
- D Raised Planter w/ Ornamental Planting
- E Artificial Turf
- F 2' x 2' Two-Tone Accent Pavers
- G Decorative Light Spheres

2ND LEVEL KEY MAP

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COURTYARD 2

Legend

- Raised Planter w/ Ornamental Planting A
- 2' x 2' Concrete Pavers B
- Accent Linear Pavers C

Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan

Arcadia Town Center Project

Exhibit 16e

PSOMAS

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COURTYARD 3

Legend

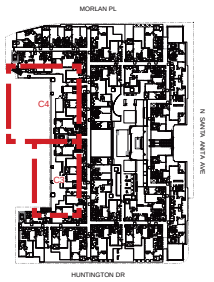
- A Built-In Wood Bench
- B Rectangular Pre-Fab Planter
- C Raised Planter w/ Ornamental Planting
- D 4' x 4' Pre-Fab Planter w/ Shade Tree
- E 2' x 2' Two-Tone Accent Pavers

COURTYARD 4

Legend

- A Artificial Turf Area
- B Rectangular Pre-Fab Planter
- C Ornamental Planting Pots
- D Raised Planter w/ Ornamental Planting
- E Built-In Concrete Bench Seating
- F 4' x 4' Pre-Fab Planter w/ Shade Tree
- G 2' x 2' Two-Tone Accent Pavers

2ND LEVEL KEY MAP



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Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan

Exhibit 16f

Arcadia Town Center Project

PSOMAS

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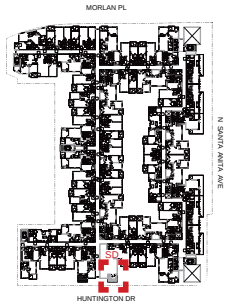
SKY DECK (4TH LEVEL)

Legend

- A Ornamental Planting Pots
- B 2' x 2' Concrete Pavers

4TH LEVEL KEY MAP



Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan — Exhibit 16g

Arcadia Town Center Project

PSOMAS

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ROOF DECK (5TH LEVEL)

Legend

- A Ornamental Planting Pots
- B Raised Planter w/ Ornamental Planting
- C Artificial Turf Area
- D 4' x 4' Pre-Fab Planter w/ Shade Tree
- E 2' x 2' Two-Tone Accent Pavers

5TH LEVEL KEY MAP

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Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan — Exhibit 16h

Arcadia Town Center Project

PSOMAS

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The Project would include removal of the 26 existing trees on the site and adjacent ROW. This would include 11 street trees along the frontages of Huntington Drive and Santa Anita Avenue (both within and outside the existing ROW). There are 3 trees along the frontage of Santa Anita Avenue that are Protected Trees under the City's Tree Preservation Ordinance (Section (9110.01 et. seq. of the Development Code) and 3 trees in the ROW of Huntington Drive that are protected under City's Comprehensive Tree Management Program (Section 9800 et. seq. of the AMC) would be removed as part of Project implementation. The Applicant/Property Owner would be required obtain a permit from the Arcadia Public Works Services Department for the removal of street trees in the public ROW and removal of Protected Trees on private property. The Project's on-site landscaping would include a total of 46 new trees. Among these would be 21 trees along the frontages of Morlan Place, Santa Anita Avenue, and Huntington Drive, planted in a 4-foot by 8-foot tree well consistent with City standards. Tree removals and replacements are discussed further in Section 3.4, Biological Resources, of this IS/MND.

Circulation and Parking

Vehicular Circulation

As shown on Exhibits 3 and 5, primary vehicular access to the Project's parking structure is proposed via entries accessible from Huntington Drive and Morlan Place. All vehicular access from the street leads to parking for visitors to the commercial areas and for residents and guests on the ground level. As shown on Exhibit 3, there is a through path on Level 1 between the Huntington Drive to Morlan Place entrances for commercial visitors. Vehicles would be able to leave the site via these same two driveways. There is one ramp to and from Level B1, the subterranean level with resident parking only.

Non-Vehicular Circulation

Secured/keyed residential access to the Project would be provided at the entry lobbies, staircases, and elevators. All residential units would be accessible from interior walkways that connect to the three elevators and four stairwells. The elevators would provide access to the basement parking garage, the ground floor, and all four levels of residential units.

Automobile Parking

The City's off-street parking requirements are set forth in Section 9103.07.070 of the Development Code, which covers Mixed-Use (Nonresidential and Residential Combined) Parking Standards. The following minimum parking requirements apply to the Project:

- **Mixed-Use Residential.** 1.5 parking spaces for every dwelling unit, plus 1.0 guest parking space for every 3 units.
- **Commercial.** 1.0 parking space per 100 sf to 250 sf of gross floor area (GFA), depending on the type of commercial use proposed. For large restaurants that are greater than 2,000 sf, the ratio is 1.0 space per 100 sf of GFA. For retail and small restaurants that is 2,000 sf or less, the ratio is 1.0 space per 200 sf of GFA. For office professional, the ratio is 1.0 space per 250 sf of GFA.

For commercial uses located within 1,320 feet (¼-mile) of a light rail station, which includes the Project site, the Development Code permits a reduction of 25 percent to be applied to the off-street parking requirement for non-residential uses. Based on the requirements noted above, a total of 377 spaces are required for the Project as summarized below:

- **Mixed-Use Residential:** 272 spaces (181 units x 1.5 spaces/unit)

- **Mixed-Use Residential Guest:** 59 spaces (181 units x 0.3)
- **Commercial:** 46 spaces (after 25 percent reduction) (assuming 8,330 sf of small restaurant or general retail and 4,800 of office professional)

In compliance with these requirements, the Project proposes 378 parking spaces, which are located as shown on Exhibits 4 and 5.

Bicycle Parking

As required by Section 9103.07.150 of the Development Code, the Project would include long-term (for residents) and short-term (for visitors and guests) bicycle parking. For multi-family uses, 0.2 space per unit is required. For non-residential uses such as retail, both short-term and long-term bicycle parking must be provided equivalent to 5 percent of the vehicle parking spaces, with a minimum of a two-bicycle capacity rack. The Development Code requires that long-term bicycle parking include one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bike rooms with permanently anchored racks; or
- Lockable, permanently anchored bicycle lockers.

Based on these requirements, the Project proposes installation of 40 long-term bicycle parking stalls; of these, 37 stalls are for residents and 3 are for retail uses. The Project also includes 3 short-term bicycle parking stalls.

Infrastructure

The Project would include the installation of and connection to storm drain, sewer, and potable water infrastructure systems; and on- and off-site dry utility connections to accommodate the needs of the Project. The necessary on- and off-site infrastructure would be constructed and/or relocated by the Applicant/Property Owner according to specifications set by the City and utility providers. The following is a brief description of the proposed infrastructure and utility systems.

Drainage and Water Quality Treatment

In the existing condition, storm water runoff from the Project site is conveyed as surface flow and flows into existing 42-inch-diameter storm drain pipelines located in both Huntington Drive and Santa Anita Avenue. Over four miles of City-maintained storm water management facilities are present in Arcadia, which connect to regional flood control and runoff conveyance facilities (Arcadia 2010b). The City's storm water generally flows in a southerly direction through the Eaton Wash, Arcadia Wash, Santa Anita Wash, Sierra Madre Wash, and Sawpit Wash toward the Rio Hondo, which runs southwest into Whittier Narrows and continues southwest to join the Los Angeles River in Downey (Arcadia 2010a).

As discussed in more detail in Section 3.10, Hydrology and Water Quality, a low impact development (LID) Plan would be prepared for the Project to further analyze and specify appropriate source-control best management practices (BMPs), site-design BMPs, and hydraulic source-control BMPs that would be incorporated into the Project consistent with Section 7800 et. seq., Stormwater Management and Discharge Control, of the Arcadia Municipal Code (AMC). The BMPs would be required to control pollutants, pollutant loads, and runoff volumes to the maximum extent feasible by minimizing impervious surface area and controlling runoff through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use.

Potable Water

The City of Arcadia Public Works Services Department is responsible for producing, storing, and distributing potable water to the City and maintaining the City's water system infrastructure. The existing water infrastructure adjacent to the Project site includes a 30-inch-diameter welded steel water main in Santa Anita Avenue, a 16-inch-diameter welded steel water main in Huntington Drive, and a six-inch-diameter water main is available in Morlan Place.

The Project's proposed water infrastructure would include domestic, irrigation, and fire water service lines, meters, and backflow preventers. The Project would connect to the existing water lines in Santa Anita Avenue, Huntington Drive and Morlan Place via several proposed 2-inch-diameter lateral pipes. Additionally, a proposed 8-inch-diameter fire water line would be connected to the existing water line in Santa Anita Avenue for use by the existing fire hydrant and a 2-inch-diameter irrigation lateral would be connected to the existing water line in Morlan Place. Any portions of Huntington Drive, Santa Anita Drive, or Morlan Place that are disturbed during Project construction would be repaved in-kind, as described in MM TRANS-1.

The City of Arcadia has confirmed that the Project's anticipated potable water demands can be accommodated with the existing potable water infrastructure, as described in more detail in Section 3.19, Utilities and Service Systems.

Sewer

In the existing condition, sewage from the Project site is conveyed via 8-inch-diameter and 10-inch-diameter sewer lines located in Huntington Drive, Santa Anita Avenue, and Morlan Place. These pipelines flow towards an existing 18-inch-diameter Los Angeles County Sanitation Districts (LACSD) trunk line located at the intersection of Camino Real Avenue and First Avenue (LACSD 2024).

Local sewer main lines adjacent to the Project site are maintained by the City, and they convey wastewater into trunk lines that are maintained by the LACSD. The City's sewer system has approximately 138 miles of sewer pipes, six siphons, and one pump station. There are also 15 miles of County-owner pipelines within the City limits into which the City's system discharges. The City's sewer system serves existing developments in the City, with connections to the sewer systems of the cities of Sierra Madre, Temple City, and Monrovia and in unincorporated County areas that allow for sewage conveyance through the City's system to the LACSD sewer trunk lines (Arcadia 2010b). The Project proposes to connect to the existing lines located in Santa Anita Avenue via several proposed six-inch-diameter sewer lateral pipes.

Dry Utilities

Southern California Edison (SCE) would provide electricity service and Southern California Gas Company (SoCal Gas) would provide natural gas service to the Project site. The Project would require the removal and replacement of the existing dry utility lines within the Project site. The Project would connect to the existing electric lines located in Morlan Place; and existing gas infrastructure located in Huntington Drive, Santa Anita Avenue and Morlan Place. There are existing telephone, telecommunication, and cable television lines and facilities associated with private providers such as AT&T, Spectrum, EarthLink, and Frontier throughout the City. Existing utility service to adjacent and nearby parcels would be maintained throughout Project construction.

2.2.4 OFF-SITE IMPROVEMENTS

The following off-site improvements are anticipated:

- The Project would require the removal of 11 street trees along the frontages of Huntington Drive and Santa Anita Avenue (both within and outside the existing ROW).
- In addition to on-site landscaping, an anticipated 5 street trees would be planted along the Huntington Drive ROW; 9 street trees would be planted along the Santa Anita ROW; and 7 street trees would be planted along the Morlan Place ROW, although the ultimate number will be determined by the Public Works Services department.
- The Project would require off-site connections to existing utilities within the ROW of Huntington Drive, Santa Anita Avenue, and Morlan Place.

All the items noted above would be designed and constructed in accordance with City requirements and standards and would require City approval.

Additionally, the Project would dedicate the following areas to the City to become a public ROW:

- On Santa Anita Avenue: 2.5 feet of sidewalk alongside the Jiffy Lube parcel and the 10-foot-wide sidewalk for the remaining frontage to Morlan Place, and
- On Huntington Drive: 18 inches of sidewalk along the entire frontage.

Finally, to accommodate the wastewater generation of the Project plus other projected growth, the City would replace approximately 1.3 miles (6,685 linear feet) of existing 8- and 10-inch diameter sewer lines with 12-inch diameter sewer lines along Santa Anita Avenue between Huntington Drive and Camino Real Avenue. It was determined this additional capacity must be available before residents and businesses occupy the Project. Therefore, construction of this off-site sewer upsizing is addressed in this IS/MND (see Section 3.19, Utilities and Service Systems). This infrastructure work would be split into three smaller phases and included in future City capital improvement plans (CIPs) for the years prior to occupancy of the Project. While required for the Project to open to the public, the off-site sewer upsizing would be implemented by the City and is not as part of the Project's construction scope.

2.3 CONSTRUCTION ACTIVITIES

Construction of the Project would occur in a single phase and is anticipated to require approximately 29 months beginning in 2026, as outlined in Table 4, Estimated Project Construction Schedule. Although the City of Arcadia permits construction activities Monday through Saturday, the Project is expected to have construction activities Monday through Friday from 7:00 AM to 6:00 PM, consistent with the allowable hours of construction defined in Section 4261 of the AMC. Saturday construction activity within the allowable hours of 8:00 AM to 5:00 PM may sometimes occur if needed due to unforeseen circumstances. However, for purposes of this IS/MND the analysis assumes Monday through Friday construction activities and the resulting schedule shown below. In the unlikely event construction were to occur on a Saturday, all applicable mitigation measures and local and State regulations discussed further in Section 3.0 would apply. However, this is not the intent of the Applicant/Property Owner and such activity would be considered speculative for purposes of this analysis pursuant to Section 15145 of the State CEQA Guidelines. There would be no construction activity on Sundays, federal holidays that occur on weekdays, or at nighttime.

TABLE 4
ESTIMATED PROJECT CONSTRUCTION SCHEDULE

Construction Activity	Duration or Timing
Construction Begins	2026
Demolition	3 weeks
Site Preparation, Grading, Excavation	4 months & 1 week
Building Construction	24 months
Paving	2 months (would occur during building construction)
Architectural Coating	3 months (would occur during building construction)
Project Opens to the Public	2028
Source: New World International Investment LLC 2022.	

During the demolition, grading, and excavation phases, trucks are expected to enter and leave the Project site on a regular basis during working hours. The number of truck trips traveling along the City-designated truck routes would vary daily depending on the nature of the construction activity at the site. Trucks are anticipated to access the Project site primarily via I-210 and larger arterials (e.g., Santa Anita Avenue and Huntington Drive) and would follow City-designated haul routes avoiding residential streets. For purposes of this IS/MND, all hauling of debris or soil is assumed to be via 14 cubic yard (cy) size trucks and over an 8-hour workday, as a conservative assumption. These assumptions result in a greater number of total and daily truck trips.

Project construction would begin with the demolition of the existing structures and removal of the existing vegetation on the site, resulting in an estimated 4,970 cy of demolition debris and green waste to be exported. Debris removal from the Project site would generate an estimated 320 one-way truck trips over a four-week demolition and site preparation phases. On average, it is anticipated that 16 1-way trips per day or approximately 2 trips per work hour would occur.

During the grading and excavation phase, an estimated 44,870 cy of soil would be exported. Excavation is anticipated to generate a total of 4,487 one-way truck trips over a three-month period. On average, it is anticipated that 75 one-way trips per day or nine trips per work hour would occur. No pile driving would be required to install the Project's shoring or for any other construction activities. Building construction would occur for approximately 24 months, including paving and application of architectural coatings (e.g., stucco, exterior paints).

Construction staging and worker parking would be accommodated within the Project site, to be detailed in a Construction Management Plan that would be submitted to the City for approval prior to issuance of the grading permit. As discussed further in Section 3.17, Transportation, the Construction Management Plan would identify the equipment and vehicle staging areas, stockpiling of materials, fencing (e.g., temporary fencing with opaque material), and haul routes.

2.4 DISCRETIONARY APPROVALS

This IS/MND is intended to serve as the primary environmental document for all actions associated with the Project, including all discretionary approvals requested or required to implement the Project. In addition, this is the primary reference document for the formulation and implementation of a mitigation monitoring and reporting program for the Project.

The actions and/or approvals that the City needs to consider for the Project include, but are not limited to, the following:

- Adoption of the Arcadia Town Center Project IS/MND,
- Architectural Design Review No. ADR 19-09,
- Tentative Tract Map No. TTM 21-02 (83325),
- Minor Use Permit No. MUP 19-11
- Certificate of Demolition No. COD 22-25
- Other discretionary and ministerial permits and approvals that may be deemed necessary, including, but not limited to grading permit, excavation permit, and building permits.

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SECTION 3.0 ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Arcadia Town Center Project

2. **Lead Agency Name and Address:** City of Arcadia
240 West Huntington Drive
Arcadia, California 91066

3. **Contact Person and Phone Number:** Edwin Arreola, Senior Planner
Development Services Department
(626) 821-4334

4. **Project Location:** 25-75 North Santa Anita Avenue and
5, 11, 15, and 19 West Huntington Drive
Arcadia, California 91006

5. **Project Sponsor's Name and Address:** Arcadia Town Center, LLC
23341 Golden Springs, Suite 200
Diamond Bar, California 91765

6. **General Plan Designation:** Downtown Mixed Use (DMU)

7. **Zoning:** Downtown Mixed Use (DMU)

8. **Description of Project:** The Project proposes to consolidate and redevelop an approximate 2.27-acre site with a mixed-use development consisting of one 440,938 sf, five story (above ground) building with one level of subterranean parking and one level of ground level parking in the City of Arcadia within Los Angeles County. The Project includes 181 residential units; 3,890 sf of residential amenities; 38,713 sf of public and private open space; 13,130 sf of ground-floor commercial uses facing toward Huntington Drive and Santa Anita Avenue; and 378 parking spaces.

9. **Surrounding Land Uses and Setting:** The Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development, consisting of retail, restaurants, and office businesses, an Elks Lodge, the Mercedez-Benz of Arcadia car dealership, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and the car dealership, and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site across Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive. Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

10. Other Public Agencies Whose Approval May Be Required:

- Los Angeles County Sanitation Districts (Sewer Connection Permit);
- Los Angeles Regional Water Quality Control Board (National Pollutant Discharge Elimination System [NPDES] permitting); and
- California Department of Fish and Wildlife (CDFW) (Trustee Agency).

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.? Yes. The tribal consultation requirements of AB 52 have been implemented for this Project, as described in more detail in Section 3.18 of this document.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" without implementation of MM's, as indicated in Section 3.0 of this IS/MND.

- ☐ Aesthetics
- ☐ Air Quality
- ☒ Cultural Resources
- ☐ Geology and Soils
- ☒ Hazards and Hazardous Materials
- ☐ Land Use and Planning
- ☒ Noise
- ☐ Public Services
- ☒ Transportation
- ☒ Utilities and Service Systems
- ☐ Agriculture and Forest Resources
- ☐ Biological Resources
- ☐ Energy
- ☐ Greenhouse Gas Emissions
- ☐ Hydrology and Water Quality
- ☐ Mineral Resources
- ☐ Population and Housing
- ☐ Recreation
- ☒ Tribal Cultural Resources
- ☐ Wildfire

☒ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

☐ I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.

Signature of Lead Agency Representative — Date: 11/18/24

Edwin Arreola — Printed name

City of Arcadia — Agency

3.1 AESTHETICS	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 ENVIRONMENTAL SETTING

The Project site is within the downtown area of the City north of Huntington Drive and west of Santa Anita Avenue. All five parcels within the Project site (APNs 5775-025-032, -033, -034, -037, and -038) have a land use designation of DMU and are zoned as DMU.

The Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development consisting of retail, restaurants, and office businesses, an Elks Lodge, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and the car dealership, and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site across Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive. Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

As described in Section 21099 of the Public Resources Code, TTPAs are defined as areas within one-half mile of a major transit stop, which includes the Project site. Pursuant to Section 21099(d)(1) of the Public Resources Code, aesthetic impacts of a mixed-use residential project on an infill site within a TPA shall not be considered significant impacts on the environment. Because the Project meets the qualifications of a TPA, this section primarily focuses on considering aesthetic impacts pursuant to the local design review ordinances applicable to the Project.

3.1.2 PROJECT IMPACTS

Regulatory Requirements

RR AES-1 The Project Applicant/Property Owner shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting would be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code.

Impact Discussion

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. A substantial adverse effect to a scenic vista is one that degrades the view from a designated viewing location. The City of Arcadia General Plan (Arcadia 2010a) provides no mention of scenic vistas explicitly; however, the General Plan Resource Sustainability Element mentions the undeveloped hillsides to the north of the Project site within the San Gabriel Mountains as creating a scenic backdrop to the City (Arcadia 2010a). Although the Project would potentially obstruct views of the hillsides for a limited number of viewers from Huntington Drive or properties to the south, the Project would not substantially damage any scenic resources. Therefore, the Project would have a less than significant impact, and no mitigation is required.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No Impact. The Project is not located along or near a State scenic highway. The nearest designated State scenic highways are State Route (SR) 110 (Arroyo Seco Parkway) and SR-2 (Angeles Crest Highway), located seven and nine miles, respectively, from the Project site (Caltrans 2019). Given the distance and the presence of intervening structures, no damage to scenic resources within a State scenic highway would result from the Project and no mitigation is required.

c) Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The Project site is located within the City's downtown and is immediately surrounded by existing urban development, including commercial retail, office, and associated parking. Given that the Project site is located in an urbanized area, the analysis for this threshold focuses on whether the Project would conflict with applicable zoning and other regulations governing scenic quality.

The Project would adhere to the applicable development standards for the DMU zone, as well as other citywide policies and requirements including but not limited to Sections 7554.2-7554.9 of the AMC covering the City's Water Efficient Landscaping Ordinance; and Development Code Section 9103.09 of the covering landscaping, Section 9103.01.080 regarding mechanical and

electrical equipment screening, Section 9103.01.130 regarding trash enclosures, and Section 9103.11 regarding signage. Also, the Project is located within the City Center Design Plan (Onyx Architects 2018). Project consistency with the City's Development Code, including development standards for the DMU zone and the City Center Design Plan, is discussed in more detail in Section 3.11, Land Use and Planning, of this IS/MND.

As part of the Project's design review process, the Project Applicant/Property Owner has prepared a landscape plan that provides the proposed plant palette and location of proposed landscaping, hardscaping, and other related features, which have been submitted to the City for review and approval as well as renderings and colors and materials boards, which have undergone the City's Design Review process, which is in place to ensure consistency with the applicable zoning and other applicable regulations, including those that govern scenic quality. More information related to Project consistency with plans, policies, and regulations is provided in Section 3.11. Given that the Project would not conflict with applicable zoning and other regulations governing scenic quality, the Project would result in less than significant impacts, and no mitigation is required.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. The Project site is in an area already subject to nighttime lighting from existing uses on and in the surrounding area. The Project site currently contains on-site lighting associated with existing buildings. In addition, there is existing street lighting on adjacent roadways.

The Project would introduce exterior light sources into the Project site suitable for the proposed mixed-use (residential/commercial) development, including lighting at Project site entrances, storefronts, and building exteriors. All lighting fixtures shall be appropriate in scale, intensity, and height for the Project. The Project's lighting would be consistent with other light generated by existing and surrounding land uses and roadways and would comply with the City's restrictions on exterior lighting (see RR AES-1) including Section 9103.07.060 of the Development Code for Parking Lot Lighting and Section 9103.01.120 of the Development Code for Exterior Lighting, which primarily focus on preventing spillage of lighting and glare onto adjacent properties. Consistent with City requirements, exterior lighting would be hooded and oriented to reflect away from adjoining properties and streets. Due to the urban nature of the Project site and surrounding areas, existing lighting, and lack of sensitive receptors for lighting (e.g., single-family residential) in the immediate vicinity, impacts associated with lighting the Project would be less than significant and no mitigation is required.

Glare is caused by light reflections from pavement, vehicles, and building materials (e.g., reflective glass and polished surfaces). During daylight hours, the amount of glare depends on intensity and direction of sunlight. Glare can create hazards to motorists and nuisances for pedestrians and other viewers. The Project would be constructed with materials and finishes that are common for infill development and are not highly reflective. Furthermore, as discussed above, Project light fixtures would be directed downward and shielded or recessed in such a manner so that light trespass is minimized and light from the project is not perceptible at or beyond the property line. The Project does not include any uses that would have the potential to create noticeable glare from sunlight, vehicle lights, or outdoor lighting which have the potential to pose a hazard to motorists traveling in the Project vicinity or that would affect surrounding uses. Therefore, less than significant impacts would occur related to glare, and no mitigation is required.

3.1.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to aesthetics; therefore, no mitigation measures are required.

3.2 AGRICULTURE AND FORESTRY RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 ENVIRONMENTAL SETTING

The Project site does not currently support any agricultural uses or activities or forestry resources. Therefore, no impact would occur, and no mitigation is required.

3.2.2 PROJECT IMPACTS

Regulatory Requirements

None required.

Impact Discussion

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code, Section 12220[g]), timberland (as defined by Public Resources Code, Section 4526), or timberland zoned Timberland Production (as defined by Government Code, Section 51104[g])?

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The Project site is in an urbanized area and would not convert farmland to a non-agricultural use. The site is zoned as DMU and is developed with commercial land uses and surface parking lots (Arcadia 2010a). No portion of the Project site is covered by a Williamson Act Contract or located on land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance according to the 2016 California Department of Conservation, Farmland Mapping and Monitoring Program (DOC 2018a and 2018b). The City of Arcadia General Plan's Land Use and Community Design Element does not identify any agricultural production areas within the City's corporate boundaries (Arcadia 2010a). In addition, the Project site does not contain designated forest land or timberland as defined in the California Public Resources Code (Sections 12220[g] and 4526, respectively). Therefore, no impacts to agricultural resources, forest land, or timberland would result from Project implementation, and no mitigation is required.

3.2.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to agriculture and forestry resources; therefore, no mitigation measures are required.

3.3 AIR QUALITY	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 ENVIRONMENTAL SETTING

The Project site is in the Los Angeles County portion of the South Coast Air Basin (SoCAB) and, for air quality regulation and permitting, is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SoCAB is a 6,600-square-mile area bound by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego County line to the south. The SoCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. The SoCAB's terrain and geographical location (e.g., a coastal plain with connecting broad valleys and low hills) determine its distinctive semi-arid climate, which is characterized by moderate temperatures, oceanic influence, and precipitation that is limited to a few storms during the winter (November through April).

Attainment Status

Regional air quality is defined by whether the area has attained State and federal air quality standards, as determined by air quality data from various monitoring stations. Areas that are considered "nonattainment" are required to prepare plans and implement measures that will bring the region into "attainment". When an area has been reclassified from nonattainment to attainment for a federal standard, the status is identified as "maintenance", and there must be a plan and measures established that will keep the region in attainment for the next ten years.

For the California Air Resources Board (CARB), an "unclassified" designation indicates that the air quality data for the area are incomplete and there are no standards to support a designation of attainment or nonattainment. Table 5, Attainment Status of Criteria Pollutants in the South Coast Air Basin, summarizes the attainment status of the SoCAB for the criteria pollutants.

TABLE 5
ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN

Pollutant	State	Federal
O_3 (1-hour)	Nonattainment	No Standards
O_3 (8-hour)	Nonattainment	Extreme Nonattainment
PM10	Nonattainment	Attainment/Maintenance
PM2.5	Nonattainment	Serious Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	No Standard	Attainment/Nonattainment*
All others	Attainment/Unclassified	No Standards

O_3: ozone; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide.

* Los Angeles County is classified nonattainment for lead; the remainder of the SoCAB is in attainment of the State and federal standards.

Sources: SCAQMD 2016, USEPA 2022

Sensitive Air Quality Receptors

Sensitive receptors include, but are not limited to, children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. The nearest sensitive receptors to the Project site are residences located approximately 280 feet to the southeast and 410 feet to the northwest. Commercial and office uses are located proximate to the Project site to the north, west, and east. Arcadia County Park is located to the south of the Project site.

Regulatory Framework

Air Pollutants

Criteria Pollutants

Air quality regulations were first promulgated with the Federal Clean Air Act (CAA) of 1970. Air quality is defined by ambient air concentrations of seven "criteria air pollutants", which are a group of common air pollutants identified by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to the health and welfare of the general public. Federal and State governments regulate criteria air pollutants by using ambient standards based on criteria regarding the health and/or environmental effects of each pollutant. The criteria pollutants are defined as nitrogen dioxide (NO_2), ozone (O_3), particulate matter (including both respirable particulate matter with a diameter of 10 microns or less [PM10] and fine particulate matter with a diameter of 2.5 microns or less [PM2.5]), carbon monoxide (CO), sulfur dioxide (SO_2), and lead. A description of each criteria air pollutant, including source types and health effects, is provided below.

Nitrogen Dioxide

Nitrogen gas, normally relatively inert (nonreactive), comprises about 80 percent of the air. At high temperatures (e.g., in a combustion process) and under certain other conditions, nitrogen can

combine with oxygen to form several different gaseous compounds collectively called nitrogen oxides (NOx). Nitric oxide (NO), NO_2, and nitrous oxide (N_2O) are important constituents of NOx. NO is converted to NO_2 in the atmosphere. Motor vehicle emissions are the main source of NOx in urban areas. NO_2 is a red-brown pungent gas and is toxic to various animals and to humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membranes, and skin. In animals, long-term exposure to NOx increases susceptibility to respiratory infections, lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations of NO_2 can suffer lung irritation and, potentially, lung damage. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

While the NAAQS only address NO_2, NO and NO_2 are both precursors in the formation of O_3 and PM2.5, as discussed below. Because of this, and the fact that NO emissions largely convert to NO_2, NOx emissions are typically examined when assessing potential air quality impacts.

Ozone

O_3 is a secondary pollutant, meaning that it is not directly emitted. It is a gas that is formed when volatile organic compounds (VOCs) (also referred to as reactive organic gases) and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of VOC emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form;[3] as a result, ozone is known as a summertime air pollutant. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems, including:

- lung irritation that can cause inflammation much like a sunburn;
- wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities;
- permanent lung damage to those with repeated exposure to O_3 pollution; and
- aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis.

Ground-level O_3 can have detrimental effects on plants and ecosystems. These effects include:

- interfering with the ability of sensitive plants to produce and store food, making them more susceptible to certain diseases, insects, other pollutants, competition, and harsh weather;
- damaging the leaves of trees and other plants; and
- reducing crop yields and forest growth, potentially impacting species diversity in ecosystems.

[3] Ground-level O_3 is not to be confused with atmospheric O_3 or the "ozone layer", which occurs very high in the atmosphere and shields the planet from some ultraviolet rays.

Particulate Matter

Particulate matter includes both aerosols and solid particles of a wide range of size and composition. Of particular concern are those particles smaller than or equal to 10 microns in diameter (PM10) and smaller than or equal to 2.5 microns in diameter (PM2.5). Particulate matter size refers to the aerodynamic diameter of the particle. Smaller particles are of greater concern because they can penetrate deeper into the lungs than large particles.

PM10 is generally emitted directly as a result of mechanical processes that crush or grind larger particles or from the resuspension of dust, most typically through construction activities and vehicular travel. PM10 generally settles out of the atmosphere rapidly and is not readily transported over large distances.

PM2.5 is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x), and VOCs. PM2.5 can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne particulate matter are on the respiratory system. Short-term exposure to high PM2.5 and PM10 levels are associated with premature mortality and increased hospital admissions and emergency room visits; a decline in respiratory function is also associated with short-term exposure to high PM10 levels. Long-term exposure to high PM2.5 levels is associated with premature mortality and development of chronic respiratory disease. According to the USEPA, some people are much more sensitive than others to breathing PM10 and PM2.5. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

Particulate matter tends to occur primarily in the form of fugitive dust. This dust appears to be generated by both local sources and by region-wide dust during moderate- to high-wind episodes. These regional episodes tend to be multidistrict and sometimes interstate in scope. The principal sources of dust in urban areas are from grading, construction, disturbed areas of soil, and dust entrained by vehicles on roadways.

Carbon Monoxide

CO is a colorless and odorless gas which, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease, and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high CO concentrations are typically found near crowded intersections; along heavily used roadways carrying slow-moving traffic; and at or near ground level. Even under the most severe meteorological and traffic conditions, concentrations of CO are limited to locations within a relatively short distance (i.e., up to 600 feet or 185 meters) of heavily traveled roadways. Overall, CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SoCAB are in compliance with the State and federal one-hour and eight-hour standards.

Sulfur Dioxide

SO_x is a class of compounds of which SO_2 and sulfur trioxide (SO_3) are of greatest importance. Ninety-five percent of pollution-related SO_x emissions are in the form of SO_2. SO_x emissions are typically examined when assessing potential air quality impacts of SO_2. The primary contributor of SO_x emissions is fossil fuel combustion for generating electric power. Industrial processes, such as nonferrous metal smelting, also contribute to SO_x emissions. SO_x is also formed during combustion of motor fuels; however, most of the sulfur has been removed from fuels, greatly reducing SO_x emissions from vehicles.

SO_2 combines easily with water vapor, forming aerosols of sulfurous acid (H_2SO_3), a colorless, mildly corrosive liquid. This liquid may then combine with oxygen in the air, forming the even more irritating and corrosive sulfuric acid (H_2SO_4). Peak levels of SO_2 in the air can cause temporary breathing difficulty for people with asthma who are active outdoors. Longer-term exposures to high levels of SO_2 gas and particles cause respiratory illness and aggravate existing heart disease. SO_2 reacts with other chemicals in the air to form tiny sulfate particles that are measured as PM2.5.

Lead

Lead is a stable compound, which persists and accumulates both in the environment and in animals. In humans, it affects the body's blood-forming (or hematopoletic), nervous, and renal systems. In addition, lead has been shown to affect the normal functions of the reproductive, endocrine, hepatic, cardiovascular, immunological and gastrointestinal systems, although there is significant individual variability in response to lead exposure. Since 1975, lead emissions have been in decline due, in part, to the introduction of catalyst-equipped vehicles and the decline in the production of leaded gasoline. In general, an analysis of lead is limited to projects that emit significant quantities of the pollutant (i.e., lead smelters) and are not applied to transportation sources of emissions.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including motor vehicles, gasoline stations, dry cleaners, industrial operations, painting operations, and research and teaching facilities.

TACs are different than the "criteria" pollutants previously discussed in that ambient air quality standards have not been established for them. TACs occurring at extremely low levels may still cause health effects, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

Diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (diesel PM). In 1998, California identified diesel PM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Diesel engines also contribute to California's PM2.5 air quality problems.

Carcinogenic risks (i.e., cancer risks) are estimated as the incremental probability that an individual will develop cancer over his/her lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a probability (e.g., 10 in 1 million). A risk level of 1 in 1 million implies a likelihood that up to 1 person out of 1 million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to those cancer cases that would normally occur in an unexposed population of 1 million people. The Hazard Index (HI) expresses the potential for chemicals to result in non-cancer-related health impacts. HIs are expressed using decimal notation (e.g., 0.001). A calculated HI exposure of less than 1.0 will likely not result in adverse non-cancer-related health effects over a lifetime of exposure. Although a value of 1.0 is a commonly accepted California Environmental Quality Act (CEQA) significance threshold, an HI greater than 1.0 does not necessarily mean that adverse effects will occur.

The Project site is located in the SoCAB. The SoCAB comprises all of Orange County and parts of San Bernardino, Los Angeles, and Riverside Counties. Air quality in the SoCAB is regulated by the USEPA, CARB, and the SCAQMD. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although USEPA regulations may not be superseded, both State and local regulations may be more stringent. The Southern California Association of Governments (SCAG) is an important partner to the SCAQMD and produces estimates of anticipated future growth and vehicular travel in the basin that are used for air quality planning. The federal, State, regional, and local regulations for criteria air pollutants and TACs are discussed below.

Federal

United States Environmental Protection Agency

The USEPA is responsible for implementing the CAA, which was first enacted in 1955[4] and amended numerous times thereafter. The CAA established federal air quality standards known as the NAAQS. These standards identify levels of air quality for criteria pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe (with an adequate margin of safety) to protect the public's health and welfare. The USEPA is responsible for setting and enforcing the NAAQS for criteria pollutants. The NAAQS are shown in Table 6. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The USEPA requires each State with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP). The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution and thereby attain or maintain federal standards by using a combination of performance standards and market-based programs within the SIP identified time frame.

[4] The Air Pollution Control Act, the predecessor to the Clean Air Act, was enacted in 1955.

TABLE 6
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM10	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	–
PM2.5	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	–	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

O_3: ozone, ppm: parts per million, µg/m^3: micrograms per cubic meter, –: No Standard; PM10: respirable particulate matter with a diameter of 10 microns or less, AAM: Annual Arithmetic Mean, PM2.5: fine particulate matter with a diameter of 2.5 microns or less, CO: carbon monoxide, mg/m^3: milligrams per cubic meter, NO_2: nitrogen dioxide, SO_2: sulfur dioxide, km: kilometer.

[a] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[b] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2016.

State

California Air Resources Board

CARB, as part of the California Environmental Protection Agency (CalEPA), is responsible for coordinating and administering both the federal and State air pollution control programs in California. In this capacity, CARB establishes the California Ambient Air Quality Standards (CAAQS), as shown in Table 6, which are generally more stringent and apply to more pollutants than the National Ambient Air Quality Standards (NAAQS). In addition to the criteria pollutants, CAAQS have been established for visibility-reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride.

In addition, CARB conducts research, compiles emissions inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. CARB requires the air districts in regions that do not attain the CAAQS to prepare plans for attaining the standards. These plans are then integrated into the State SIP. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. The AQMP for the SoCAB is discussed below.

Title 24 Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The current applicable standards are the 2022 Standards, effective January 1, 2023. The 2022 standards focus on four key areas: smart residential photovoltaic systems, updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa), residential and nonresidential ventilation requirements, and non-residential lighting requirements. The requirements of the energy efficiency standards result in the reduction of natural gas and electricity consumption. Since using natural gas produces criteria pollutant emissions, a reduction in natural gas consumption results in a related reduction in air quality emissions. Additional discussion of the Title 24 energy efficiency standards is included in Sections 3.6, Energy and 3.8, Greenhouse Gas Emissions. The 2022 Energy Efficiency Standards are being developed and would improve upon the 2019 Energy Code for new construction of, and additions and alterations to, residential and non-residential buildings. The California Energy Commission (CEC) updates the standards typically every three years.

Title 24 Green Building Standards

The 2022 California Green Building Standards Code (CCR, Title 24, Part 11), also known as the "CALGreen Code," contains mandatory requirements and voluntary measures for new residential and non-residential buildings (including buildings for retail uses, office uses, public schools, and hospitals) throughout California (CBSC 2022). Development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The CALGreen Code was established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction. The City has adopted the CALGreen Code in Article 8 of the AMC.

The CALGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy-efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, storm water management, building design, insulation, flooring, and framing, among others. Implementation of the CALGreen Code measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles which, in turn, reduces pollutant emissions. Additional discussion of the CALGreen Code is included in Sections 5.4, Energy, and 5.7, Greenhouse Gas Emissions.

Regional

South Coast Air Quality Management District

In the SoCAB, the SCAQMD is the agency responsible for protecting public health and welfare through the administration of federal and State air quality laws, regulations, and policies. Included in the SCAQMD's tasks are the monitoring of air pollution, the preparation of the AQMP for the SoCAB, and the promulgation of rules and regulations.

SCAG is the federally designated Metropolitan Planning Organization and the State-designated transportation planning agency for six counties: Riverside, San Bernardino, Los Angeles, Ventura, Imperial, and Orange.

The SCAQMD and SCAG are jointly responsible for formulating and implementing the AQMP for the SoCAB. SCAG's Regional Mobility Plan and Growth Management Plan form the basis for the land use and transportation control portion of the AQMP.

Air Quality Management Plan

The current regional plan applicable to the Project is the SCAQMD's 2022 AQMP. The SCAQMD is responsible for ensuring that the SoCAB meets the NAAQS and CAAQS by reducing emissions from stationary (area and point), mobile, and indirect sources. To accomplish this goal, the SCAQMD prepares AQMPs in conjunction with the SCAG, County transportation commissions, and local governments; develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

The 2022 AQMP was adopted on December 2, 2022, by the SCAQMD Governing Board. The 2022 AQMP evaluates integrated strategies and measures to meet the following NAAQS (SCAQMD 2022):

- 8-hour O_3 target of 80 parts per billion (ppb) by 2024, 75 ppb by 2032, 70 ppb by 2038;
- Annual PM2.5 (12 micrograms per cubic meter [µg/m^3]) by 2025;
- 1-hour O_3 (120 ppb) by 2023; and
- 24-hour PM2.5 (35 µg/m^3) by 2023.

South Coast Air Quality Management District Rules

The Project would be required to comply with existing SCAQMD rules for the reduction of fugitive dust and criteria pollutant emissions. The following rules are most relevant to the Project.

SCAQMD Rule 201 requires a "Permit to Construct" prior to the installation of any equipment "the use of which may cause the issuance of air contaminants . . ." and Regulation II provides the requirements for the application for a Permit to Construct. Rule 203 similarly requires a Permit to Operate. Rule 219, Equipment not Requiring a Written Permit Pursuant to Regulation II, identifies "equipment, processes, or operations that emit small amounts of contaminants that shall not require written permits . . .".

SCAQMD Rule 402, Nuisance states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

SCAQMD Rule 403, Fugitive Dust requires actions to prevent, reduce, or mitigate fugitive particulate matter emissions. These actions include applying water or chemical stabilizers to disturbed soils; managing haul road dust by applying water; covering all haul vehicles before transporting materials; restricting vehicle speeds on unpaved roads to 15 miles per hour (mph); and sweeping loose dirt from paved site access roadways used by construction vehicles. In addition, Rule 403 requires that vegetative ground cover be established on disturbance areas that are inactive within 30 days after active operations have ceased. Alternatively, an application of dust suppressants can be applied in sufficient quantity and frequency to maintain a stable surface. Rule 403 also requires grading and excavation activities to cease when winds exceed 25 mph.

SCAQMD Rule 445 has been adopted to reduce the emissions of particulate matter from wood-burning devices and prohibits the installation of such devices in any new development.

SCAQMD Rule 1113 governs the sale of architectural coatings and limits the VOC content in paints and paint solvents. Although this rule does not directly apply to the Project, it does dictate the VOC content of paints available for use during building construction and ongoing maintenance.

SCAQMD Rule 1401 under Regulation XIV requires new source review of any new, relocated, or modified permit units that emit TACs. The rule establishes allowable risks for permit units requiring permits pursuant to Rules 201 and 203 discussed above.

SCAQMD Rule 1403, Asbestos Emissions from Demolition/Renovation Activities, specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

Southern California Association of Governments

SCAG is the regional planning agency for Orange, Los Angeles, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated MPO for the Southern California region. On June 5, 2020, SCAG's Regional Council adopted the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

(Connect Socal). The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources in order to improve public health, to meet the NAAQS as set forth by the CAA.

3.3.2 PROJECT IMPACTS

Regulatory Requirements

RR AQ-1 The Project will be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to:

- SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short-term particulate pollutant emissions.
- SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".
- SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project.

Impact Discussion

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary. It is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources and has prepared an AQMP that establishes a program of rules and regulations directed at attaining the NAAQS and CAAQS.

The 2022 AQMP was adopted on December 2, 2022, by the SCAQMD Governing Board. The 2022 AQMP evaluates integrated strategies and measures to meet the following NAAQS (SCAQMD 2022):

- 8-hour O_3 target of 80 parts per billion (ppb) by 2024, 75 ppb by 2032, 70 ppb by 2038;
- Annual PM2.5 (12 micrograms per cubic meter [µg/m^3]) by 2025;
- 1-hour O_3 (120 ppb) by 2023; and
- 24-hour PM2.5 (35 µg/m^3) by 2023.

The SCAQMD CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP". While the Project is consistent with the General Plan land use designation and zoning for the site, an AQMP consistency analysis was conducted. Strict consistency with all aspects of the plan is usually not required. A project should be considered consistent with the AQMP if it furthers one or more policies and does not obstruct other policies.

The SCAQMD CEQA Handbook identifies two key indicators of consistency, as discussed above:

1. Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
2. Whether the project will exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Both criteria are evaluated for the Project, as shown below.

With respect to the first criterion, based on the air quality modeling analysis conducted for the Project [thresholds 3.3(b) and 3.3(c), below)], construction and operation of the Project would not exceed the SCAQMD's CEQA thresholds of significance and consequently would not result in an increase in the frequency or severity of existing air quality violations nor cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emissions reductions in the AQMP. Therefore, the Project is consistent with the first criterion.

With respect to the second criterion, the Project was assessed as to whether it would exceed the assumptions in the AQMP. The SCAQMD's current air quality planning document is the 2022 Air Quality Management Plan (2022 AQMP). The Project parcels have a land use designation of DMU. The Project would advance the City's goal as embodied in the General Plan of providing the residential uses necessary to support and complement the existing and proposed businesses in downtown as well as the nearby Metro A Line Station. The goal of the Project is to transform the Project site within the City's downtown into a more vibrant, dynamic, transit- and pedestrian-oriented mixed-use development consistent with the Arcadia General Plan (General Plan) and related development standards and requirements. Because of its proximity to the Metro A Line Station, the Project site is within both a Transit Priority Area as defined under Senate Bill (SB) 743 (Section 21099 of the Public Resources Code), as the geographic area within 0.5-mile of a major transit stop included in a regional transportation plan; and a High Quality Transit Area as defined under SB 375 and codified in Section 21155 of the Public Resources Code, as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. For the City of Arcadia, these areas are identified by the Southern California Association of Governments (SCAG) and its 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS), adopted by SCAG's Regional Board on September 3, 2020. Additionally, the Project qualifies as a Transit Priority Project (TPP), defined under SB 375 (Section 21155 of the Public Resources Code)

The Project site is zoned as DMU. As discussed further in Section 3.11, Land Use and Planning, the Project would be consistent with the zoning and General Plan designations of the Project site with issuance of a Conditional Use Permit for multifamily dwellings which are permitted as part of mixed-use development. The development of the Project would support the air pollutant emissions reduction goals detailed in the AQMP and RTP/SCS by developing residential uses in a TPA, HQTA, and TPP area which provides mass transit options which leads to less air quality and greenhouse gas emissions as compared to transportation with single-occupant vehicles. In addition, the amount of emissions generated by the Project is below the SCAQMD's significance

thresholds. The Project is located within a half-mile of the Metro A Line Station. The proximity of the Project site to the station would encourage the use of mass transit which is consistent with the AQMP's goal of using non-single occupancy vehicles. As such, the Project would not conflict with the 2022 AQMP. Therefore, the Project would result in a less than significant impact related to this threshold, and no mitigation is required.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. As identified in Table 6 above, Los Angeles County is a nonattainment area for O_3, PM10, and PM2.5. The Project would generate PM10, PM2.5, NO_2, and O_3 precursors (NO_x and VOC) during short-term construction and long-term operations.

A project may have a significant impact where project-related emissions would exceed federal, State, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation. The SCAQMD has developed construction and operations thresholds to determine whether projects would potentially result in contributing toward a violation of ambient air quality standards. The SCAQMD recommends that projects be evaluated in terms of the quantitative thresholds established to assess both the regional and localized impacts of project-related air pollutant emissions. The City uses the current SCAQMD thresholds to determine whether a project would have a significant impact. These regional emission thresholds cannot be used to correlate whether a specific health impact would occur to an individual receptor. These significance thresholds were developed to assist lead agencies with a consistent threshold that could be used to determine whether a project's emissions could significantly contribute to the total emissions occurring within an air basin. The totality of the air basin's emissions would determine whether it would be in attainment of the CAAQS and NAAQS. These SCAQMD thresholds are identified in Table 7, South Coast Air Quality Management District Air Quality Significance Thresholds.

TABLE 7
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds (lbs/day)		
Pollutant	**Construction**	**Operation**
VOC	75	55
NO_x	100	55
CO	550	550
PM10	150	150
PM2.5	55	55
SO_x	150	150
Lead	3	3

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SOx: sulfur oxides.

Source: SCAQMD 2019

Air pollutant emissions for the Project were estimated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.4 (CAPCOA 2022). CalEEMod is designed to model construction and operational emissions for land development projects and allows for the input of

project- and county-specific information. For air quality modeling purposes, construction of the Project was based on the Project's construction assumptions and default assumptions derived from CalEEMod. The input for operational emissions of the existing and proposed uses was based on the vehicle trip generation rates provided in the Traffic Study prepared for the Project (Psomas 2024, Appendix H) and the proposed building area. Additional input details are included in Appendix A, Air Quality and Greenhouse Gas Emissions Calculations.

It is noted that when the following air quality analysis was conducted, construction of the Project was anticipated to require approximately 29 months beginning in 2024 and ending in 2026. As detailed above in Section 2.3, Construction Activities, at this time Project construction is expected to require 29 months beginning in 2026 and ending in 2028. This air quality analysis remains applicable for use in this IS/MND because over time vehicle emissions generally improve because of regulatory efforts and market changes. The improved tailpipe emissions are captured in CalEEMod through periodic updates to CARB's Emissions Factor model. Therefore, the following is expected to represent a more conservative analysis of criteria pollutant emissions during construction and operation of the Project.

Construction Emissions

Air pollutant emissions would occur from: construction equipment exhaust; fugitive dust from demolition and site grading; exhaust and particulate emissions from trucks hauling demolition and construction debris, soil, and building materials to and from the Project site; from automobiles and light trucks driven to and from the Project site by construction workers; and VOCs from painting and asphalt paving operations. The Project would comply with applicable SCAQMD rules and regulations as described in RR AQ-1, including Rule 402 for nuisance, Rule 403 for fugitive dust control, and Rule 1113 for architectural coatings. Rule 403 measures include regular watering of active grading areas and unpaved roads, limiting vehicle speeds on unpaved surfaces, stabilizing stockpiled earth, and curtailing grading operations during high wind conditions (SCAQMD 1976). Watering of active grading areas is included in the CalEEMod emissions analysis and results in reduced PM10 and PM2.5 emissions. It should be noted that some Project requirements and features (such as watering grading areas), although required Project elements, are shown in the CalEEMod format as mitigation measures. SCAQMD Rule 1113 limits the VOC content of architectural coatings (SCAQMD 1977). The emission reductions associated with compliance with this rule have been included in the emissions calculations.

Regional Emissions Thresholds – Maximum Daily Regional Emissions

Table 8, Estimated Maximum Daily Regional Construction Emissions, presents the estimated maximum daily emissions during construction of the Project and compares the estimated emissions with the SCAQMD's daily regional emission thresholds. As shown in Table 8, Project construction mass daily emissions would be less than the SCAQMD's thresholds for all criteria air pollutants.

TABLE 8
ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS

Year[a]Year[a]	Emissions (lbs/day)					
	VOC	**NO_x**	**CO**	**SOx**	**PM10**	**PM2.5**
2024	3	27	23	<1	5	2
2025	2	13	22	<1	3	1
2026	23	20	35	<1	3	1
Maximum	23	27	36	<1	5	2
SCAQMD Thresholds (Table 7)	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

Construction Activities

Construction activities associated with the Project would result in less than significant construction-related regional and localized air quality impacts, as quantified above in Tables 7 and 8, respectively.

SCAQMD's policy with respect to cumulative impacts associated with the above-referenced pollutants and their precursors is that impacts that would be directly less than significant would also be cumulatively less than significant. As discussed under Threshold 3.3(a), short-term construction emissions associated with the Project would occur at less than significant levels. Therefore, consistent with SCAQMD policy, the cumulative construction impact of criteria pollutants would also be less than significant.

Operational Emissions

The ongoing operation of the Project would result in a long-term increase in air quality emissions. This increase would be due to emissions from Project-generated vehicle trips and through operational emissions from the ongoing use of the Project. Existing development occurring at the Project site currently generates air pollutant emissions. The Project would replace these existing uses. To determine the net change in air pollutant emissions associated with the Project, existing emissions would be subtracted from emissions occurring with the Project to determine the net change in air pollution that would occur.

Existing development on the Project site includes five buildings which would be demolished to allow for construction of the Project. Existing operations generate air pollutant emissions from a variety of sources including vehicle trips associated with the commercial and office buildings; natural gas used for heating and hot water; landscape and building maintenance equipment; and consumer products. Emissions from the existing uses of the Project site were estimated using CalEEMod, and are shown in Table 9, Existing Daily Operational Emissions. The CalEEMod model input was based on the vehicle trip generation rate provided in the traffic impact analysis and the building area for the existing on-site uses (Appendix A).

TABLE 9
EXISTING DAILY OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
Mobile sources	2	1	15	<1	1	<1
Area sources	1	<1	1	<1	<1	<1
Energy sources	<1	<1	<1	<1	<1	<1
Total Existing Operational Emissions*	**3**	**1**	**16**	**<1**	**1**	**<1**

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Source CalEEMod model data sheets are included in Appendix A.

The following section provides an analysis of potential air quality impacts to regional and local air quality with operation of the Project. The net change in emissions associated with the Project was calculated by deducting the emissions that are currently occurring under existing conditions. The potential operations-related air emissions have been analyzed, as discussed below, for the regional and local criteria pollutant emissions and cumulative impacts.

The primary sources of emissions during the operations phase of the Project are comprised of area, energy, and mobile source emissions. Area based emissions are associated with hearths, consumer products, architectural coatings, and landscaping. Energy related emissions are associated with the combustion of natural gas for space heating or cooking. Mobile sources of emissions are from vehicles accessing the Project site. Area and energy source emissions are based on CalEEMod assumptions for the specific land uses and size. Mobile source emissions are based on estimated Project-related trip generation forecasts, as contained in the Project traffic impact analysis. The Project would generate 1,366 total daily trips (i.e., not deducting trips from existing uses) including reduction of trips from pass-by and internal capture credits (Psomas 2024, Appendix H). Estimated peak daily net operational emissions are shown in Table 10, Peak Daily Net Operational Emissions, on the following page.

TABLE 10
PEAK DAILY NET OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
Mobile sources	5	4	43	<1	9	2
Area sources	4	<1	<1	<1	<1	<1
Energy sources	<1	1	1	<1	<1	<1
Total Operational Emissions*	**9**	**5**	**44**	**<1**	**10**	**3**
Less: Existing Emissions (Table 9)	**3**	**1**	**16**	**<1**	**1**	**<1**
Net Increase in Emissions	**6**	**4**	**28**	**<1**	**9**	**3**
SCAQMD Significance Thresholds (Table 7)	***55***	***55***	***550***	***150***	***150***	***55***
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Source: CalEEMod model data sheets are included in Appendix A.

As shown in Table 10, Peak Daily Net Operational Emissions, net operational emissions for all analyzed pollutants would be below the SCAQMD CEQA significance thresholds. Therefore, the Project would not contribute individually or to a cumulatively considerable net increase of a pollutant for which the SoCAB is in nonattainment. Emissions of nonattainment pollutants or their precursors would not be cumulatively considerable. Therefore, the Project would result in a less than significant impact related to this threshold, and no mitigation is required.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. A significant impact may occur when a project would generate pollutant concentrations to a degree that would significantly affect sensitive receptors, which include populations that are more susceptible to the effects of air pollution than the population at large. Exposure of sensitive receptors is addressed for the following situations: CO hotspots; criteria pollutants and toxic air contaminants (TACs), specifically diesel particulate matter (DPM) from on-site construction; exposure to off-site TAC emissions; and asbestos and lead-based paint during demolition. Operational, long-term TACs may be generated by some industrial land uses; commercial land uses (e.g., gas stations and dry cleaners); and diesel trucks on freeways. Residential land uses do not generate substantial quantities of TACs and are therefore not addressed in this report.

Construction-Phase Localized Significance Thresholds

In addition to the mass daily emissions thresholds established by the SCAQMD, short-term local impacts to nearby sensitive receptors from on-site emissions of NO_2, CO, PM10, and PM2.5 are examined based on SCAQMD's localized significance threshold (LST) methodology. To assess local air quality impacts for development projects without complex dispersion modeling, the SCAQMD developed screening (lookup) tables to assist lead agencies in evaluating impacts. The LST method was developed to provide a conservative estimate of the level of project-generated air pollutants that have the potential to exceed the NAAQS or CAAQS, which could consequently result in adverse health impacts. Exceedance of the LST does not describe the prevalence or

magnitude of health effects, but rather assesses the potential for a project-related health effect to occur. The LST method cannot provide an estimate of health effects related to ozone. Reactive organic gases (ROGs) and NO_x are pollutants that contribute to the formation of ozone, otherwise known as ozone precursors. It would be too speculative to determine how an individual project could affect the formation of ozone, and how it could affect the health for a specific receptor: ozone does not fully form within the proximity of a project site, and the formation of ozone is affected by solar irradiance, meteorological conditions, presence of ozone precursors from other sources, and other factors. As such, modeling of ozone concentrations is conducted on the "macro" scale of an air basin for all pollutant sources within the basin, and not for an individual project. Consequently, the LST analysis focuses on a project-level analysis of the four criteria pollutants of greatest concern (CO, NO_x, PM10, and PM2.5).

The LST method is recommended to be limited to projects that are five acres or less. For the purposes of an LST analysis, the SCAQMD considers receptors where it is possible that an individual could remain for 1 hour for NO_2 and CO exposure and 24 hours for PM10 and PM2.5 exposure. The emissions limits in the lookup tables are based on the SCAQMD's Ambient Air Quality Standards (SCAQMD 2022). The closest receptors that may remain for 1 hour are commercial uses adjacent to the Project's boundaries, and the closest receptor that may remain for 24 hours are residential uses to the southeast and northwest of the Project site.

Table 11, Construction-Phase Localized Significance Threshold Emissions, shows the maximum daily on-site emissions for construction activities compared with the SCAQMD LST thresholds. The Project's maximum daily on-site emissions would occur during the demolition phase (for NOx and CO), and during the grading/excavation phase (for PM10 and PM2.5). As shown in Table 11, localized emissions for all criteria pollutants would be less than their respective thresholds. Therefore, localized air quality impacts at receptors proximate to construction activities would be exposed to less than significant air quality impacts.

TABLE 11
CONSTRUCTION-PHASE
LOCALIZED SIGNIFICANCE THRESHOLD EMISSIONS

Emissions and Thresholds	Emissions (lbs/day)			
	NOx	**CO**	**PM10**	**PM2.5**
Project maximum daily on-site emissions	23	26	4	2
Localized Significance Threshold*	***89***	***623***	***5***	***3***
Exceed threshold?	**No**	**No**	**No**	**No**

lbs/day: pounds per day; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter.

Note: Data is for SCAQMD Source Receptor Area 9, East San Gabriel Valley

* NOx, CO, PM10 and PM2.5 thresholds are based on a distance of 25 meters (82 feet) of the Project site.

Source: SCAQMD 2009 (thresholds); see Appendix A for CalEEMod model outputs.

Carbon Monoxide Hotspot

In an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations generally are found close to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (e.g., congested intersection) increases. The SoCAB is currently in a state of attainment for CO. The East San Gabriel Valley 2 region for which the project area is located was recorded to have 1.4 parts per million 1-hour concentration and 0.9 parts per million 8-hour concentration (SCAQMD 2021). The California ambient air quality standard for a 1-hour concentration is 20 ppm and the

8-hour concentration is 9 ppm. As such, the East San Gabriel Valley 2 region is exposed to CO concentrations that are 7 percent and 10 percent of the 1-hour and 8-hour ambient quality standards, respectively. Based on the Project's Traffic Study (Psomas 2024, Appendix H), the Project would result in 123 total AM peak hour trips and 112 total PM peak hour trips. The increase in vehicle trips is relatively low and is not of sufficient magnitude to contribute toward a CO hotspot. As such, Project-related traffic would result in less than significant CO impacts, and no mitigation is required.

Toxic Air Contaminant Emissions from On-Site Construction

Construction activities would result in short-term, Project-generated emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, excavation, and grading); paving; building construction; and other miscellaneous activities. CARB identified DPM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments—which determine the exposure of sensitive receptors to TAC emissions—should be based on a 40-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project.

There would be relatively few pieces of off-road, heavy-duty diesel equipment in operation, and the total construction period would be relatively short when compared to a 30-year exposure period. Combined with the highly dispersive properties of DPM and additional reductions in particulate emissions from newer construction equipment, as required by USEPA and CARB regulations as well as the relatively large distance between the Project site and the nearest sensitive land uses, construction emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. The impact would be less than significant, and no mitigation is required.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Potential operational odors could be created by cooking activities and solid waste storage (trash) associated with residential and commercial uses. These odors would be similar to existing residential and commercial uses surrounding the Project site and throughout the City. Odors would be confined to the immediate vicinity of the proposed uses and are not considered to be objectionable and of such magnitude to constitute a public nuisance.

Furthermore, according to the SCAQMD's *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The Project does not include any uses identified by the SCAQMD as being associated with odors and, therefore, would not produce emissions which would lead to odors. The Project uses are also regulated from nuisance odors or other objectionable emissions by SCAQMD Rule 402 (RR AQ-1). Rule 402 prohibits any the discharge from any source of air contaminants or other material which would cause injury, detriment, nuisance, or annoyance to people or the public. As such, the Project would have a less than significant impact regarding other emissions and no mitigation is required.

3.3.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to air quality; therefore, no mitigation measures are required.

3.4 BIOLOGICAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 ENVIRONMENTAL SETTING

The Project site is within an urban area and is surrounded entirely by development that consists primarily of commercial uses. The site is fully developed with commercial uses. On-site vegetation includes ornamental street trees, landscaping shrubs, and groundcover along the Huntington Drive and Santa Anita Avenue frontages, as well as some ornamental trees in the parking lot medians.

The City's Tree Preservation Ordinance (Section 9110.01 et. seq. of the Development Code) recognizes oaks, sycamores, and mature trees on private property as significant aesthetic and ecological resources and establishes policies for their protection, removal, and replacement. Protected trees include:

1. Engelmann Oak *(Quercus engelmannii)* or Coast Live Oak *(Quercus agrifolia)* with a trunk diameter larger than four (4) inches measured at a point four and one-half (4½) feet above

the root crown, or two (2) or more trunks measuring three (3) inches each or greater in diameter, measured at a point four and one-half (4½) feet above the root crown.

2. Any other living California native or non-California native Oak tree with a trunk diameter larger than twelve (12) inches measured at a point four and one-half (4½) feet above the root crown, or two (2) or more trunks measuring ten (10) inches each or greater in diameter, measured at a point four and one-half (4½) feet above the root crown.
3. California, or western, Sycamore *(Platanus racemosa*) with a trunk diameter larger than six (6) inches measured at a point four and one-half (4½) feet above the root crown, or two (2) or more trunks measuring four (4) inches each or greater in diameter, measured at a point four and one-half (4½) feet above the root crown.
4. Mature Tree. Any tree, with the exception of the trees listed as Unprotected Trees, that have a trunk diameter larger than twelve (12) inches measured at a point four and one-half (4½) feet above the root crown, or two (2) or more trunks measuring ten (10) inches each or greater in diameter, measured at a point of four and one-half (4½) feet above the root crown and the tree is located within a required front, side, street-side, or rear yard setback.

A total of 26 trees are present on the Project site (23 trees) and adjoining public ROW (3 trees). This would include 11 street trees along the frontages of Huntington Drive and Santa Anita Avenue (both within and outside the existing ROW). There are a total of 3 trees, located along the eastern frontage of the site on Santa Anita Avenue, that meet the City's requirements for consideration as a Protected Tree pursuant to Section 9110.01.030 of the Development Code. These trees include 2 evergreen pears and 1 sour gum. The remaining 20 trees on the Project site are not classified as Protected Trees. There are 3 London plane trees within the public ROW of Huntington Drive. These are not subject to the City's Tree Preservation Ordinance, being on public property, and are protected pursuant to the City's Comprehensive Tree Management Program (Section 9800 et. seq. of the AMC). The Comprehensive Tree Management Program establishes additional policies for the regulation of the planting, maintenance, removal, and replacement of City-owned trees on public property, including street trees. No street tree may be planted, removed, cut, or otherwise damaged without first obtaining a permit from the Arcadia Public Works Services Department.

3.4.2 PROJECT IMPACTS

Regulatory Requirements

RR BIO-1 Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code:

> To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the

species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned.

RR BIO-2 As required by the City's Tree Preservation Ordinance (Section 9110.01 et. seq. of the Development Code) and Comprehensive Tree Management Program (Section 9800 et. seq. of the Arcadia Municipal Code), the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project. The Project Applicant/Property Owner will abide by the standards set forth in the permit, as well as standards contained in the Tree Preservation Ordinance, Comprehensive Tree Management Program, and other applicable sections of the Arcadia Development and Municipal Codes.

RR BIO-3 The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.

Impact Discussion

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The Project site is within an urban area and surrounded entirely by development, which consists primarily of commercial uses. As discussed above, on-site vegetation includes ornamental street trees, landscaping shrubs, trees, and groundcover. No Critical Habitat occurs on the site or in the nearby vicinity, and on relevant records of candidate, sensitive, or special-status species at or near the Project site are identified in the California Natural Diversity Database (USFWS 2019, CDFW 2019). The Project would have no impact, and no mitigation is required.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The Project site does not contain riparian habitat, wetlands, or any other sensitive natural vegetation community. The Project site is mostly paved and within a developed, urban area. No impacts to riparian habitats, wetlands, or sensitive natural vegetation communities would result from Project implementation. There would be no impact, and no mitigation is required.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact. Due to the presence of ornamental trees on site, there is the potential for nesting birds subject to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The MBTA prohibits activities that result in the direct take (defined as killing or possession) of birds covered by the MBTA. Through compliance with the provisions of the MBTA and California Fish and Game Code, including implementation of RR BIO-1, there would be a less than significant impact and no mitigation is required.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. As described above, the City regulates the removal of certain trees on private property through the Tree Preservation Ordinance and the removal and planting of street trees through the Comprehensive Tree Management Program. As discussed above, the Project would include removal of the 26 existing trees on the site and adjacent ROW. This would include the 3 trees along Santa Anita Avenue that are considered Protected Trees under the Tree Preservation Ordinance (two evergreen pears and one sour gum) and 3 street trees in the ROW of Huntington Drive that are protected under City's Comprehensive Tree Management Program (London plane trees).

Accordingly, the Applicant/Property Owner would be required obtain a permit from the Arcadia Public Works Services Department for the removal of street trees in the public ROW and removal of Protected Trees on private property. RR BIO-2 and RR BIO-3 require the Project Applicant/Property Owner to obtain and abide by the standards set forth in the permits and to submit a landscaping plan for review and approval by the City Public Works Services Department, respectively. The landscaping plan would include specifications for replacement street trees that would need to be removed as part of the project. The Project's on-site landscaping would include a total of 46 new trees. Among these would be 21 trees along the frontages of Morlan Place, Santa Anita Avenue, and Huntington Drive, planted in a 4-foot by 8-foot tree well consistent with City standards. With incorporation of RR BIO-2 and BIO-3, a less than significant impact would result from the Project, and no mitigation is required.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The Project site is not located within an adopted habitat conservation plan or natural community conservation plan (Arcadia 2010a). Therefore, there would be no impact and no mitigation measures are required.

3.4.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to biological resources; therefore, no mitigation measures are required.

3.5 CULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

In addition to adhering with the requirements of CEQA, the Project must also comply with Section 9107.07.030 of the City's Development Code, which outlines the procedures for issuance of Certificates of Demolition given that the Project proposes to demolish nine buildings and one structure on the site that are over 50 years old. Consistent with City requirements, a qualified architectural historian was retained to conduct an assessment to determine whether any of the nine buildings and one existing structure have any historical significance and whether any of the buildings or the structure proposed for demolition are eligible for listing in the California Register of Historic Resources. The Project Applicant/Property Owner will submit the report along with an application for a certificate of demolition. As discussed in more detail below, the *Historical Resource Evaluation Report* (Historical Report) prepared by GPA Consulting and dated March 2020 (GPA 2020, Appendix B-1) provides evidence and supporting documentation related to the lack of historic significance of the nine buildings and one structure proposed for demolition on the Project site (not including the Jiffy Lube structures), including photographic evidence as to the current condition, and a narrative evaluation by the qualified architectural historian. It should also be noted that the 2020 Historical Report follows the City's 2019 Development Code for Historic Preservation.

The Historical Report also documents the structures and provides a full evaluation of the structures. To comply with Section 9107.07 of the Development Code, the Project Applicant/Property Owner will pay for an architectural historian to complete the California Department of Parks and Recreation Primary Record Form (DPR 523A), a Building, Structure, and Object (BSO) Record Form (DPR 523B); and Location Map Form (DPR 523J) and submit these forms with the City's application for a Certificate of Demolition, if determined necessary by the City in addition to the Historical Report already prepared for the Project. If the DPR forms are requested by the City, once they are complete the Project architectural historian or Project Applicant/Property Owner shall submit the completed DPR forms to the South Central Coastal Information Center (SCCIC) at the California State University at Fullerton. It is noted the Historical Report does not include evaluation of the existing Jiffy Lube building located at 5 Huntington Drive because this parcel was not included in the Project site at the time the historic assessment was conducted. However, this building is not 50 years old and is not otherwise considered to be potentially historic.

Information in this section is based upon the records searches and literature reviews of information available from the SCCIC at California State University, Fullerton and the Native American Heritage Commission (NAHC) (Appendix B-2); as well as the Historical Report, which is provided in its entirety in Appendix B-1 of this IS/MND.

3.5.1 ENVIRONMENTAL SETTING

Cultural Resources Records Search at the South-Central Costal Information Center

Previous Cultural Resources Studies

A literature review of documents on file at the SCCIC was completed on July 30, 2020. The results of the records search identified 13 studies that have been previously conducted within ½-mile of the Project site, which includes 4 previous studies (LA-06859, LA-12525, LA-10896, and LA-12497) covering a portion of the Project site, which are described in more detail in Table 12, Previous Cultural Resource Studies Including Portions of the Project Site. In general, prior studies within a half-mile of the Project area consist of archaeological reconnaissance or Phase I cultural resource studies conducted between 1984 and 2015.

LA-06859 is an overview study that encompasses the entire City of Arcadia for the Arcadia General Plan. LA-12525 is a National Historic Preservation Act (NHPA) Section 106 review for the Metro A Line Phase II Extension Project that occurred alongside the northeastern boundary of the Project site along Indiana Street during the environmental review of the A Line. LA-10896 is a historic properties survey also conducted for the A Line Phase II Project (Pasadena to Montclair). The Area of Potential Effect (APE) for LA-10896 included the Project site located along Santa Anita Avenue. LA-12497 is also an overview study that encompasses the entire City of Arcadia for the 2010 Arcadia General Plan Update.

TABLE 12
PREVIOUS CULTURAL RESOURCE STUDIES INCLUDING PORTIONS OF THE PROJECT SITE

Report No	Affiliation	Year	Author	Title
LA-06859	LSA Associates, Inc.	1996	Unknown	Arcadia General Plan
LA-12525	Federal Highway Administration, Federal Transit Administration	2003	Poka, Ervin	NHPA Section 106 Review; Metro A Line Phase II Extension Project
LA-10896	Myra L. Frank/Jones & Stokes, Applied EarthWorks	2004	Greenwood, David	Historic Properties Survey and Effects Report for the A Line Phase II Project (Pasadena to Montclair) Los Angeles and San Bernardino Counties, CA
LA-12497	BonTerra Consulting	2010	Maxon, Pat	Draft Program Environmental Impact Report, City of Arcadia, 2010 General Plan Update
Source: South Central Coastal Information Center. 2020 (July 30). Re: Records Search Request for the 3ARD012200 Project. Fullerton, CA: SCCIC.				

Previously Recorded Cultural Resources

SCCIC records indicate that a total of 54 previously recorded cultural resources have been identified within half-mile of the Project site, all of which are historic-era buildings, structures, or districts. None of these resources were identified within the Project site.

Native American Heritage Commission Sacred Lands Files

Psomas submitted a request to the NAHC on July 10, 2020, to review the Sacred Lands File database regarding the possibility of Native American cultural resources and/or sacred places in the Project vicinity that are not documented on other databases. The NAHC completed its Sacred

Lands File search on July 15, 2020. The results were positive for known Tribal Cultural Resources and/or sacred sites in the vicinity of the Project site. Additionally, the NAHC recommended contacting the Gabrieleño Band of Mission Indians – Kizh Nation for more information., in which the City did The analysis of tribal cultural resources is provided in Section 3.18 of this IS/MND.

REGULATORY REQUIREMENTS

In addition to adherence to the City's Development Code including the requirements associated with obtaining a Certificate of Demolition, RR CUL-1 would be implemented during Project excavations.

Regulatory Requirements

RR CUL-1 If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code Section 5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code Section 5097.98).

3.5.2 IMPACT ANALYSIS

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. In April 2019, the Arcadia City Council adopted a Historic Preservation Ordinance, Ordinance No. 2359, with the goal of identifying and preserving historic buildings throughout the City and establishing policies for how to evaluate and consider approval of projects that proposed alterations to historic resources. A literature review and record search were conducted for the Project through the SCCIC failed to identify known, significant historic resources on the Project site.

None of the existing buildings or the structures on the Project site are currently listed under national, State, or local landmark designation programs. None of the buildings on the Project site have been previously evaluated. One structure on the Project site, a retaining wall constructed circa 1910, was recorded during the 2016-2017 citywide historic resources survey of the City of Arcadia and given a Status Code of 5S3 (appears to be individually eligible for local listing or designation through survey evaluation). As part of the Historic Report prepared for the Project, all properties over 45 years of age were evaluated as potential historical resources under CEQA. After careful inspection, investigation, and evaluation, it was concluded that the properties on the Project site are ineligible for listing in the National Register of Historic Places, California Register of Historical Resources, as well as ineligible for designation as City of Arcadia Historic Landmarks for lack of historical significance and architectural distinction. In the case of the retaining wall

segment, it became evident upon closer examination that it no longer retained sufficient integrity to convey its significance. Therefore, none of the structures evaluated are historical resources as defined by CEQA. Furthermore, the literature review and records search did not identify any resources designated on the CRHR or NRHP immediately adjacent to the Project site.

The Project would not involve any direct or indirect impacts to historic resources pursuant to CEQA, and no mitigation is required.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant With Mitigation. The literature review and record searches conducted through the SCCIC failed to identify known, significant archaeological resources within the Project site or within a half-mile of the site. Therefore, the Project would not cause a substantial adverse change in the significance of a documented archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines. Nevertheless, even though the SCCIC has identified the Project site as having low sensitivity for prehistoric archaeological resources, the NAHC sacred lands file did identify sacred sites in the vicinity of the Project site. Therefore, there is the possibility that undiscovered intact cultural resources, including archaeological resources, may be present below the surface in native sediments. Therefore, MM CUL-1 would require that any inadvertently uncovered resources during grading be evaluated by a qualified archaeologist to determine their significance and the need to protect in place, salvage and preserve, or other measure(s) as appropriate to reduce impacts to important cultural resources. With implementation of MM CUL-1, potential impacts to archaeological resources would be reduced to a less than significant level.

c) Would the project disturb any human remains, including those interred outsides of formal cemeteries?

Less Than Significant Impact. There is no indication that human remains are present within the Project site, including those interred outside formal cemeteries. The records search indicates no evidence of human remains on or near the Project site. In the unlikely event of an unanticipated encounter with human remains within the Project site, the California Health and Safety Code and the California Public Resources Code require that any activity in the area of a potential find be halted and the Los Angeles County Coroner be notified, as described in RR CUL-1. Through compliance with RR CUL-1, there would be less than significant and no mitigation is required.

3.5.3 MITIGATION PROGRAM

MM CUL-1 Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Applicant. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Property Owner/Applicant shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.

3.6 ENERGY	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 ENVIRONMENTAL SETTING

As discussed previously, SCE and SoCal Gas are the utility companies that currently provide electrical and natural gas services, respectively, to the site. Compliance with energy efficiency and conservation policies and regulations is discussed in this section.

The Resource Sustainability Element of the City's General Plan provides for the following policies related to energy use by proposed projects in the City of Arcadia.

g) Policy RS-5.3: Require that all new development meets or exceeds the State and local energy conservation requirements.

h) Policy RS-5.9: Facilitate the provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes as viable alternatives.

The State of California has also adopted efficiency design standards within the Title 24 Building Standards and CALGreen requirements. Title 24 of the California Code of Regulations (CCR, specifically, Part 6) is California's Energy Efficiency Standards for Residential and Non-residential Buildings. Title 24 was established by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and to provide energy efficiency standards for residential and non-residential buildings.

The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses:

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 California Green Building Standards Code (24 CCR, Part 11), also known as the CALGreen Code, contains mandatory requirements for new residential and nonresidential buildings throughout California. The development of the CALGreen Code is intended to (1) cause a reduction

in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the Code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction. The regulation of energy efficiency for residential and non-residential structures is established by the CEC and its California Energy Code.

3.6.2 PROJECT IMPACTS

Regulatory Requirements

RR ENR-1 The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen code in effect at the time the grading plans are approved. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles.

Impact Discussion

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. The Project would consume energy during the construction and operations phases of the Project. Energy consumption of the different fuels from each of these phases have been calculated and is discussed below.

Construction

Project construction would require the use of construction equipment for grading and building activities. All off-road construction equipment is assumed to use diesel fuel. Construction also includes the vehicles of construction workers and vendors traveling to and from the Project site. Off-road construction equipment use was calculated from the equipment data (mix, hours per day, horsepower, load factor, and days per phase) provided in the CalEEMod construction output files which informed the air quality and greenhouse gas emissions analyses and is included in Appendix A (Air Quality and Greenhouse Gas Emissions Calculations). The total horsepower hours for the Project was then multiplied by fuel usage estimates per hours of construction activities included in the OFFROAD2017 Model (see Appendix C, Energy Calculations).

Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total vehicle miles traveled (VMT) was then calculated for each type of construction-related trip and divided by the corresponding miles per gallon factor using CARB's EMissions FACtor (EMFAC) 2017 model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks.

Table 13, Energy Use During Construction, on the following page provides an estimate of diesel and gasoline fuel consumption during Project construction.

TABLE 13
ENERGY USE DURING CONSTRUCTION

Source	Gasoline - gallons	Diesel Fuel - gallons
Off-road construction equipment	20,574	18,296
Worker commute trips	51,050	260
Vendor trips	8,605	154
On-road haul trips	0	289
Total[1]	**80,230**	**18,999s**

[1]Totals may be affected by rounding.
Sources: Based on data from CalEEMod, OFFROAD2007 and EMFAC2017. See Appendix A for CalEEMod data and Appendix C for energy calculations

Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. The Project would also implement BMPs such as requiring equipment to be properly maintained and minimize idling and where feasible, use electric or clean alternative fuel equipment. Furthermore, there are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the State. Energy used in the construction of the Project would enable the development of buildings that meet the latest energy efficiency standards as detailed in California's Title 24 building standards. Therefore, the proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operations

The Project would consume energy from transportation fuels (gasoline and diesel) and electricity and natural gas for the proposed land uses. The Project would result in energy consumption shown in Table 14, Energy Use During Operations, below.

TABLE 14
ENERGY USE DURING OPERATIONS

Land Use	Gasoline (Gallons/yr)	Diesel (Gallons/yr)	Natural Gas (kBtu/yr)	Electricity (kWh/yr)
Project Land Uses	143,864	13,479	5,407,501	1,523,198

yr: year; kBtu: kilo-British thermal unit; kWh: kilowatt hour.
Sources: Based on data from CalEEMod, OFFROAD2007 and EMFAC2017. See Appendix A for CalEEMod data and Appendix C for energy calculations

The Project would be required to comply with the latest Title 24 energy efficiency standards. These Standards expand upon energy efficiency and renewable energy generation requirements as well as providing electric-ready requirements (cleaner electric heating, cooking and electric vehicle charging options). Therefore, the new buildings would be more energy efficient than the existing buildings to be demolished due to the incorporation of the latest energy efficiency standards and renewable energy options. The Project would add residential units and commercial uses proximate to mass transit, contribute to pedestrian-oriented development in downtown Arcadia, and incorporate the latest adopted Title 24 energy efficiency standards. As detailed in Section 2.3.2, Development Characteristics, the Project would provide both short-term and long-term parking with 30 long-term and 2 short-term bicycle parking stalls. Promoting pedestrian- and transit-oriented development would result in less energy consumption by reducing traffic congestion and single-occupancy vehicle ridership. As such, the Project is not considered a wasteful, inefficient, or unnecessary consumption of energy resources and would result in less than significant energy impacts relative to the consumption of energy for Project construction and operation. There would be a less than significant impact and no mitigation is required.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. The Project would be required to comply with the State of California's Title 24 Building Standards. As discussed previously, the latest building standards will incorporate the CEC's building energy efficiency standards and renewable energy options which would reduce energy consumption. The Project would also be consistent with the Policies RS-5.3 (meets or exceeds the State conservation requirements) and RS-5.9 (provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes) of the City of Arcadia's Resource Sustainability Element. Because the Project would comply with the latest State of California energy efficiency standards, provides infill development close to mass transit, and promotes pedestrian-oriented development, the Project would not conflict with or obstruct a State or the City of Arcadia's Resource Sustainability Element for renewable energy or energy efficiency. There would be a less than significant impact and no mitigation is required.

3.6.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to energy; therefore, no mitigation measures are required.

3.7 GEOLOGY AND SOILS	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Information in this section is derived from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geotechnical Investigation) dated April 29, 2021, and prepared by Geocon West, Inc. (Geocon West, Inc. 2021, Appendix D), as well as information from the City of Arcadia General Plan and EIR (Arcadia 2010a and 2010b) and other sources, where noted.

3.7.1 ENVIRONMENTAL SETTING

The City of Arcadia lies at the boundary between the Peninsular Ranges geomorphic province (on the south) and the Transverse Ranges geomorphic province (on the north). The east-west trending San Gabriel Mountains, which underlie the northern part of the City, are part of the Transverse Ranges. The City is in the north-central portion of the San Gabriel Valley, which is bound on the north by the San Gabriel Mountains, on the west by the Raymond Basin, on the

south by the Puente Hills, and on the east by the Covina and Indian Hills. The San Gabriel Mountains are the result of uplift along a predominant fault line at the base of this steep mountain front. This fault line is a part of the Sierra Madre Fault system that extends from the western San Fernando Valley to the City of Claremont on the east, where it joins the Cucamonga Fault. Due to its location along and just south of the southern slope of the San Gabriel Mountains, the City of Arcadia is situated within a very seismically active area of Southern California. Numerous faults capable of producing significant ground motion are located near the Project site.

The two active and potentially active faults that pass beneath Arcadia and are evident at the ground surface or just below it, are the Sierra Madre and Raymond Faults. Deep beneath the City are two blind thrust faults: the shallower Elysian Park Fault and the deeper Puente Hills Fault. They are called blind-thrust faults due to their depth and the fact that fault movement consists of upward or thrusting action. The Eaton Wash Groundwater Barrier shows no surface geologic evidence of existence, and the nature of this possible buried fault is not known. In addition to these local faults, there are several regional faults that could produce significant ground shaking at the Project site, including the San Gabriel Fault and the San Andreas Fault.

The Project site is underlain by artificial fill and Holocene age young alluvial fan deposits, consisting of varying amounts of sand, silt, clay, and gravel. The near surface soil conditions encountered at the site generally consist of artificial fill extending to a maximum depth of approximately 6.5 feet below existing ground surface. The artificial fill generally consists of brown to reddish brown silty sand with some fine to coarse gravel and a few cobbles. The fill is characterized as fine- to medium-grained, slightly moist, and loose to medium dense. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored. The Holocene age alluvium was encountered beneath the artificial fill and consists primarily of light brown to brown and reddish brown to olive brown interbedded silty sand, poorly graded sand, and well-graded sand with varying amounts of fine to coarse gravel and cobbles. Locally, there are zones with a very high concentration of gravel and cobbles. The alluvium is characterized as slightly moist and loose to very dense. Additionally, the Project site occurs within an area classified as Zone X as mapped by the Federal Emergency Management Agency (FEMA), which is described as areas of minimal flood hazard and determined to be outside the 0.2 percent annual chance floodplain (Geocon West, Inc. 2021).

3.7.2 PROJECT IMPACTS

Regulatory Requirements

RR GEO-1 Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes. Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved.

RR GEO-2 The Project building design specifications shall include recommendations from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geocon West, Inc. 2021, Appendix D). These recommendations include, but are not limited to, specifications for the following:

- Demolition and site preparation

- Fill placement
- Remedial grading and over excavation
- Foundation recommendations
- Building Floor Slabs and reinforcement

The Project building design specifications shall be verified by the City of Arcadia Building Official prior to issuance of a demolition permit.

Impact Discussion

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

No Impact. The Project site is not located within a designated Alquist-Priolo Earthquake Fault Zone or a City-designated Fault Hazard Management Zone for surface fault rupture hazards. The Project is not expected to be impacted directly by ground rupture from a known fault due to the distances between the Project site and mapped faults in the area (Geocon West, Inc. 2021, Appendix D). There would be no impact, and no mitigation is required.

ii) Strong seismic ground shaking?

Less than Significant Impact. The Project site, as with the entire Southern California region, is subject to secondary effects from earthquakes. No known Holocene-active or pre-Holocene faults with the potential for surface rupture are known to pass directly beneath the site. The nearest known faults in the vicinity of the Project site include the Raymond Fault (0.6 mile from the Project site); Sierra Madre Fault (1.8 miles from the Project site); the Duarte Fault (2.3 miles from the Project site); the East Montebello Fault (6.6 miles from the Project site); Whittier Fault (11.0 miles from the Project site). The active San Andreas Fault is located approximately 23 miles northeast of the site.

Implementation of the Project would not change the intensity of ground shaking that would occur on the Project site during a seismic event, but it would increase exposure to additional people. The proposed buildings would be designed in accordance with the most recent California Building Code (CBC) (see RR GEO-1). The CBC contains minimum standards regulating the design and construction of excavations, foundations, retaining walls, and other building elements to control the effects of seismic ground shaking and adverse soil conditions. The CBC includes provisions for earthquake safety based on factors such as occupancy type, the types of soil and rock on-site, and the strength of ground motion that may occur at the Project site. Project implementation would also occur consistent with the recommendations outlined in the Geotechnical Investigation prepared for the Project, as set forth in RR GEO-2 (Geocon West, Inc. 2021, Appendix D). Based on the Geotechnical Investigation, the Project is geotechnically feasible provided that the recommendations in the geotechnical report are reviewed in the context of the final Project design and are incorporated during the Project's construction phase. Seismic design parameters have been included in the Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D). based on the seismic zone, soil profile, and proximity of known faults to the Project site, which provide the minimum design procedures to avoid significant cosmetic damage to the structure.

Compliance with the applicable regulations as identified in RR GEO-1, and proper grading, design, and building construction methods required in RR GEO-2, would ensure that impacts that may result from strong seismic ground shaking at the Project site are less than significant and no mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations. The current standard of practice requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction (Geocon West, Inc. 2021, Appendix D).

The Seismic Hazards Map for the Mt. Wilson Quadrangle, published by the CGS indicates that the Project site, is not located within a zone of required investigation for liquefaction. In addition, the General Plan and the County of Los Angeles Safety Element indicate that the Project is not located within an area designated as having potential for liquefaction. Groundwater was not encountered in our borings drilled to a maximum depth of 60½ feet beneath the existing ground surface and the historic high groundwater level in the area is reported to be approximately 100 to 150 feet beneath the existing ground surface. As such, the potential for liquefaction and associated ground deformations beneath the site is very low (Geocon West, Inc. 2021, Appendix D). No impacts would result, and no mitigation is required.

iv) Landslides?

No Impact. Earthquake-induced land sliding often occurs in areas where previous landslides have moved and in areas where the topographic, geologic, geotechnical, and subsurface groundwater conditions are conducive to permanent ground displacements. No slopes are present on or near the site, which was previously graded and developed. The City of Arcadia General Plan and Los Angeles County Seismic Safety Element indicate that the site is not located in a “hillside area” or an area identified as having a potential for slope stability hazards. The Project site is not located within a designated earthquake-induced landslide zone. Also, there are no known occurrences of landslides in the Project vicinity nor is the site in the path of any known or potential landslides (Geocon West, Inc. 2021, Appendix D). Therefore, no impact would result, and no mitigation is required.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The Project would demolish the existing buildings and surface parking lots on the Project site and would develop the site with new impervious surfaces and new pervious (i.e., landscaped) areas. The Project would not result in a substantial change in the amount of pervious/impervious area during operation of the Project. Project construction would expose soils on the site and would require the hauling of soil and demolition materials off-site, which could result in soil erosion and the loss of topsoil if not implemented consistent with regulatory requirements. The Project’s potential construction and operational stormwater impacts, and applicable regulatory requirements are addressed further in Section 3.10, Hydrology and

Water Quality. As discussed, less than significant impacts would result, and no mitigation is required.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. As discussed in Threshold 3.6(a)(iv) above, the Project site is not located in an area subject to on- or off-site landslides. As discussed under the analysis of Threshold 3.6(a)(iii) above, impacts from seismic-related ground failure related to liquefaction for the Project are considered to have no impact. Lateral spreading, a phenomenon associated with liquefaction, is a function of ground shaking and may occur during an earthquake. The potential for earthquake-induced lateral spreading of confined, discontinuous interbedded zones of liquefiable sandy soils underlying a relatively level surface is low.

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site (Geocon West, Inc. 2021, Appendix D).

Based on the depth of the proposed excavations, the proximity to adjacent property lines, and the granular nature of the soils, sloping and/or shoring measures would be required for excavation of the subterranean level of the Project. Excavation recommendations are provided in Section 7.16 of the Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D), which would be implemented to maintain lateral support of existing off-site improvements.

As stated in RR GEO-1, the Project would be designed and constructed in compliance with current CBC standards. Project implementation would also occur consistent with the recommendations outlined in the Geotechnical Investigation prepared for the Project, as set forth in RR GEO-2 (Geocon West, Inc. 2021, Appendix D). Compliance with RRs GEO-1 and GEO-2 would ensure that impacts related to soil engineering constraints would be less than significant, and no mitigation is required.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1004), creating substantial direct or indirect risks to life or property?

No Impact. Expansive soils are materials that, when subject to a constant load, are prone to expand when exposed to water. The hazard associated with expansive soils is that they can overstress and cause damage to the foundation of buildings set on top of them. The Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D) states that based on depth of the proposed subterranean levels, the proposed structure would not be prone to the effects of expansive soils. The soils encountered at the site are primarily granular in nature and are considered to be “non-expansive”. The Project would implement the applicable regulations and geotechnical recommendations, as identified in RRs GEO-1 and GEO-2, which assume that near surface foundations and slabs will derive support in these materials with a “low” expansion potential. Since the foundations and slabs for the Project would be in an area that is already developed and since all construction would be required to comply applicable building codes (as required by RR GEO-1), there would be no impacts related to expansive soils.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. Project development would be connected to the municipal sewer system for wastewater disposal. The Project does not require the development of either septic tanks or alternative wastewater systems. No related impacts would result, and no mitigation is required.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant With Mitigation. A paleontological resources records search conducted by the Natural History Museum of Los Angeles (LACM) did not identify any fossil localities that lie directly within the proposed Project site; therefore, the Project will not directly destroy a known unique paleontological resource. However, the LACM did identify localities nearby from the same sedimentary deposits that occur in the Project site. If the Project would require excavations that would likely penetrate the paleontologically sensitive sediment deposits, the Natural History Museum of Los Angeles (LACM) has recommended monitoring of all substantial excavations. Impacts to paleontological resources, if encountered, would be significant without mitigation. MM GEO-1 requires that a qualified paleontologist be retained to observe grading activities in the older Quaternary Alluvium on the Project site and to salvage and catalogue fossils as necessary. With implementation of MM GEO-1, impacts to paleontological resources would be reduced to a less than significant level.

3.7.3 MITIGATION MEASURES

MM GEO-1 Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified paleontologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified paleontologist shall be retained by the Project Applicant/Property Owner on an on-call basis to observe grading activities in the older Quaternary Alluvium on the Project site and to salvage and catalogue fossils as necessary. At the Project's Pre-Grade Meeting, the paleontologist shall discuss the sensitivity of the sediment being graded and shall establish procedures for monitoring. Protocols must be developed and explained for temporarily halting or redirecting work to permit sampling, identification, and evaluation of any fossils discovered. If the fossils are deemed significant, the paleontologist shall determine appropriate actions, in cooperation with the City of Arcadia, to recover and treat the fossils and to prepare them to the point of identification. A final Paleontological Resources Monitoring Report shall include a catalogue and analysis of the fossils found; a summary of their significance; and the repository that will curate the fossils in perpetuity.

3.8 GREENHOUSE GAS EMISSIONS	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

3.8.1 ENVIRONMENTAL SETTING

Climate change refers to any significant change in measures of climate (e.g., average temperature, precipitation, or wind patterns) over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of greenhouse gas (GHG) emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth's surface temperature. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through fossil fuel combustion in conjunction with other human activities appears to be closely associated with global warming.

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). General discussions on climate change often include water vapor, atmospheric ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development Projects, nor can they be controlled in these Projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies, such as CARB, or climate change groups, such as the California Climate Action Registry, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, atmospheric ozone, or aerosols is provided.

As previously discussed in Section 3.3, Air Quality, of this IS/MND, air quality in the County of Los Angeles is regulated by the SCAQMD, the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin (SoCAB). To that end, the SCAQMD, a regional agency, works directly with SCAG, County transportation commissions, and local governments and cooperates actively with all federal and State government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

Beginning in April 2008, the SCAQMD convened a Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. The Working Group was scheduled to meet once per month. On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold of

10,000 $MTCO_2e$ per year ($MTCO_2e$/yr)[5] for industrial projects where the SCAQMD is the lead agency. In September 2010, the Working Group presented a revised tiered approach to determining GHG significance for residential and commercial projects (SCAQMD 2010). These proposals have not yet been considered by the SCAQMD Board.

At Tier 1, GHG emissions impacts would be less than significant if the Project qualifies under a categorical or statutory CEQA exemption. At Tier 2, for projects that do not meet the Tier 1 criteria, the GHG emissions impact would be less than significant if the Project is consistent with a previously adopted GHG reduction plan that meets specific requirements.[6] At Tier 3, the Working Group proposes extending the 10,000 $MTCO_2e$/yr screening threshold currently applicable to industrial projects where the SCAQMD is the lead agency, described above, to other lead agency industrial projects. For residential and commercial projects (that is, non-industrial projects), the Working Group proposes the following Tier 3 screening values: either (1) a single 3,000 $MTCO_2e$/yr threshold for all land use types or (2) separate thresholds of 3,500 $MTCO_2e$/yr for residential projects, 1,400 $MTCO_2e$/yr for commercial projects, and 3,000 $MTCO_2e$/yr for mixed-use projects. These screening values were developed from a survey of CEQA projects. It is estimated that projects with emissions above these values would produce 90 percent of the anticipated GHG emissions from residential/commercial projects and projects below the screening level would contribute 10 percent or less of the regional GHG emissions from land development. Therefore, a project with emissions less than the applicable screening value would be considered to have less than significant GHG emissions. Projects with emissions greater than the Tier 3 screening values would be analyzed at Tier 4 by one of three methods:

1. **A Percent Emission Reduction Target.** This method is used by the Sacramento Metropolitan and San Joaquin Valley Air Districts and the City of San Diego. The SCAQMD Working Group made no recommendation relative to this method.
2. **Early Implementation of Applicable AB 32 Scoping Plan Measures.** The Working Group assumes implementation of AB 32 measures would be incorporated in method 3 below.
3. **Efficiency Targets.** On the project level, 2020 GHG emissions should not exceed 3.8 $MTCO_2e$/year per service population (SP) where SP is project residents plus employees. Further, 2035 GHG emissions should not exceed 3.0 $MTCO_2e$/year per SP (SCAQMD 2010).

Projects with GHG emissions not meeting the Tier 4 targets would be required to provide mitigation in the form of real, quantifiable, and verifiable offsets to achieve the target thresholds. The offsets may be achieved through project design features, other on-site methods, or by off-site actions, such as energy efficiency upgrade of existing buildings.

In summary, to date, the SCAQMD Board has adopted an interim CEQA significance threshold for GHGs for industrial projects where the SCAQMD is the lead agency and continues to consider screening levels under CEQA for residential, commercial, and mixed-use projects. This proposed

[5] GHG emissions are commonly expressed as $MTCO_2e$. Larger quantities of emissions, such as on the world or State scale, are expressed in $MMTCO_2e$.

[6] The plan must (a) quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area; (b) establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable; (c) identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area; (d) specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; (e) establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and (f) be adopted in a public process following environmental review (State CEQA Guidelines, Section 15183.5).

screening and mitigation proposal from SCAQMD remains a work in progress; the Working Group has not convened since the fall of 2010. The proposal has not been considered or approved for use by the SCAQMD Board. Thus, no GHG significance thresholds are approved for use in the SoCAB for non-industrial projects.

City of Arcadia General Plan

For the purposes of the Project, the City's existing General Plan is the applicable planning document. The City does not have an adopted Climate Action Plan. GHG reduction is a cross-cutting issue relevant to various policy arenas, including policies that address land use, transportation, buildings, energy, waste, and ecology. The Land Use and Community Design Element includes policies that focus on encouraging compact, mixed-use development in the City's downtown around the Metro A Line Station; along Live Oak Avenue and N. First Avenue; and in other focus areas through the City. Trip reduction strategies are addressed in the Circulation and Infrastructure Element (Arcadia 2010a). The Resource Sustainability Element of the General Plan also includes GHG-reducing goals and policies to reduce the City's carbon footprint.

The Project site has a General Plan land use designation of DMU, is zoned as DMU, and is developed with commercial land uses and surface parking lots (Arcadia 2010a). Existing GHG emissions result from the existing on-site commercial uses and associated mobile (i.e., vehicular) emissions.

3.8.2 PROJECT IMPACTS

Regulatory Requirements

None required.

Impact Discussion

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. In developing methods for GHG impact analysis, there have been suggestions of quantitative thresholds, often referred to as screening levels, which define an emissions level below which it may be presumed that climate change impacts would be less than significant. Neither the SCAQMD, the City of Arcadia nor the County of Los Angeles have adopted a significance threshold for the GHG emissions from non-industrial development projects.

As explained in further detail above, the SCAQMD Board has adopted an interim CEQA significance threshold for GHGs for industrial projects where the SCAQMD is the lead agency and continues to consider screening levels under CEQA for residential, commercial, and mixed-use projects. At their September 28, 2010, meeting, the Working Group suggested a Tier 3 threshold of 3,000 $MTCO_2e$ per year for all land use types. This proposed screening and mitigation proposal from SCAQMD remains a work in progress as the Working Group has not convened since the fall of 2010. As no additional GHG thresholds have been established thus far, the GHG analysis in this IS/MND relies on the interim threshold for its evaluation.

Construction

Construction GHG emissions are generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. Construction

GHG emissions were calculated by using CalEEMod Version 2022.1.1.0 (the model is described in Section 3.3, Air Quality). Input details are provided in Appendix A (Air Quality and Greenhouse Gas Emissions Calculations). The results are output in $MTCO_2e$ for each year of construction. The estimated construction GHG emissions for the Project are shown in Table 15, Estimated Annual Greenhouse Gas Emissions From Construction.

GHG emissions generated from construction activities are finite and would occur for a relatively short-term time period. Unlike the numerous opportunities available to reduce a project's long-term GHG emissions through design features, operational restrictions, use of green-building materials, and other methods, GHG emissions-reduction measures for construction equipment are relatively limited. Therefore, SCAQMD staff recommended that construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies (SCAQMD 2008). As shown in Table 15, Estimated Annual Greenhouse Gas Emissions from Construction, the 30-year amortized construction emissions would be 52 $MTCO_2e$/yr.

TABLE 15
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS
FROM CONSTRUCTION

Year	Emissions ($MTCO_2e$)
2024	631
2025	642
2026	301
Total	**1,574**
Annual GHG Emissions*	**52**

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years

Notes:

- Totals may not add due to rounding
- Detailed calculations in Appendix A.

Operations

As stated previously, the Project site is developed with existing commercial and office uses. Table 16, Estimated Annual Greenhouse Gas Emissions From Existing Use, on the following page shows the estimated annual GHG emissions from existing uses at the Project site.

TABLE 16
ESTIMATED ANNUAL GREENHOUSE GAS
EMISSIONS FROM EXISTING USE

Source	Emissions ($MTCO_2e$/yr)
Mobile	457
Area	1
Energy	37
Water	2
Waste	7
Refrigerants	0
Total	**504**

$MTCO_2e$/yr: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

Operational GHG emissions would come primarily from vehicle trips; other sources include electricity and water consumption; natural gas for space and water heating; and gasoline-powered landscaping and maintenance equipment. Estimated Project operational GHG emissions are shown in Table 17, Estimated Annual Greenhouse Gas Emissions from Project Operation.

TABLE 17
ESTIMATED ANNUAL GREENHOUSE GAS
EMISSIONS FROM PROJECT OPERATION

Source	Emissions ($MTCO_2e$/yr.)
Mobile	1,519
Energy	528
Water	51
Waste	63
Refrigerants	2
Stationary	18
Total	**2,181**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

As described above, construction and operational GHG emissions are combined by amortizing the construction operations over a 30-year period. As shown in Table 18, Estimated Annual Greenhouse Gas Emissions, on the following page with consideration of amortized construction emissions, the total annual estimated GHG emissions for the Project is 1,729 $MTCO_2e$/yr, with the reduction of emissions associated with the existing uses. This value is less than the draft SCAQMD Tier 3 screening threshold (e.g., 3,000 $MTCO_2e$/yr for all land use types). Because the Project's GHG emissions would be less than 3,000 $MTCO_2e$/yr, the emissions would not be cumulatively considerable. Therefore, the Project would result in less than significant GHG emissions.

TABLE 18
ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS

Source	Emissions $MTCO_2e/yr$
Construction (amortized) (from Table 15)	52
Operations (from Table 17)	2,181
Net Reduction: Existing Emissions (from Table 16)	-504
Total	***1,729***
$MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year.	

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The SCAQMD and the City of Arcadia have not adopted standards for the purpose of reducing GHG emissions. As discussed previously, the State policy and standards adopted for the purpose of reducing GHG emissions that are applicable to the Project are Executive Order S-3-05, Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and Senate Bill (SB) 32. The quantitative goal of these regulations is to reduce GHG emissions to 1990 levels by 2020 to 80 percent below 1990 levels by 2050, and for SB 32, to 40 percent below 1990 levels by 2030. Statewide plans and regulations (such as GHG emissions standards for vehicles, the Low Carbon Fuel Standard, Cap-and-Trade, and renewable energy) are being implemented at the Statewide level, and compliance at a project level is not addressed.

The Project would reduce GHG emissions due to its location to complementary uses and mass transit, as well as incorporation of the latest energy efficiency standards for buildings. The proposed development is an infill and mixed-use development project. The Project's mixed-use nature would result in trip reductions internally due to the walkability of this site relative to nearby commercial and park uses and accessibility of mass transit. The Project is located within a half-mile of the Metro A Line Station. The proximity of the Project site to the station would encourage the use of mass transit which is consistent with the City of Arcadia's and State of California's goals of using non-single occupancy vehicles. Public transit availability would also reduce vehicle trips and associated GHG emissions when compared with similar projects located on sites that do not have similar transit accessibility. The development of the Project would support the GHG emissions reduction goals detailed in the California Scoping Plan and RTP/SCS by developing residential uses in a TPA, HQTA, and TPP area which provides mass transit options which leads to less air quality and greenhouse gas emissions as compared to transportation with single-occupant vehicles. The provision of infill development near high-quality transit service supports the goals and policies of the SCAG RTP/SCS, thereby also supporting SB 375 and AB 32 goals. Additionally, the Project would provide bicycle parking and storage areas to encourage the reduction of fossil-fueled vehicle use by employees and residents and the associated GHG emissions, and it would provide new facilities for charging of electric vehicles.

The regulations, plans, and polices adopted for the purpose of reducing GHG emissions that are directly applicable to the Project include the Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings and the Title 24 California Green Building Standards Code. These codes are enforced by the City, and adherence to standard requirements for construction and operations would ensure that the Project would comply with both of these regulations.

Because the Project would promote mixed use infill development in a TPA, HQTA, and TPP area which promotes mass transit options as well as includes the latest building energy efficiency

measures, the Project would not conflict with the City's General Plan nor the State of California's Scoping Plan. There would be a less than significant impact, and no mitigation is required.

3.8.3 MITIGATION MEASURES

There would be no significant adverse impacts related to GHG emissions; therefore, no mitigation measures are required.

3.9 HAZARDS AND HAZARDOUS MATERIALS	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter-mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

Information in this section is derived from the *EDR Radius Map Report* (EDR Report) dated March 10, 2021, and prepared by Environmental Data Resources, Inc. (EDR 2021, Appendix E-1). The site boundary that is the subject of the EDR Report does not include the Jiffy Lube site. However, the Jiffy Lube site is within the EDR Report's search radius; therefore, this information is applicable to the Project site as a whole. Information in this section pertinent to the Jiffy Lube site is derived from the *Phase I Environmental Site Assessment* (Phase I ESA), dated May 4, 2021, and the *Phase II Soil Gas Screening Report* (Phase II Report) dated May 5, 2021, prepared by EDI Consultants, Inc. and provided in Appendix E-2 and Appendix E-3, respectively.

3.9.1 ENVIRONMENTAL SETTING

On-Site Hazardous Materials

Project Site – EDR Report

As stated in the EDR Report, a search of available environmental records was conducted by to meet the search requirements of USEPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed or the evaluation of environmental risk associated with a parcel of land. The Project site was not listed in any of the databases searched as part of the EDR Report (EDR 2021, Appendix E-1).

Jiffy Lube Site – Phase I and II ESA

As stated in the Phase I ESA, the existing Jiffy Lube site is equipped with a 29-year-old gasoline service station, with a fueling system consisting of three 10,000-gallon gasoline underground storage tanks (USTs) (EDI 2021a, Appendix E-2). The latest tank, piping, and sensors testing completed in 2021 indicated no leakage in the UST system and compliance with all federal and State requirements for a passing system. However, due to the sensitive nature of service station operations, which involve the storage and dispensing of fuels, a soil gas screening was conducted to investigate the potential impact of VOCs–including benzene, toluene, ethylbenzene, and xylenes (BTEX) found in petroleum products such as gasoline–and Total Petroleum Hydrocarbons as Gasoline (TPH-g) to soil gas as a consequence of potentially one or more historic releases from the on-site gasoline service station and auto repair/lube operations. The scope of the Phase II Report included the collection of nine soil gas samples and a field duplicate from six locations on April 27, 2021. Laboratory analytical results indicated that none of the soil gas samples had concentrations of TPH-g or VOCs detected above the listed reporting limits. Therefore, a significant environmental threat or human health concern was not discovered on the Jiffy Lube site and no further action was warranted (EDI 2021b, Appendix E-3).

Nearby Hazardous Materials

Review of government databases as well as field reconnaissance conducted as part of the Phase I ESA indicates that there are no users of hazardous materials or generators of hazardous wastes in the vicinity of the Project site (EDI 2021a, Appendix E-2).

Nearby Airports

The nearest airport to the site is the San Gabriel Valley Airport, formerly known as the El Monte Airport, located in El Monte, a public use airport owned by the County of Los Angeles, which is located approximately 3.5 miles south of the Project site.

3.9.2 PROJECT IMPACTS

Regulatory Requirements

RR HAZ-1 Activities at the Project site shall comply with existing federal, State, and local regulations regarding hazardous material use, storage, removal and disposal of underground storage tanks, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria

shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards.

Impact Discussion

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The Project would not involve the routine use, transport, handling, or storage of hazardous materials on-site. The proposed land uses are limited to residential and commercial, and no industrial or manufacturing land uses would be developed. The Project would result in the on-site handling of materials that are common in similar urban developments, such as commercial cleansers, solvents and other janitorial or industrial-use materials; paints; and landscape fertilizers/pesticides. While many such common materials are technically labeled “hazardous”, the presence of such materials is common in a mixed-use urban environment and their transport and use is considered a less than significant impact. The proposed land uses would not generate hazardous emissions, nor would they involve hazardous materials that would create a substantive hazard to the public or environment. There would be a less than significant impact, and no mitigation is required.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Project construction activities routinely involve the use and handling of limited volumes of commonly used hazardous materials, such as petroleum (fuel), paints, adhesives, and solvents. During construction, there is a limited risk of spills and/or accidental release of hazardous materials that are used for the operation and maintenance of construction equipment. The on-site temporary handling, storage, and usage of these materials would be subject to applicable local, State, and/or federal regulations, including BMPs) related to stormwater required by the City (see RR HWQ-1 in Section 3.10 of this IS/MND). As required by RR HAZ-1, any hazardous materials used during construction would also be transported, used, stored, and disposed of according to any applicable local, State, and/or federal regulations. Compliance with applicable regulations would reduce the risk of any damage or injury from any potential spill hazards to a less than significant level.

As stated above, the Project site excluding the Jiffy Lube site was not listed on any databases as searched by the EDR. The latest testing completed in 2021 indicated no leakage and compliance with all federal and State requirements for a passing system. However, due to the sensitive nature of service station operations, a soil gas screening was conducted to investigate whether one or more historic releases of petroleum products from the on-site gasoline service station and auto repair/lube operations had occurred. Laboratory testing indicated that no soil gas samples collected on the Jiffy Lube site had detectable concentrations of TPH-g or VOCs. Therefore, the Phase II Report concluded that a significant environmental threat or human health concern was not present. The proposed land uses would not create a significant hazard to the public or

environment involving release of hazardous materials into the environment. Impacts would be less than significant, and no mitigation is required.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. There are a total of 3 public and private K-12 schools and other educational institutions within 0.25 mile of the Project site: Excelsior School, located approximately 0.08 mile to the northwest at 41 Santa Clara Street; Arroyo Pacific Academy, located approximately 0.20 mile to the north at 325 N Santa Anita Avenue; and s, located approximately 0.20 mile to the east at 17 East Huntington Drive. However, as discussed above, the Project would not develop land uses that involve the use, storage, or transport of hazardous materials that represent a significant hazard to the public or the environment. No industrial or manufacturing land uses would be developed as part of the Project. During Project operations, the Project would result in the routine on-site handling of materials that are common in similar urban developments, such as commercial cleansers, solvents and other janitorial or industrial-use materials; paints; and landscape fertilizers/pesticides. The on-site temporary handling, storage, and usage of these materials would be subject to applicable local, State, and/or federal regulations, including BMPs required by the City (see RR HWQ-1). Therefore, impacts would be less than significant, and no mitigation is required.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. Section 65962.5 requires the development of a hazardous waste and substances site list, also known as the Cortese List, which provides the location of known hazardous materials release sites. The EDR Report did not identify any Cortese List sites on the Project site. Details of the databases searched, along with descriptions of each database researched, are provided in Appendix E-1. The nearest cleanup site reported on the Cortese list database is the Foulger Ford site location at 55 Huntington Drive, approximately 0.01 miles from the Project site. However, the Foulger Ford site cleanup status is completed and currently closed (EDR 2021, Appendix E-1).

The Project site and adjacent sites were not identified on any databases reviewed. Given that the Project does not occur on a Cortese List property or contain other hazardous materials of concern that would create a significant hazard to the public or environment, no impact would result from implementation of the Project, and no mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The nearest airport to the site is the San Gabriel Valley Airport (formerly El Monte Airport), a public use airport, which is owned by the County of Los Angeles and located approximately 3.5 miles south of the Project site. The Project site is located outside the airport Area of Influence of the San Gabriel Valley Airport (LA County 1991). There are no other private airstrips in the vicinity of the Project. Therefore, the Project does not pose an adverse aeronautical effect. No impacts are anticipated, and no mitigation is required.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant with Mitigation. The City has adopted an Emergency Preparedness Program that addresses the City's response to extraordinary emergency situations associated with natural disasters, technological incidents, and threats to national security. It provides operational concepts related to various emergency situations; identifies components of the City of Arcadia Emergency Management Program; and describes the overall responsibilities of the organization for protecting life and property and assuring the overall well-being of the population. The plan also identifies the sources of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, State and federal agencies, and the private sector.

Project construction activities would be constrained due to the fully developed nature of the surrounding land uses and location near heavily traveled roadways. As such, construction activities have the potential to disrupt traffic and emergency access through temporary lane closures or traffic diversions. As required by MM TRANS-1, a Construction Management Plan shall be prepared in compliance with the Manual on Uniform Traffic Control Devices (MUTCD). Compliance with MM TRANS-1 would ensure that potential short-term impacts to emergency response plans or evacuation routes would be less than significant. Once construction activities that could impact surrounding roadways are completed, the roads would be returned to the previous condition and there would be no impact. As required by MM TRANS-1, the Project Applicant/Property Owner would be responsible for repairing any damage to City roadways that may occur during construction or through transport of heavy trucks or equipment related to construction. Therefore, with implementation of MM TRANS-1, short term impacts would be reduced to a less than significant level.

The long-term operation of the Project involves residential, commercial, and parking land uses that would not result in a significant impact to existing roadways and would neither interfere with nor impact the implementation of the City's Emergency Preparedness Program. Additionally, emergency access to the site and surrounding areas would be maintained in compliance with applicable City requirements during and after construction.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. As discussed in Section 3.20, the Project site is not located within a very high fire hazard severity zone (CalFire 2023). The nearest high-risk zone closest to the Project site is located approximately 2 miles to the north, at the base of the San Gabriel Mountains. The Project site is located in an urban area of the City and is not adjacent to wildlands. Therefore, implementation of the Project would not result in a significant risk of loss, injury, or death involving wildland fires. No mitigation is required.

3.9.3 MITIGATION MEASURES

MM TRANS-1, presented in Section 3.17, Transportation, would also be applicable to the analysis of hazards and hazardous materials.

3.10 HYDROLOGY AND WATER QUALITY	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or offsite;	☐	☐	☐	☒
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv) impede or redirect flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Information in this section is partially derived from the *Civil Engineering Hydrology Report* dated August 21, 2024, and prepared by Fuscoe Engineering (Fuscoe 2024a2024a, Appendix F).

3.10.1 ENVIRONMENTAL SETTING

Surface Drainage

The Project site is located within the 824-square-mile Los Angeles River Watershed (Watershed). The Watershed is highly modified; the northern 324-square-mile portion is covered by forest or open space, while the remaining 500 square miles is intensely urbanized (California Water Board 2014). The Watershed encompasses and is shaped by the path of the Los Angeles River. The Project site is located within the intensely urbanized portion of the Watershed and is currently developed with existing buildings and paved surface parking lots.

Storm drainage in the City of Arcadia is provided by curbs and gutters along streets, which direct storm water into the catch basins, pipes, and washes that run in a southerly direction in or near the City. Over four miles of City-maintained storm water management facilities are present in the

City, which connect to regional flood control and runoff conveyance facilities (Arcadia 2010b). Most storm water from the City flows in a southerly direction predominately through Arcadia Wash and Santa Anita Wash, as well as through Sawpit Wash, which all ultimately flow to the Rio Hondo, which runs southwest to join the Los Angeles River in Downey.

Flooding

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicates that the Project site is located in Flood Zone X, which designates areas that are determined to be outside the 0.2-percent annual chance floodplain (Geocon West, Inc. 2021, Appendix D). However, inundation can also occur as a result of significant structural damage to a dam or other water retention facility upstream of the Project site. Dam or reservoir failure could occur because of an earthquake, erosion, design flaw, or water overflow during storms (for a dam). The City's location along the San Gabriel Mountain foothills and below extensive regional flood control facilities places it within the potential inundation area of six water retention facilities. The Project area is located within the inundation hazard area of the Santa Anita Dam (Arcadia 2010b).

Groundwater

The Project site overlies the Main San Gabriel Groundwater Basin (Main Basin), which has a 255 square mile surface area and is in eastern Los Angeles County. The Main Basin is present beneath the majority of the San Gabriel Valley floor and is bound by the Raymond Basin on the northwest, the base of the San Gabriel Mountains on the north, the Puente Basin on the east, and Whittier Narrows to the south. The Main Basin is replenished by stream runoff, rainfall, and inflow from the surrounding Raymond and Puente Basins, and is also replenished with imported water through the Upper San Gabriel Valley Municipal Water District (Arcadia 2010a). The Raymond Basin's main water-bearing materials are unconsolidated to semi-consolidated Quaternary alluvial sediments deposited by streams originating in the San Gabriel Mountains (DWR 2004).

During the drilling of soil borings for the Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D), groundwater was not encountered drilled to a maximum depth of 60 ½ feet. Also, a review of available data indicates that the historically highest groundwater level in the immediate area is approximately 100- 150 feet beneath ground surface.

3.10.2 PROJECT IMPACTS

Regulatory Requirements

RR HWQ-1 Prior to the City's issuance of a demolition permit, the Project Applicant/Property Owner shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002), which will require the development and implementation of a Project-specific Storm Water Pollution Prevention Plan (SWPPP). As required by Section 7800 et. seq., Stormwater Management and Discharge Control, of the Arcadia Municipal Code, the Project's grading permit would only be issued after the Project Applicant/Property Owner submits proof that an NOI was filed and a SWPPP prepared to the satisfaction of the City's Public Works Director.

Impact Discussion

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. This section discusses the Project's potential construction- and operational-related water quality impacts.

Construction-Related Water Quality Impacts

The Project could result in short-term construction impacts to surface water quality from demolition, grading, and other construction-related activities. Storm water runoff from the Project site during construction could contain soils and sediments from these activities. Spills or leaks from heavy equipment and machinery, construction staging areas, and/or building sites can also enter runoff and typically include petroleum products such as fuel, oil and grease, and heavy metals.

The State Water Resources Control Board (SWRCB) has issued the Statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002, which became effective on September 1, 2023) (Construction General Permit). Individual NPDES permits or Construction General Permit coverage must be obtained for discharges of storm water from construction sites with a disturbed area of one or more acres. Since the Project site is 2.27 acres, coverage under the Construction General Permit is required. To obtain coverage, the Project Applicant/Property Owner must retain the services of a certified Qualified SWPPP Developer (QSD) to prepare a SWPPP for the Project. The Project Applicant/Property Owner, or the contractor if specifically delegated, would electronically submit permit registration documents prior to beginning construction activities in the Storm Water Multi-Application Report Tracking System (SMARTS), which would consist of a Notice of Initiation (NOI), Risk Assessment, Post-Construction Calculations, a site map, the SWPPP, a signed certification statement, and the first annual fee. Project construction would also be required to adhere to the SCAQMD's Rule 402 (Nuisance) and Rule 403 (Fugitive Dust) to avoid and minimize airborne dust from leaving the site.

Also, as required by Section 7827 of the AMC, the Project would be required to implement an erosion and sediment control plan, or SWPPP, and BMPs required by the City's Director of Public Works to ensure that discharges of pollutants are effectively prohibited and would not cause or contribute to an exceedance of water quality standards. Also, consistent with Section 7827 of the AMC and Ordinance No. 2325 (Article VII, Chapter 8, Stormwater Management and Discharge Control), since the Project would disturb more than one acre, BMPs for new development and redevelopments would apply. This would include the requirement to comply with the Construction General Permit. The SWPPP would include BMPs to control erosion and sedimentation, and to manage waste and non-stormwater in accordance with the Construction General Permit. The Project Applicant/Property Owner may also be required by the City to develop an Erosion and Sediment Control Plan including structural BMPs, which would need to be certified by a QSD. The Project's grading permit would only be issued after the Project Applicant/Property Owner submits proof that an NOI was filed and a SWPPP prepared to the satisfaction of the Public Works Director. Construction activities are not anticipated to encounter groundwater, as levels are anticipated to be more than 100 to 150 feet below ground surface at the Project site (Geocon West, Inc. 2021, Appendix D), which is well below the depth of proposed excavation.

With implementation of RR HWQ-1, the impacts to surface water quality during construction would be less than significant, and no mitigation is required.

Operational Water Quality Impacts

The Project is subject to requirements of the 1972 Federal Water Pollution Control Act, subsequently known as the Clean Water Act (CWA). In 1972, the CWA was amended to require NPDES permits for the discharge of pollutants to "waters of the U.S." from any point source. In 1987, the CWA was amended to require that the USEPA establish regulations for municipal and industrial storm water discharges for permitting under the NPDES permit program. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by an NPDES permit. The MS4s are designated or used for collecting or conveying stormwater.

The City of Arcadia is located in both the Rio Hondo and San Gabriel River Watersheds, while the Project site is solely located in the San Gabriel River Watershed, and is within the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB). The City is therefore subject to the MS4 Permit (Order No. R4-2021-0105, NPDES Permit No. CAS004004), which became effective on September 11, 2021. The MS4 Permit governs stormwater and urban runoff discharges to public storm drain systems owned and operated by "the Permittees". Permittees that have land use authority are responsible for implementing a storm water management program to inspect and control pollutants from industrial and commercial facilities, new development and re-development projects, and development construction sites within their jurisdictional boundaries. As a Permittee under the MS4 Permit, the City has the authority to enforce the terms of the permit for design and operation of the Project.

The MS4 Permit also provides the option to develop integrated planning and monitoring plans to address many of the MS4 Permit's water quality and program requirements. The City of Arcadia is a participant in the Rio Hondo/San Gabriel River Water Quality Group (RH/SGRWQG), which also includes the County of Los Angeles, the Los Angeles County Flood Control District, and the cities of Azusa, Bradbury, Duarte, Monrovia, and Sierra Madre. In 2013, the RH/SGRWQG began preparation of an Enhanced Watershed Management Program (EWMP) and Coordinated Integrated Monitoring Program (CIMP) pursuant to the MS4 Permit in effect at that time (Order No. R4-2012-0175, NPDES Permit No. CAS004004). The LARWQCB approved the CIMP in 2015 and the EWMP in 2016. In 2019, a Revised EWMP was approved by the LARWQCB and replaces the 2016 EWMP. The 2019 rEWMP and 2015 CIMP are the current plans in place for the RH/SGRWQG.

The technique of Low Impact Development (LID) is the preferred stormwater management approach across the region. LID practices emphasize water conservation and the use of existing natural site features integrated with stormwater controls to more closely mimic natural hydrology patterns in residential, commercial, and industrial settings. The City's LID Ordinance, Ordinance No. 2325, was passed, approved, and adopted by the Arcadia City Council on April 7, 2015. This added Article VII, Chapter 8, to the AMC, entitled Stormwater Management and Discharge Control. The intent of Ordinance No. 2325 is to protect and enhance the water quality of the City's watercourses, water bodies, and receiving waters of the United States in a manner pursuant to and consistent with the Clean Water Act (CWA).

The Project meets the definition of a Planning Priority Project as defined in Ordinance No. 2325, as it is a redevelopment project that would disturb more than 5,000 square feet of impervious surface area on an already developed site. Therefore, the Project must be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use. Prior to issuance of a Demolition or Grading Permit for the Project, the City Public Works Director would ensure that the Project Applicant/Property Owner has had a LID Plan prepared. The LID Plan must include measures to

retain stormwater runoff onsite for the Stormwater Quality Design Volume (SWQDv), as defined further in the AMC. This LID Plan would be reviewed by the City to ensure the Project minimizes hydromodification impacts to natural drainage systems. When, as determined by the City, 100 percent onsite retention of the SWQDv is not technically feasible, partially or fully, the infeasibility shall be demonstrated in the LID Plan.

If partial or complete onsite retention is determined by the City to be technically infeasible as documented in the LID Plan, the Project may instead biofiltrate 1.5 times the portion of the remaining SWQDv that is not reliably retained onsite. Biofiltration BMPs must adhere to the design specifications provided in the MS4 Permit. Additional alternative compliance options such as offsite infiltration will be analyzed, although much of the area surrounding the Project site is developed with impervious surfaces and unlikely to be able to be used for infiltration. Alternative compliance options are further specified in the County of Los Angeles Department of Public Works' *Stormwater Best Management Practices Design and Maintenance Manual*. The Project Applicant/Property Owner should contact the City Public Works Director to determine eligibility and obtain approval. In all cases, the Project would comply with all relevant provisions of the MS4 Permit.

The remaining SWQDv that cannot be retained or biofiltered onsite must be treated onsite to reduce pollutant loading. BMPs must be selected and designed to meet pollutant specific benchmarks as required per the MS4 Permit. Flow through BMPs may be used to treat the remaining SWQDv and must be sized based on a rainfall intensity of: 0.2 inches per hour, or the one year, one hour rainfall intensity as determined from the most recent Los Angeles County isohyetal map, whichever is greater (Fuscoe 2024a).

The Project's preliminary drainage design complies with City requirements for stormwater management and discharge control contained in the AMC to reduce pollutants in stormwater discharges to the maximum extent practicable. Compliance with applicable regulatory requirements, including the City's LID Ordinance and requirements contained in the County's LID Standards Manual, would ensure that long-term water quality impacts would be less than significant, and no mitigation would be required.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. The Project would not involve direct or indirect withdrawals of groundwater. Domestic water service would be provided by the City, as described in Section 3.17, Utilities and Service Systems. Also, the Project would not deplete groundwater supplies or interfere substantially with groundwater recharge. Most of the Project site is currently covered in impervious surfaces and Project implementation would also result in full coverage with impervious surfaces, except for some limited landscaping as described in Section 2.2. Therefore, there would be minimal change in groundwater recharge. There would be a less than significant impact, and no mitigation is required.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or offsite?

No Impact. Most of the Project site is covered with impervious surfaces and is relatively flat. Implementation of the Project would not result in a substantial increase in the amount of

impervious surface. The Project site is in an urban setting and there are no natural streams or rivers within or near to the Project site. The Project would convey storm water to existing storm drains that connect to regional flood control and runoff conveyance facilities (Arcadia 2010b), which run southwest into the Whittier Narrows and continues southwest to join the Los Angeles River in Downey. Therefore, Project implementation would not result in an increase in erosion or sedimentation on- or off-site. There would be no impact, and no mitigation is required.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

iii) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

No Impact. The rate of stormwater runoff from the Project site would generally remain unchanged with Project implementation because the impervious cover on the Project site would not be substantively changed. Therefore, no net increase in storm flows is anticipated because of the Project, and no additional incremental flows would be contributed to the City's storm drain system. As such, the runoff from the site would not result in flooding on- or off-site and would not exceed the capacity of the storm drain system. Additionally, as described under the analysis of Thresholds 3.9(a) above, the Project would not result in substantial additional sources of polluted runoff. There would be no impact, and no mitigation is required.

iv) Impede or redirect flood flows?

No Impact. The Project site is not located in an area identified as a 100-year flood area (Arcadia 2010a). Therefore, the Project would not impede or redirect flood flows. There would be no impact, and no mitigation is required.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less Than Significant Impact. The Project is not located in a flood zone or near the ocean or other water body with the potential to be at risk of seismically-induced tidal phenomena. Furthermore, the Project would not utilize, store, or otherwise contain pollutants that would be at risk of release if inundated. Therefore, hazards related to the potential release of pollutants due to inundation caused by a flood, tsunami, and/or seiche are considered to be negligible.

However, the Project site and surrounding area are located within the inundation hazard area of the Santa Anita Dam (Arcadia 2010a). The potential for inundation because of significant structural damage to the Santa Anita Dam as a result of an earthquake, erosion, a design flaw, or water overflow during storms is an existing inundation hazard that affects the Project site. As such, implementation of the Project would not exacerbate these hazards. There would be a less than significant impact, and no mitigation is required.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The Project would develop a mix of residential and commercial uses. These land uses exist on or near the Project site currently and would not introduce sources of water pollutants that would have the potential to interfere with a water quality control plan or sustainable groundwater management plan. Moreover, the Project would mitigate runoff in a manner that

removes stormwater pollutants prior to the water being discharged into the municipal storm water system. There would be no impact, and no mitigation is required.

3.10.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to hydrology and water quality; therefore, no mitigation is required.

3.11 LAND USE AND PLANNING	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 ENVIRONMENTAL SETTING

The Project site is located in the downtown area of the City of Arcadia. The Project site isis within the downtown area of the City north of Huntington Drive and west of Santa Anita Avenue. All five parcels within the Project site (APNs 5775-025-032, -033, -034, -037, and -038) have a land use designation of DMU and are zoned as DMU. According to applicable design standards, all parcels within the Project site are permitted a maximum building height of 60 feet with an additional 10-foot height allowance for mechanical equipment, maximum residential density of 80 units per acre, and maximum FAR of 1.0, applicable only to the non-residential component of a development.

As shown on Exhibit 2, the Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development, consisting of retail, restaurants, and office businesses, an Elks Lodge, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site across Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive. Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

3.11.2 PROJECT IMPACTS

Impact Discussion

a) Would the project physically divide an established community?

No Impact. As shown in Exhibit 2, Aerial Photograph, and described in Section 2.1, Project Location, the Project site is currently developed and is surrounded by other urban development including commercial land uses. The Project involves redevelopment of the Project site and would not disrupt the physical arrangement of an established community. There would be no impact related to this threshold, and no mitigation is required.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. There are several land use-related planning programs, policies, and ordinances that are relevant to the Project, which are discussed below including the City of Arcadia General Plan and Zoning Ordinance.

City of Arcadia General Plan

The City's General Plan was adopted in 2010 (Arcadia 2010a). Each Element of the General Plan contains goals, policies, and implementation programs designed to guide the various aspects of the future land use, development, and revitalization decisions of the City. The State's general rule for a General Plan consistency determination is an action, program, or Project is consistent with the General Plan if, considering all aspects, it will further the objectives and policies of the General Plan and will not inhibit or obstruct their attainment.

The Project site has a General Plan land use designation of DMU. The Project would advance the City's goal as embodied in the General Plan of providing the residential uses necessary to support and complement the existing and proposed businesses in the downtown as well as the nearby Metro A Line Station. A goal of the Project is to transform the Project site within the City's downtown into a more vibrant, dynamic, transit- and pedestrian-oriented mixed-use development consistent with the Arcadia General Plan and related development standards and requirements. The Land Use and Community Design Element of the General Plan includes goals and policies that apply citywide. The Project would be consistent and help achieve the following goals and policies.

- **Goal LU-1:** A balance of land uses that preserves Arcadia's status as a Community of Homes and a Community of Opportunity.
    - **Policy LU-1.1:** Promote new infill and redevelopment projects that are consistent with the City's land use and compatible with surrounding existing uses.
    - **Policy LU-1.2:** Promote new uses of land that provide diverse economic, social, and cultural opportunities, and that reinforce the characteristics that make Arcadia a desirable place to live.
    - **Policy LU-1.3:** Encourage community involvement in the development review process.
    - **Policy LU-1.4:** Encourage the gradual redevelopment of incompatible, ineffective, and/or undesirable land uses.

- **Policy LU-1.6:** Establish consistency between the Land Use Plan and the Zoning Code.
- **Policy LU-1.7:** Encourage developments to be placed in areas that reduce or better distribute travel demand.
- **Policy LU-1.8:** Encourage development types that support transit and other alternative forms of transportation, including bicycling and walking.
- **Policy LU-1.9:** Establish incentives and development standards to encourage development of land uses that provide public amenities and/or desirable facilities or features, as well as private open space and recreation areas.
- **Policy LU-1.10:** Require that new development projects provide their full fair share of the improvements necessary to mitigate project generated impacts on the circulation and infrastructure systems.

- **Goal LU-2:** A City with a distinctive and attractive public realm, with pedestrian-friendly amenities in commercial and mixed-use districts and single-family neighborhoods that continue to maintain Arcadia's standard of architectural and aesthetic quality.
  - **Policy LU-2.1:** Ensure that trees planted in the public right-of-way continue to be well maintained where they exist, are planted in areas where they are currently lacking, and encourage replacement of undesirable tree species in public rights-of-way.
  - **Policy LU-2.2:** Emphasize the use of public spaces and design that are oriented toward the pedestrian and use of transit throughout the community.
  - **Policy LU-2.6:** Ensure the aesthetic quality and pedestrian orientation of the City's commercial corridors by implementing the recommendations of this Community Design section, as well as the Architectural Design Guidelines for commercial and industrial properties.
  - **Policy LU-2.7:** Through a combination of incentives to business owners and enforcement measures, attain compliance with signage standards and guidelines throughout the City, with a priority placed on high-traffic commercial corridors and gateway areas.

Also, the Land Use and Community Design Element of the General Plan includes various goals and policies specific to development within the City's downtown. The Project would be consistent with and help achieve the following goal and policies:

- **Goal LU-10:** A thriving downtown, with healthy commercial areas supported by high-quality, residential uses and supportive of the Metro A Line transit station (e.g., Arcadia A Line Station).
  - **Policy LU-10.1:** Provide diverse housing, employment, and cultural opportunities in downtown, with an emphasis on compact, mixed-use, transit- and pedestrian-oriented development patterns that are appropriate to the core of the City.
  - **Policy LU-10.2:** Promote the Metro A Line Extension and establishment of a transit station in downtown Arcadia and take full advantage of the opportunities the A Line station (e.g., Arcadia A Line Station) will bring to downtown and the City as a whole.
  - **Policy LU-10.3:** Work toward the establishment of public gathering areas in downtown to bring public activities and civic events into downtown.

- **Policy LU-10.4:** Establish commercial uses that complement the vision of the downtown core with opportunities for more intense, quality development at key intersections that are unique from the regional offerings at the regional mall.
- **Policy LU-10.6:** Encourage high standards for property maintenance, renovation and redevelopment.
- **Policy LU-10.7:** Provide accessible plazas and public spaces throughout downtown that provide both intimate, outdoor rooms and larger spaces that could accommodate public gatherings and celebrations.
- **Policy LU-10.9:** Connect various activity areas and plazas via sidewalks, paseos, and pedestrian alleys to create a comprehensive pedestrian network.
- **Policy LU-10.10:** Establish a "park once" system in downtown with a collection of shared surface and parking structures.
- **Policy LU-10.11:** Buildings should be oriented to the pedestrian and the street.
- **Policy LU-10.12:** Encourage architecture that uses quality, lasting building materials; provides building scale that relates to intimate nature of downtown; and applies a unified theme.
- **Policy LU-10.13:** Recognize that well-designed public open spaces are vital to the success of downtown. Work with private developers and landowners to facilitate the construction of such spaces.
- **Policy LU-10.14:** Create a high-quality pedestrian experience in downtown through the use of street trees, public art, street furniture, and public gathering spaces. Using signage, art, and unique uses, entice and encourage people to walk and explore the commercial core of downtown.

The Land Use and Community Design Element of the City's General Plan identifies the ¼-mile radius surrounding the Metro A Line Station as an "activity node", which is defined as "places of pedestrian activity and excitement. These are places where people congregate, socialize, and shop. Activity nodes are places where residents can leisurely stroll, participate in a recreational activity, or relax and experience the outdoors" (Arcadia 2010a). The Project site is within ¼-mile of the Metro A Line Station.

In summary, the Project would implement the City's goals for the City's downtown by enhancing the street frontage, orienting the retail and publicly accessible components of the Project towards Huntington Drive and Santa Anita Avenue, and by providing additional vehicle, pedestrian, and bicycle facilities. The Project would support the City's goals to provide a connected, balanced, and integrated bicycle and pedestrian network by developing a mixed-use project that promotes pedestrian connectivity with the City and includes on-site improvements to facilitate circulation and community cohesion within the existing environment. Therefore, the Project would be consistent with the applicable goals and policies of the City's General Plan.

City of Arcadia Development Code

The Arcadia's Development Code Zoning Ordinance is the primary tool for implementing the City's General Plan. It provides development standards (e.g., setbacks, building height, site coverage, parking, and sign requirements). Also, the Development Code provides detailed guidance for development based on and consistent with the land use policies established in the General Plan. As discussed previously, current zoning for the Project site is DMU.

The DMU zone is intended to provide opportunities for complementary service and retail commercial businesses, professional offices, and residential uses located within the City's downtown. A wide range of commercial and residential uses are appropriate, oriented towards pedestrians to encourage shared use of parking, public open space, and interaction of uses within the zone. Residential uses are permitted above ground floor commercial or adjacent to a commercial development. Both uses must be located on the same lot or on the same project site, and exclusive residential structures are not allowed. Development standards for the DMU zone are defined in Table 19, Project Consistency with the Downtown Mixed-Use Zone Development Standards, which includes an analysis of Project consistency.

TABLE 19
PROJECT CONSISTENCY WITH THE DOWNTOWN MIXED-USE ZONE DEVELOPMENT STANDARDS

Standard	Development Standards for DMU Zone	Project Consistency
Minimum Lot Area	10,000 sf	98,880 sf
Maximum Residential Density	80 units per acre	79.7 units per acre
Maximum Height (excluding mechanical equipment[1])	60 feet	60 feet
Maximum Floor Area Ratio for Non-Residential Uses	1.0	0.13
Minimum Open Space for Residential Uses	100 sf per unit	213.9 sf per unit
Setbacks		
Front (or adjacent to a street)	0 feet minimum; 10 feet maximum	3 foot minimum (Santa Anita Ave) and 2.5- and 10-foot-wide ROW dedications
Side (Interior Abutting Non-residential or Mixed-Use Zone)	0 feet minimum (no maximum)	6 inch minimum (Morlan Place)
Side (Street Side)	0 feet minimum; 10 feet maximum	8 feet 6 inch minimum at retail level (Huntington Dr) 18-inch-wide ROW dedication
Rear (Abutting Non-residential or Downtown Zone)	0 feet minimum (no maximum)	2 foot minimum (Project site interior)

sf: square feet, Ave: Avenue, Dr: Drive, ROW: right-of-way
[1] Mechanical equipment may exceed the maximum height limit by up to 10 feet per Development Code Section 9103.01.050(D)
Source (DMU zone standards): Arcadia Development Code Section 9102.05.030

The Project's maximum building height of 60 feet would comply with the DMU zone development standard of up to 60 feet, excluding mechanical equipment. As described in Section 9103.01.050(D) of the Development Code, in any commercial, industrial, or mixed-use zone, mechanical equipment required for the operation of or maintenance of structures, including elevators and stairways, may exceed the maximum height limit by up to 10 feet. The Project proposes up to 5 feet of additional height for the building's mechanical equipment. This can be seen most clearly in Exhibits 11a and 11b, Proposed Project Elevations. Therefore, the proposed Project would be consistent with all applicable Arcadia Development Code requirements.

As noted in Table 19, Project Consistency with the Downtown Mixed-Use Zone Development Standards, there are no front, side, or rear minimum setback requirements for buildings within the DMU zone. The maximum setback permitted for any street side is 10 feet, which may be used for landscaping, pedestrian circulation, entry court, outdoor dining, and similar uses related to a downtown pedestrian environment. For the proposed Project, Santa Anita Avenue is defined as the building's front and Huntington Drive and Morlan Place are defined as the building's sides.

As noted in Table 19, the Project includes dedications to the City that would become part of the public ROW. On Santa Anita Avenue, 2.5 feet of sidewalk alongside the Jiffy Lube parcel and the 10-foot-wide sidewalk for the remaining frontage to Morlan Place would be dedicated. And on Huntington Drive, 18 inches of sidewalk along the entire frontage would be dedicated. The Project's setbacks are measured in addition to the ROW dedications. As shown in Table 19, the Project's setbacks would be consistent with the range allowed for the DMU zone. Also, as part of the City's design review, City staff will ensure that the Project complies with all other applicable City regulations, including those contained in:

Division 2 of the Development Code – Zones, Allowable Uses, and Development Standards;

- Division 3 of the Development Code – Regulations Applicable to All Zones – Site Planning, Parking Standards, and General Development Standards; and
- Division 4 of the Development Code – Regulations for Specific Land uses and Activities.

As mentioned above, in DMU zones in the City's downtown, multi-family dwellings require the issuance of a Minor Use Permit. Therefore, prior to commencement of any construction activities, the Project Applicant/Property Owner shall obtain approval of a Conditional Use Permit from the City.

City Center Design Plan

In addition to consistency with the development standards for the DMU zone and other elements of the City Development Code, the Project has been designed to comply with the *City Center Design Plan* (City Center Design Plan, Plan) (Onyx Architects 2018). The City Center Design Plan was approved by the City Council in August 2018 and provides additional design standards for new development in the City's downtown. The Plan was developed to balance the goals of increasing density and improving walkability and mobility while at the same time embracing the scale and architecture of the existing downtown buildings that give the area its identity and character by improving design quality for all future projects.

One goal of the City Center Design Plan is to make the downtown more walkable and to improve mobility. The Project would promote this goal by providing mixed uses in the downtown near transit. Also, the Project would include ground-floor public spaces associated with the non-residential uses. The Project would provide residential uses and commercial space in close walking distance to the Metro A Line Station. Also, in furtherance of the City Center Design Plan goal of increasing density, the Project would increase density on the site. The Project has been designed to be consistent with the urban design principles and all relevant design concepts provided in the City Center Design Plan. The Project would not result in any conflicts with the Plan while at the same time implementing many of its goals. The Project massing is developed to step back from the ground level with height along Huntington Drive and Santa Anita Avenue, which is consistent with the recommendations in the Plan. The Plan's proposed massing diagram allows 5-story structures on Wheeler Avenue and maximum 3-story structures along Huntington Drive, but a note is included in the Plan stating that some flexibility is necessary for individual projects fronting Huntington Drive. Finally, the Project implements the Plan's goal of having centralized, shared parking below 4 to 5 story developments to allow for a "park-once" approach so that every parking stall can serve several uses within the area (Onyx Architects 2018).

Therefore, impacts related to applicable land use plans, policies, or regulations would be less than significant, and no mitigation is required.

3.11.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to land use and planning; therefore, no mitigation measures are required.

3.12 MINERAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.12.1 ENVIRONMENTAL SETTING

Mineral resources are naturally occurring chemicals, elements, or compounds formed by inorganic processes or organic substances. These resources include bituminous rock, gold, sand, gravel, clay, crushed stone, limestone, diatomite, salt, borate, potash, geothermal, petroleum, and natural gas resources. Construction aggregate refers to sand and gravel (natural aggregates) and crushed stone (rock) that are used as Portland-cement-concrete aggregate, asphaltic-concrete aggregate, road base, railroad ballast, riprap, fill, and the production of other construction materials.

The State Mining and Geology Board classifies lands in California based on the availability of mineral resources. The Project site is located within an MRZ-4 zone, meaning there is insufficient data to assign any other MRZ designation. However, as discussed in the Resource Sustainability Element of the Arcadia General Plan, the only area available for future mining activity is the Livingston-Graham sand and gravel extraction site, which is located approximately 2.5 miles south of the Project site and most of which occurs in the adjacent City of Irwindale (Arcadia 2010a). Review of maps prepared by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources shows that there are no gas, geothermal fields, or active wells in or near the Project site (Arcadia 2010b).

3.12.2 PROJECT IMPACTS

Regulatory Requirements

None required.

Impact Discussion

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. Based on review of the Resource Sustainability Element of the City of Arcadia General Plan, the Project site does not contain known State or locally designated mineral resources or locally important mineral resource recovery sites (Arcadia 2010a). Project implementation would not result in adverse impacts to any significant mineral resource. There would be no impact, and no mitigation is required.

3.12.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to mineral resources; therefore, no mitigation measures are required.

3.13 NOISE	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 ENVIRONMENTAL SETTING

Overview of Noise and Vibration

Several rating scales (or noise "metrics") are used to analyze the effects of noise on a community. These scales include the equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL). Average noise levels over a period of minutes or hours are usually expressed as A-weighted decibels (dBA) L_{eq}, which is the equivalent noise level for that period of time. The period of time averaging may be specified; where $L_{eq(3)}$ would be a 3-hour average. When no period is specified, a 1-hour average is assumed. Noise of short duration (e.g., substantially less than the averaging period) is averaged into ambient noise during the period of interest. Thus, a loud noise lasting several seconds, or a few minutes may have minimal effect on the measured sound level averaged over a one-hour period.

To evaluate community noise impacts, CNEL was developed to account for human sensitivity to evening and nighttime noise. CNEL separates a 24-hour day into three periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening sound levels are assigned a 5-dBA penalty, and the nighttime sound levels are assigned a 10-dBA penalty prior to averaging them with daytime hourly sound levels. Several statistical descriptors are also often used to describe noise, including L_{max} and L_{min}, which are the highest and lowest A-weighted sound levels that occur during a noise event, respectively. Noise levels measured in

dBA associated with common events and activities is shown in Exhibit 17, Noise Levels for Common Events.

Vibration amplitudes are commonly expressed in peak particle velocity (ppv) or root-mean square (rms) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV and RMS vibration velocity are normally described in inches per second. Similar to airborne sound, vibration velocity can be expressed in decibel notation as vibration decibels (VdB).

Existing Conditions

To evaluate the existing noise environment, noise level measurements were collected at the Project site boundaries on April 12, 2023. A total of four 20-minute noise measurements were collected for the Project. The short-term measurement results are provided in Table 20, Summary of Short-term Ambient Noise Level Measurements, and include the energy average (L_{eq}), maximum noise level (L_{max}), and minimum noise level (L_{min}) values. The complete noise monitoring results are included in Appendix G (Noise Calculations).

TABLE 20
SUMMARY OF SHORT-TERM AMBIENT NOISE LEVEL MEASUREMENTS

Location	Time	Noise Levels (dBA)			Primary Noise Source
		L_{eq}	L_{max}	L_{min}	
Western Project Boundary	4:25-4:45	54.0	61.7	47.2	Heating Ventilation and Air Conditioning unit at the Rusnak Mercedes Benz dealership to the north of the site
Northern Project Boundary	4:47-5:07	61.0	67.2	56.1	Pressure washer and Heating Ventilation and Air Conditioning unit at the Mercedes Benz dealership to the north of the site
Eastern Project Boundary	5:14-5:34	64.9	76.6	50.4	Vehicle traffic traveling along Santa Anita Avenue
Southern Project Boundary	5:36-5:56	66.3	81.6	53.8	Vehicle traffic traveling along Huntington Drive

dBA: A-weighted decibels; L_{eq}: equivalent noise level; L_{max}: maximum noise level; L_{min}: minimum noise level
Source: see Appendix G for noise calculations

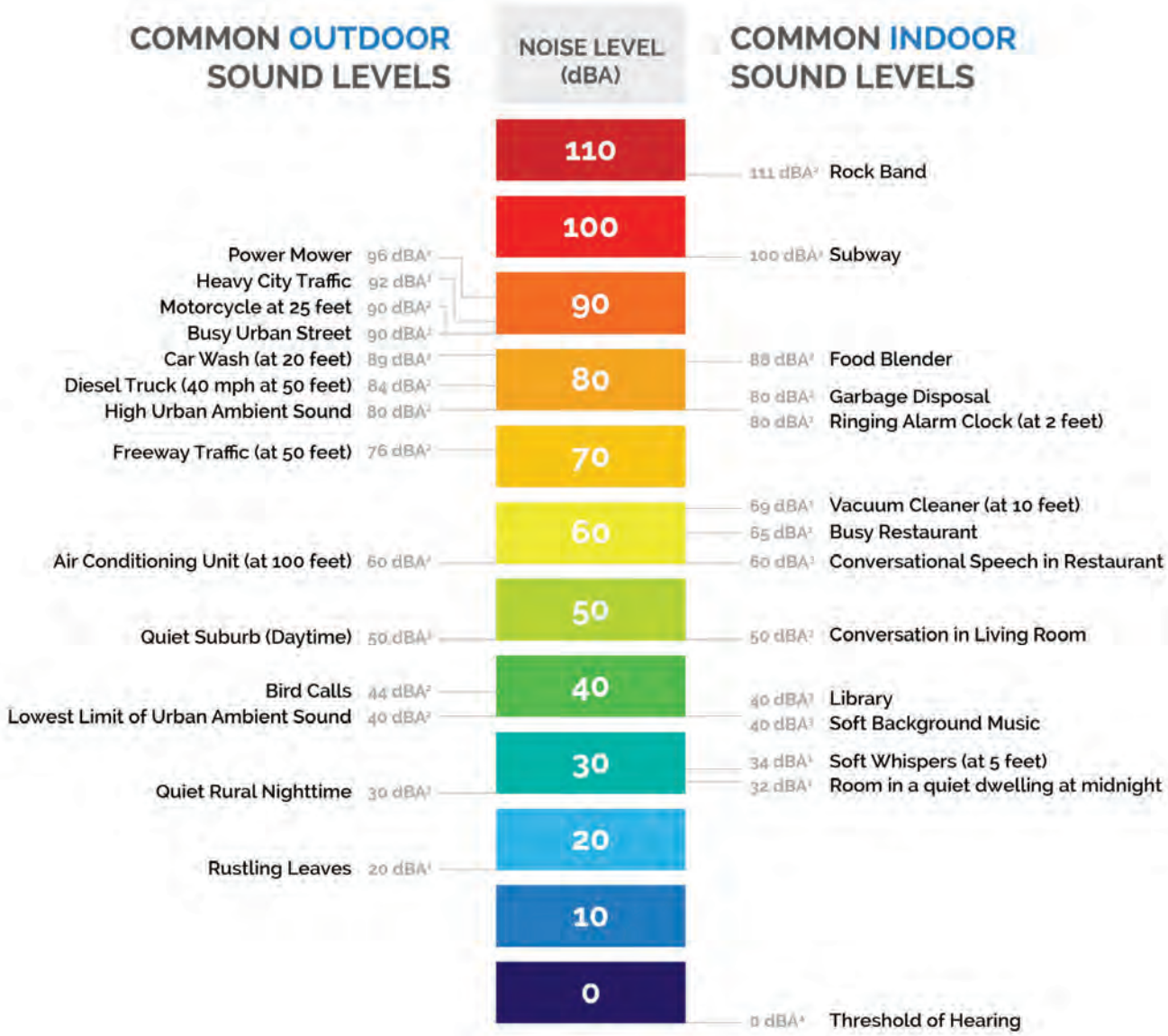
As shown in Table 20, the traffic along Huntington Drive and Santa Anita Avenue are the primary noise sources affecting noise exposure levels on the eastern and southern Project boundaries. The maximum noise levels recorded ranged from 61.7 to 81.6 dBA L_{max} and average noise levels ranged from 54.0 to 66.3 dBA L_{eq}.

Measured noise levels on the western Project boundary are considered relatively low with primary contribution of noise from the Heating Ventilation and Air Conditioning (HVAC) unit at the Mercedes Benz dealership to the north of the site. At the northern Project site boundary, noise measurements were most heavily influenced by a pressure washer used for cleaning cars as well as the HVAC unit at Mercedes Benz dealership.

Sensitive Receptors

Noise-sensitive receptors are generally considered to be humans who are engaged in activities that may be subject to the stress of significant interference from noise. The Project site is adjacent to commercial uses present to the north and east; an Elk's Lodge to the west, and the Arcadia

Comparative Noise Levels (dBA)



1 Aviation Noise Effects, FAA, AEE, March, 1985 (FAA-EE-85-2), Table 1.1
2 Federal Agency Review of Selected Airport Noise Analysis Issues (Federal Interagency Committee on Noise), August 1992, Table B.1
3 Children's health and the environment, A Global Perspective, World Health Organization, 2005, Table 15.1
4 OSHA Technical Manual, TED 01-00-015, Section III (Health Hazards), Chapter 5 (Noise, Updated 8/15/2013)

Source: Federal Aviation Administration 2020

Noise Levels for Common Events

Exhibit 17

Arcadia Town Center Project

PSOMAS

(11/6/2024 PLO) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Noise_Levels_for_Common_Events.pdf

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County Park to the south. The nearest residential uses are located approximately 280 feet to the southeast and 410 feet to the northwest.

City of Arcadia Noise Element and Municipal Code

The City of Arcadia has established guidelines and standards in the General Plan and the AMC.

General Plan Noise Element

The City of Arcadia is affected by several different sources of noise, including automobile traffic, Santa Anita Race Track events and other sports events, commercial activity, periodic nuisances such as construction, and other sources typical of urban and suburban areas. The Noise Element of the General Plan is intended to identify these sources and provide objectives and policies that ensure that noise from these sources does not create an unacceptable noise environment (Arcadia 2010a).

The Noise Element of the General Plan acknowledges that noise from major roadways may affect sensitive receptors and identifies roadways proximate to the Project site such as Santa Anita Avenue and Huntington Drive. The following policy measures are applicable to the Project:

Policy N-1: Effective incorporation of noise considerations into land use planning decisions.

Policy N-1.1 Consider noise impacts as part of the development review process relative to residential and other noise-sensitive land uses.

Policy N-1.2 Ensure that acceptable noise levels are maintained near schools, hospitals, and other sensitive areas in accordance with the Noise/Land Use Compatibility Guidelines in Figure N-4, Table N-2 Interior/Exterior Noise Standards (of the Noise Element), and the City's noise ordinance.

Policy N-1.3 New commercial and industrial developments located adjacent to residential areas and identified noise-sensitive uses shall demonstrate reduction of potential noise impacts on neighboring sensitive uses to acceptable levels.

Policy N-1.4 Discourage new development of residential or other noise-sensitive uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels that comply with Noise/Land Use Compatibility Guidelines in Figure N-4 and Table N-2 Interior/Exterior Noise Standards (in the Noise Element).

Policy N-1.5 Require that proposed projects that have the potential to result in noise impacts include an acoustical analysis and appropriate mitigation to achieve the interior and exterior noise standards indicated in Table N-2 Interior/Exterior Noise Standards. (in the Noise Element)

Policy N-3: Limited intrusion of point-source noise within residential neighborhoods and on noise-sensitive uses.

Policy N-3.1 Enforce the noise ordinance to protect residents and noise-sensitive uses from excessive noise levels associated with stationary sources.

Policy N-3.3 Explore requiring the use of noise suppression devices and techniques on all exterior noise sources (construction operations, pumps, fans, leaf blowers) to lower exterior noise to levels that are compatible with adjacent land uses.

Policy N-3.4 Require any new mixed-use structures to be designed to minimize the transfer of noise and vibration from commercial or industrial to residential and other noise-sensitive uses.

Policy N-3.5 Require noise created by new non-transportation noise sources to be mitigated so as not to exceed acceptable interior and exterior noise level standards identified in this Noise Element.

The Noise Element contains guidelines for noise-compatible land use for long-term operations, as shown in Table 21, City of Arcadia Guidelines for Noise Compatible Land Uses.

TABLE 21
CITY OF ARCADIA GUIDELINES FOR NOISE COMPATIBLE LAND USES

Land Use Category	Community Noise Exposure Ldn or CNEL, DBA						
	55	60	65	70	75	80	85
Estate Residential, Very Low Density Residential, Low Density Residential (1)							
Medium Density Residential							
High Density Residential, Mixed Use, Downtown Mixed Use							
Commercial, Regional Commercial, Horse Racing							
Commercial/Light Industrial							
Public/Institutional							
Open Space – Outdoor Recreation							
Open Space - Resource Protection							

NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirement.

NORMALLY UNACCEPTABLE

New construction or development generally is discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and incorporated into project design.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken after an analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken, unless it can be demonstrated that an interior level of 45 dBA can be achieved.

Source: Arcadia 2010a.

While the compatibility guidelines in Table 21 above show the degree of noise exposure that is considered acceptable, the Noise Element also provides interior and exterior noise standards for different land uses, as shown in Table 22, City of Arcadia Interior/Exterior Noise Standards, on the following page.

TABLE 22
CITY OF ARCADIA INTERIOR/EXTERIOR NOISE STANDARDS

Land Use	Maximum Exterior Noise Level	Maximum Interior Noise Level
Residential: Rural, Single-Family, and Multifamily	65 dBA CNEL	45 dBA CNEL
Schools		
Classroom	70 dBA CNEL	45 dBA L_{eq}
Playground	70 dBA CNEL	-
Libraries	-	45 dBA L_{eq}
Hospitals/Convalescent Facilities		
Sleeping Areas	65 dBA CNEL	45 dBA CNEL
Living Areas	-	50 dBA CNEL
Reception, Office	-	50 dBA CNEL
Hotels/Motels		
Sleeping Areas	-	45 dBA CNEL
Reception, Office	-	50 dBA L_{eq}
Places of Worship	65 dBA CNEL	45 dBA L_{eq}
Open Space/Recreation		
Wildlife Habitat	60 dBA CNEL	-
Passive Recreation Areas	65 dBA CNEL	-
Active Recreation Areas	70 dBA CNEL	-
Commercial and Business Park		
Office	-	55 dBA L_{eq}
Restaurant, Retail, Service	-	65 dBA L_{eq}
Warehousing/Industrial	-	70 dBA L_{eq}

dBA: A-weighted decibels; L_{eq}: equivalent noise level; CNEL: Community Noise Equivalent Level.
Source: Arcadia Noise Element of the General Plan, Table N-2 (Arcadia 2010a).

Municipal Code

The AMC (Article IV, Chapter 6, Noise Regulations) is the City's Noise Ordinance. As stated in the AMC, "It is hereby declared to be the policy of the City to prohibit unnecessary, excessive, and annoying noises from all sources subject to its police power. At certain levels, noises are detrimental to the health and welfare of the citizenry, and, in the public interests, such noise levels shall be systematically proscribed." The following sections of the Noise Ordinance are applicable to the Project:

Article IV, Chapter 6 – Noise Regulations, Part 1.
4610.3. – Noise Limits.

(a) It shall be unlawful for any person within the City of Arcadia to produce or cause or allow to be produced sound or noise which is amplified by the use of sound amplifying equipment and which amplified noise or sound is received on property occupied by another person within the designated region, in excess of the following levels (shown in Table 23 on the following page), except as expressly provided otherwise or exempted hereinafter:

TABLE 23
STATIONARY SOURCE NOISE LIMITS

Region	Day 7:00 AM to 10:00 PM	Night 10:00 PM to 7:00 AM
Residential Zone	55 dBA	50 dBA
Commercial Zone	65 dBA	60 dBA
Industrial Zone	70 dBA	70 dBA
dBA: A-weighted decibels.		
Source: Arcadia Municipal Code, Chapter 6.		

Article IV, Part 6. – Nighttime Construction

4261. – Prohibited Hours Defined

The term "prohibited hours" as used in this Part shall mean any time after the hour of 6:00 PM of any weekday; any time before the hour of 7:00 AM of any weekday; any time after the hour of 5:00 PM of any Saturday; any time before the hour of 8:00 AM of any Saturday; any time on any Sunday; and any time on any of the following holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day; and Christmas Day, provided that if in any calendar year any such holiday falls on a Sunday, the following Monday shall constitute the holiday.

4262. – Construction Limited

Unless a permit to do so has first been obtained as provided in Section 4263, no person shall during prohibited hours engage in any earth excavation, land fill or earth moving operation or in the construction of any portion of a building or structure, nor shall any person during prohibited hours use or operate any truck, tractor, crane, rig or any mechanical equipment of any kind in connection with, in the performance of or in furtherance of any of the foregoing.

4263. - PERMIT

Any person desiring a permit to do any act described in Section 4262 during prohibited hours may make application to the Superintendent of Building and Safety for a permit therefor. No such permit shall be granted unless the applicant therefor submits proof of special circumstances establishing that the performance of any such act during prohibited hours is by its very nature necessary, or that the public welfare of the City or of the community will be better served by the performance or such activities during prohibited hours, or that the location for which a permit is requested is so far removed from occupied buildings that the public welfare and convenience will not be adversely affected by the performance of any such work during prohibited hours. Mere financial hardship or loss shall not of itself constitute sufficient proof of necessity to warrant the issuance of a permit under this Section.

4630.2. – Noise. Gardening and Landscaping

No person shall operate any mechanical equipment related to the gardening and/or landscaping of any property within a residential zone other than from seven (7) AM to seven (7) PM, Monday through Saturday, and from nine (9) AM to five (5) PM on Sundays within all residential zones; provided, however, that use of mechanical equipment for tree trimming on Sundays shall be prohibited. (Added by Ord. 2246 adopted 10-7-08)

3.13.2 PROJECT IMPACTS

Impact Discussion

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction (Temporary) Noise Generation

Less than Significant Impact. Temporary noise increases associated with the Project would occur during the construction phase. Article IV, Chapter 6, Noise Regulations of the AMC is the City's Noise Ordinance, as described above. Construction activities are anticipated to involve demolition of existing structures and pavement, grading and excavation for parking, utilities and building foundations, and building construction. Construction activities are anticipated to start in 2026 and finish in 2028. All construction activities would occur within the hours specified by the Noise Ordinance.

During the demolition and grading activities, trucks are expected to enter and leave the Project site on a regular basis during working hours. Table 24 lists the anticipated number of truck trips associated with each construction phase. The number of truck trips traveling along the City-designated truck routes would vary daily depending on the nature of the construction activity at the site. It is anticipated that the trucks would use Santa Anita Avenue and travel to the 210 freeway which is approximately half-a-mile away to the north. Santa Anita Avenue has approximately 1,400 average daily trips per hour. The addition of up to 17 haul truck trips per hour would not result in a substantial change in noise levels along Santa Anita Avenue. Thus, this impact would be less than significant.

TABLE 24
TRUCK HAULING QUANTITIES

Construction Phase	Hauling Quantity (cubic yards)	Truck Loads	Truck Capacity	Duration (Days)	Hourly Truck Trips
Demolition	4,900	315	16	15	5
Site Preparation	70	5	14	5	<1
Shoring	350	35	10	22	<1
Grading	44,520	4,452	10	66	17
Based on responses to a data request provided to the Applicant/Property Owner.					

In typical construction projects (such as the Project), demolition and grading activities generate the highest noise levels since these phases involve use of the largest equipment. During demolition and grading, persons in the immediate vicinity of the construction site would experience short-term noise impacts related to the operation of heavy construction equipment such as bulldozers, excavators, and dump trucks. Noise levels would fluctuate depending on equipment type, duration of use, and distance between noise source and receiver. The operation of heavy equipment may occur adjacent to existing commercial buildings.

Local commercial, fraternal, and recreational uses would be subject to elevated noise levels due to the operation of Project-related construction equipment. Construction activities are carried out in discrete steps, each of which has its own mix of equipment and, consequently, its own noise

characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Construction noise levels reported in the USEPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* were used to estimate future construction noise levels for the Project (USEPA 1971).

Typically, the estimated construction noise levels are governed primarily by equipment that produces the highest noise levels. Construction noise levels for each generalized construction phase (ground-clearing/demolition, excavation, foundation construction, building construction, paving, and site cleanup) are based on a typical construction equipment mix for this type of project and do not include the use of atypical, very loud, and/or vibration-intensive equipment (e.g., pile drivers). According to the Project Applicant, Project construction would utilize equipment such as backhoes, excavators, bulldozers, augers, cranes, and track loaders, which are typical of infill construction projects in urban areas.

The degree to which noise-sensitive receptors are affected by construction activities depends heavily on their proximity. Estimated noise levels attributable to the development of the Project are shown in Table 25, Construction Noise Levels at Noise-Sensitive Uses, and calculations are included in Appendix G, Noise Calculations.

TABLE 25
CONSTRUCTION NOISE LEVELS AT NOISE-SENSITIVE USES

	Noise Levels (L_{eq} dBA)							
	North - Commercial Use		West - Elks Lodge		South - Arcadia County Park		East – Commercial Use	
Construction Phase	Max (60 ft)	Avg (240 ft)	Max (10 ft)	Avg (170 ft)	Max (95 ft)	Avg (305 ft)	Max (110 ft)	Avg (230 ft)
Ground Clearing/ Demolition	82	70	98	73	78	68	77	71
Excavation	77	65	93	68	73	63	72	66
Foundation Construction	76	64	92	67	72	62	71	65
Building Construction	73	61	89	64	69	59	68	62
Paving and Site Cleanup	73	61	89	64	69	59	68	62

L_{eq} dBA: Average noise energy level; Max: maximum; avg: average; ft: feet
Note: Noise levels from construction activities do not take into account attenuation provided by intervening structures.
Source: USEPA 1971 (see Appendix G for Project-related noise calculations)

Table 25 shows both the maximum and average noise levels for construction equipment activity at the distances shown for each land use. In Table 25, maximum noise levels represent the noise generation from a mix of construction equipment operating nearest to the noise sensitive use/receptor. Average noise levels represent the noise exposure to sensitive uses based on the distance to the center of the Project site. Noise levels from general Project-related construction activities would range from 68 to 98 dBA L_{eq} for the maximum noise levels and 59 to 73 dBA L_{eq} for the average noise levels. Although no sensitive receptors occur near the Project construction site, some construction activities would generate an increase in the ambient noise level experienced at nearby properties including adjacent commercial, fraternal, and recreational properties.

For comparison, the noise generation measured on the site from traffic on Huntington Drive ranged from approximately 54 to 81 dBA, which overlaps much of the estimated construction

noise levels. Exhibit 17, provided above, also provides context for these noise levels against common, everyday events and activities. As noted above, Project construction would not entail the use of unusually loud or vibration-intensive equipment to implement the Project. Construction of the Project would be implemented to comply with Section 4261 of the AMC, which establishes restrictions related to construction activities. This includes limiting construction noise generation to the least noise-sensitive portions of the day (i.e., 7:00 AM–6:00 PM Monday through Friday and 8:00 AM–5:00 PM Saturday) consistent with Section 4261 of the AMC. The ambient noise level during construction activities would fluctuate over the course of each workday as well as based on distance and relative location from the site. Noise attenuation, or reduction, provided by distance from the construction area would further limit the ambient noise level increase experienced by the surrounding land uses. For these reasons, construction noise generation would not be considered a substantial temporary increase in ambient noise levels in the vicinity of the Project and would not be in excess of standards established by City of Arcadia (i.e., Section 4261 of the AMC). Therefore, the Project would result in less than significant construction noise impacts, and no mitigation is required.

Operational (Permanent) Noise Generation

Permanent sources of noise associated with the Project involves vehicle trips traveling to and from the Project site, property maintenance activities (landscaping), and mechanical sources of noise.

Noise Generated by Project-Related Traffic

Less than Significant Impact. In community noise assessments, a 3-dBA increase is considered "barely perceptible," and increases over 5 dBA are generally considered "readily perceptible" (Caltrans 2009). Operation of the Project would displace traffic generated by existing uses. The difference between vehicle trips generated by existing and Project uses is 867 net new trips per day, with 75 net new trips during the AM peak hour and 67 net new trips in the PM peak hour (refer to Section 3.17, Transportation, for further information). The corresponding increase in off-site traffic noise would range from 0.0 to 1.9 dBA for the analyzed roadway segments proximate to the Project site. Table 26, Existing and Projected Traffic Noise Levels, on the following page summarizes the noise increase from the Project's net traffic generation. Thus, the traffic noise increases are below the 5 dBA noise increase threshold and would also not be perceptible or substantial. The impact on traffic noise levels would be less than significant, and no mitigation is required.

Noise Generated by On-Site Sources

Less than Significant Impact. The primary on-site noise sources generated by operation of the Project would be HVAC equipment, landscape maintenance, and trash collection, similar to the existing conditions. Noise generated by HVAC equipment is regulated by the Section 4610.3(c), which requires that noise exposure at offsite residential uses not exceed 55 dBA. For maintenance and landscaping activities, Section 4630.2 of the AMC limits activities to the hours of 7:00 AM and 7:00 PM Monday through Saturday, and from 9:00 AM to 5:00 PM on Sundays within all residential zones; provided, however, that use of mechanical equipment for tree trimming on Sundays shall be prohibited. Activities associated with maintenance of property would comply with Section 4630.2 of the AMC. There would be a less than significant noise impact, and no mitigation is required.

TABLE 26
EXISTING AND PROJECTED TRAFFIC NOISE LEVELS

Roadways		Existing Traffic		Future No Project		Future With Project		Project Noise Increase	Cumulative Plus Project Noise Increase
		ADT	*dBA CNEL*	*ADT*	*dBA CNEL*	*ADT*	*dBA CNEL*	*dBA CNEL*	*dBA CNEL*
Santa Anita Avenue	north of Morlan Place	14,200	70.9	15,580	71.3	15,710	71.3	0.0	0.4
	south of Morlan Place	14,190	70.9	15,510	71.3	15,530	71.3	0.0	0.4
Morlan Place	west of Santa Anita Ave	930	59.0	930	59.0	1,120	59.8	0.8	0.8
	east of Santa Anita Ave	1,640	61.5	2,340	63.0	2,340	63.0	0.0	1.5
Santa Anita Avenue	north of Huntington Drive	14,120	70.9	15,460	71.2	15,540	71.3	0.0	0.4
	south of Huntington Drive	20,470	72.5	21,600	72.7	21,750	72.7	0.0	0.3
Huntington Drive	west of Santa Anita Ave	24,240	73.1	26,060	73.4	26,360	73.5	0.0	0.4
	east of Santa Anita Ave	20,920	72.5	22,330	72.8	22,560	72.8	0.0	0.3
Huntington Drive	west of South Driveway	24,240	73.1	26,050	73.4	26,170	73.5	0.0	0.3
	east of South Driveway	24,240	73.1	26,050	73.4	26,350	73.5	0.0	0.4
Morlan Place	west of North Driveway	805	58.4	810	58.4	1,010	59.4	1.0	1.0
	east of North Driveway	805	58.4	810	58.4	1,250	60.3	1.9	1.9
Santa Anita Avenue	north of Morlan Place	14,200	70.9	15,580	71.3	15,710	71.3	0.0	0.4
	south of Morlan Place	14,190	70.9	15,510	71.3	15,530	71.3	0.0	0.4

ADT: average daily traffic volume. CNEL: Community Noise Equivalent Level

Note: Noise levels calculated from the FHWA's RD-77-108 Traffic Noise Prediction Model Source: FHWA 1978, see Appendix G for noise calculations.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant With Mitigation. Construction of the Project would involve use of vibration-generation equipment. There are no applicable City standards for structural damage from vibration. The California Department of Transportation (Caltrans) vibration damage potential guideline thresholds are shown in Table 27, Vibration Damage Threshold Criteria.

TABLE 27
VIBRATION DAMAGE THRESHOLD CRITERIA

Structure and Condition	Maximum ppv (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

ppv: peak particle velocity; in/sec: inch(es) per second.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020.

The nearest structures to the Project site are the Elks Lodge located adjacent to the Project's western property line and the commercial uses further to the west. In terms of classifications in Table 27, the structures to the west are conservatively considered "Older residential structures" for purposes of this analysis. Though the existing uses are commercial buildings, the nearest offsite building to the west (Elks Lodge) is a wood-framed stucco building that has similar characteristics to older residential structures. Therefore, the criterion for a significant impact for continuous/frequency intermittent sources is 0.3 ppv inches per second for older residential structures.

The newer commercial structures to the north of the site are recently constructed and have been evaluated under the thresholds developed for "Modern industrial/commercial buildings". Similar to structural damage from vibration, there are no applicable standards in the AMC for human annoyance from construction vibration. The Caltrans vibration annoyance potential guideline thresholds are shown in Table 28, Vibration Annoyance Criteria, on the following page. Based on the guidance in Table 28, the "strongly perceptible" vibration level of 0.9 ppv in/sec is used in this analysis as the threshold for a potentially significant vibration impact for human annoyance.

TABLE 28
VIBRATION ANNOYANCE CRITERIA

Average Human Response	ppv (in/sec)
Severe	2.000
Strongly perceptible	0.900
Distinctly perceptible	0.240
Barely perceptible	0.035
ppv: peak particle velocity; in/sec: inch(es) per second. Source: Caltrans 2020.	

Conventional construction equipment would be used for demolition and grading activities, with no pile driving or blasting equipment. Table 29, Vibration Levels for Construction Equipment summarizes typical vibration levels measured during construction activities for various vibration-inducing equipment at a distance of 25 feet.

TABLE 29
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	ppv at 25 ft (in/sec)
Vibratory roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003
ppv: peak particle velocity; ft: feet; in/sec: inches per second. Source: Caltrans 2020.	

Demolition, grading, and construction would occur up to the property lines and, as noted above, off-site land uses are relatively close to the property lines. Table 30, Vibration Levels and Annoyance Criteria at Sensitive Uses, on the following page shows the estimated vibration levels from construction activity compared to the annoyance criterion (i.e., 0.9 ppv at land uses proximate to the Project site.

TABLE 30
VIBRATION LEVELS AND ANNOYANCE CRITERIA AT SENSITIVE USES

	Vibration Levels (ppv)			
	North - Commercial Use	**West – Elks Lodge**	**South – Arcadia County Park**	**East – Commercial Use**
Equipment	**(ppv @ 85 ft)**	**(ppv @ 10 ft)**	**(ppv @ 1,070 ft)**	**(ppv @ 115 ft)**
Vibratory roller	0.03	0.83	0.00	0.02
Caisson Drill	0.01	0.35	0.00	0.01
Large bulldozer	0.01	0.35	0.00	0.01
Small bulldozer	0.00	0.01	0.00	0.00
Jackhammer	0.01	0.14	0.00	0.00
Loaded trucks	0.01	0.30	0.00	0.01
Annoyance Criteria	**0.9**	**0.9**	**0.9**	**0.9**
Exceeds Criteria?	No	No	No	No

ppv: peak particle velocity; Max: maximum; avg: average; ft: feet
Source: Caltrans 2020, calculations can be found in Appendix G.

As shown in Table 30, ppv would not exceed the annoyance criteria threshold when construction activities occur under maximum (e.g., closest to the receptor) exposure conditions. These vibration levels represent conditions when construction activities occur closest to receptor locations. Construction-related vibration would be substantially less under average conditions when construction activities are located further away. Because vibration levels would be below the applicable thresholds, vibration generated by the Project's construction equipment would not be expected to generate strongly perceptible levels of vibration at the nearest uses. There would be less than significant impacts related to vibration annoyance, and no mitigation is required.

Table 31, Building Damage Criteria at Sensitive Uses, shows the estimated vibration levels from construction compared to the building damage criteria from construction activity at land uses proximate to the Project site.

TABLE 31
VIBRATION LEVELS AND BUILDING DAMAGE CRITERIA AT SENSITIVE USES

	Vibration Levels (ppv)			
	North - Commercial Use	West – Elks Lodge	South – Arcadia County Park	East – Commercial Use
Equipment	**(ppv @ 85 ft)**	**(ppv @ 10 ft)**	**(ppv @ 1,070 ft)**	**(ppv @ 115 ft)**
Vibratory roller	0.03	**0.83**	0.00	0.02
Caisson Drill	0.01	**0.35**	0.00	0.01
Large bulldozer	0.01	**0.35**	0.00	0.01
Small bulldozer	0.00	0.01	0.00	0.00
Jackhammer	0.01	0.14	0.00	0.00
Loaded trucks	0.01	**0.30**	0.00	0.01
Building Damage Criteria	**0.5**	**0.3**	**0.5**	**0.3**
Exceeds Criteria?	No	**Yes**	No	No

ppv: peak particle velocity; Max: maximum; avg: average; ft: feet
Note: Calculations can be found in Appendix G.
Source of vibration criteria: Caltrans 2020.

As shown in Table 31, all vibration levels would be below the building damage criteria at adjacent off-site structures except for loaded trucks, vibratory rollers, caisson drills, and large bulldozers at the Elks Lodge building to the west. Therefore, MM NOI-1 specifies the minimum distance from this off-site building that the construction contractor may operate these three types of construction equipment. Specifically, vibratory rollers shall operate a minimum of 25 feet from the building face and loaded trucks, caisson drills, and large bulldozers shall operate a minimum of 15 feet from the building. Table 32, Mitigated Construction Vibration Levels at the Nearest Land Use, shows the estimated vibration levels from these four types of equipment at the minimum distances specified in MM NO-1. As shown in Table 32, estimated vibration levels from this equipment would be below the building damage criteria with implementation of MM NOI-1. Potential impacts associated with cosmetic structural damage would be less than significant.

TABLE 32
MITIGATED CONSTRUCTION VIBRATION LEVELS AT THE NEAREST LAND USE

Equipment	Vibration Levels (ppv)	
	West – Elks Lodge (ppv @ 25 ft)	West – Elks Lodge (ppv @ 15 ft)
Vibratory roller	0.21	N/A
Caisson Drill	N/A	0.19
Large bulldozer		0.19
Loaded trucks		0.16
Building Damage Criteria	**0.3**	**0.3**
Exceeds Criteria?	No	No

ppv: peak particle velocity; ft: feet; N/A: not applicable
Note: Calculations can be found in Appendix G.
Source of vibration criteria: Caltrans 2020.

With implementation of MM NOI-1, vibration generated by construction equipment would at levels that would avoid cosmetic building damage to off-site buildings when operated beyond the distances specified in MM NOI-1. As a result, potential impacts related to vibration are anticipated to be less than significant with mitigation.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is not located within 2.0 miles of an airport. There are no private airstrips in the Project area or in the City. The nearest public airport is the San Gabriel Valley Airport, which is located 3.5 miles south of the Project site. The Project site is not located within the planning areas (including the Runway Protection Zones, Safety Compatibility Zones, and Airport Impact Zones) for these airports. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels from airport operations. There would be no impact related to excessive airport noise levels, and no mitigation is required.

3.13.3 MITIGATION MEASURES

MM NOI-1 The Project Applicant/Property Owner shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition.

Implementation of MM NOI-1 would reduce impacts related to vibration to a less than significant level during Project construction.

3.14 POPULATION AND HOUSING	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 ENVIRONMENTAL SETTING

As of January 2022, the City of Arcadia had a population of 55,918 persons and a housing stock consisting of 20,619 dwelling units (DOF 2022). The California Employment Development Department estimates the February 2019 labor force for the City of Arcadia at 28,700 persons, of which 1,200 persons (4.1 percent) are unemployed (EDD 2023). The Project site includes a total of 11 existing commercial buildings and associated surface parking lots.

3.14.2 PROJECT IMPACTS

Regulatory Requirements

None required.

Impact Discussion

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new units and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact. The Project is not anticipated to generate substantial unplanned population growth. Using an estimate of 2.83 persons per dwelling unit for residential development (DOF 2022), the 181-unit Project would generate approximately 512 residents. It is unlikely that all the Project residents would be new residents to the City as some current City residents would likely relocate to the Project site. However, for purposes of providing a conservative analysis, it is assumed that the Project would result in an increase of 512 residents to the City. This additional population would represent approximately 0.92 percent of the current City of Arcadia population estimate of 55,918 persons for the year 2022, and approximately 0.82 percent of the projected population of 62,200 persons by 2045 (SCAG 2020). A population increase of approximately 0.82 percent would not be considered substantial unplanned population growth. Additionally, as stated above in Section 3.11, Land Use and Planning, the Project would be consistent with the zoning and planned use of the Project site with incorporation of a Conditional Use Permit, as multi-family dwellings require a CUP in the DMU zone in the City's downtown.

The proposed ground floor space would consist of up to 13,130 sf of commercial space. Because the specific tenants are not yet identified, the exact number of employees anticipated for the Project's retail uses at full occupancy is not known. Based on an employee generation factor for Los Angeles County from the *Employment Density Study Summary Report* prepared for the

Southern California Association of Governments (SCAG) of 1 employee per 424 sf of retail/service land uses, a total of approximately 31 jobs may be generated by the Project (SCAG 2001).

As such, a generation of 31 additional jobs is a negligible increase in new jobs when compared to the total existing and projected jobs in the County or the City of Arcadia. Specifically, this additional employment would represent approximately 0.11 percent of the current City of Arcadia population estimate of 28,700 positions as of June 2023 (EDD 2023), and approximately 0.09 percent of the projected employment of 36,100 positions by 2045 (SCAG 2020). Also, the unemployment rate in Los Angeles County is 5.3 percent and in the City of Arcadia is 4.1 percent, or 1,200 positions as of June 2023 (EDD 2023). Also, additional jobs would be created associated with the proposed residential units in addition to the retail jobs, which would include a limited number of leasing and maintenance employees.

It is expected that the positions generated by the Project would involve opportunities that would be found in the large and diverse Southern California demographic and would not offer an opportunity unique enough to encourage relocation from outside the region. Further, the majority of new employment positions generated by the Project are the type that may be filled by the local labor force in the City of Arcadia and surrounding municipalities based on the type of positions and the existing unemployment rate in the region. There would not be substantial indirect population growth as a result of the employment generated by the Project. There would be a less than significant impact, and no mitigation is required.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project would result in a -mixed-use development, including accommodations for approximately 512 residents and would not require the demolition of any existing residential structures. Therefore, implementation of the Project would not displace existing housing or people and would not require the construction of replacement housing. There would be no impact, and no mitigation is required.

3.14.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to population or housing; therefore, no mitigation measures are required.

3.15 PUBLIC SERVICES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
ii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

3.15.1 ENVIRONMENTAL SETTING

Fire protection for the Project area is provided by the City of Arcadia Fire Department. As of 2023, the Arcadia Fire Department has 59 full-time employees (not including reserve firefighters, temporary employees, ambulance operators, and volunteers). The Arcadia Fire Station that would respond to calls in the area of the Project site is Station 105, which is located at 710 South Santa Anita Avenue, approximately one mile south of the Project site. Station 105 has daily staffing of nine personnel, including one battalion chief, two fire captains, two engineers, two firefighter paramedics, and two firefighters. If units from Station 105 are committed to an incident, resources from neighboring stations and/or jurisdictions may be required to response to the Project site. As of 2018, the average response time for Fire Station 105 was 5.48 minutes (Spriggs 2019).

Police protection for the Project site is currently provided by the Arcadia Police Department, which is located at 250 Huntington Drive, approximately 0.7 miles southwest from the Project site. Additionally, the Los Angeles County Sheriff's Department serves the Arcadia area from the Temple Station located at 8838 Las Tunas Drive in Temple City. The Arcadia Police Department currently has 97 full time police employees. The department's response time was 2 minutes and 54 seconds as of the last study conducted in 2015 (Torrico 2019).

The Project site is located in the Arcadia Unified School District (AUSD), and residents of the Project would be served by Holly Avenue Elementary School, First Avenue Middle School, and Arcadia High School.

The Project site is currently developed with eleven commercial structures, which may generate a limited demand for libraries and parks. The nearest library is the City of Arcadia Public Library located at 20 West Duarte Road, approximately 0.9 mile to the south of the Project site. The nearest parks are the Arcadia Regional Community Park, located 0.2 miles south of the Project site, and Newcastle Park located at 143 Colorado Boulevard approximately 0.5 mile north of the Project site.

3.15.2 PROJECT IMPACTS

Regulatory Requirements

RR PUB-1 The Project Applicant/Property Owner shall comply with all applicable codes, ordinances and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy.

RR PUB-2 In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.

RR PUB-3 Prior to issuance of the building permit, the Project Applicant/Property Owner shall pay new development fees to the AUSD pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Project Applicant/Property Owner can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit.

RR PUB-4 In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.

Impact Discussion

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?

Less Than Significant Impact. As discussed above, fire protection services for the Project site would be provided by the City of Arcadia Fire Department, and Station 105 is the nearest station to the Project site. The Project would require fire protection services, including administrative tasks

associated with approval and construction of the Project (e.g., building plan check) and response to fire service calls once the Project is occupied. The City has established a Fire Protection Facilities Impact Fee and authorized the collection of development impact fees to provide a funding source for capital and infrastructure costs required to maintain acceptable life safety and fire protection services throughout the City. Pursuant to Council Resolution 7492, effective July 2, 2023, the City's fire protection facilities impact fee is $0.35 per square foot for residential uses, which would apply to the Project's 181 residential units; and $1.91 per square foot for commercial uses, which would apply to the Project's 13,130 sf of ground floor commercial.

Based on coordination with the City's Fire Department, the increase in demand for fire protection services is not expected to independently require the construction of new or alteration of existing fire protection facilities to maintain an adequate level of fire protection service to the Project area. Accordingly, no physical impacts associated with the provision of fire protection services would occur and no mitigation is required. Compliance with fire protection design standards during Project-specific site planning and construction design processes (RR PUB-1) and payment of required fire protection facilities impact fees (RR PUB-2) would ensure that the Project would not inhibit the ability of fire protection or paramedic crews to respond at optimum levels. Therefore, impacts would be less than significant, and no mitigation is required.

ii) Police protection?

Less Than Significant Impact. Police protection services for the Project site are provided by the Arcadia Police Department, located approximately 0.7 miles from the Project site. The City participates in a mutual aid program with Los Angeles County Sheriff's Department at various levels, which provides back-up support to member departments as needed.

Construction of the proposed 181 residential units would result in approximately 512 new residents and the proposed 13,130 sf of proposed commercial on the Project site would collectively increase the demand for police protection services in the City. As population and commercial activity increases, the demand for police services in the City also increases. Although the relatively small number of new residents and commercial activity is not anticipated to generate the need for new sworn officers, the Project would require police protection services, including administrative tasks associated with approval and construction of the Project (e.g., building plan check) and response to police service calls once the Project is occupied. This increase in demand for police protection services would not require the construction of new or alteration of existing police department facilities to maintain an adequate level of service to the Project area. Therefore, no physical impacts associated with the provision of police protection services would occur, impacts would be less than significant and no mitigation is required.

iii) Schools?

Less Than Significant Impact. The Project site is within the AUSD, which offers an open enrollment policy to City residents. The proposed 181 residential units are estimated to generate approximately 33 students in grades K-5, 20 students in grades 6-8, and 26 students in grades 9--12.[7]

Senate Bill (SB) 50 (Leroy Green School Facilities Act), enacted in 1998, established a comprehensive program for funding school facilities based on 50 percent funding from the State and 50 percent funding from local districts, while limiting the obligation of developers to mitigate

[7] Student generation rates were provided during a phone conversation with Connie Chu of the Arcadia Unified School District on 4/8/2019. Student generation rates are currently calculated by the District to be 0.181 students per occupied dwelling unit for Grades K-5, 0.108 students per occupied dwelling unit for Grades 6-8, and 0.141 students per occupied dwelling unit for Grades 9-12.

the impact of projects on school facilities. Except in very limited circumstances prescribed by statute, Section 65995 of the California Government Code establishes the statutory criteria for assessing construction fees for school facilities. The legislation recognizes the need for the fees to be adjusted periodically to keep pace with inflation; therefore, the State of California Department of General Services State Allocation Board increases the maximum fees according to the adjustment for inflation in the Statewide cost index for Class B[8] construction. The AUSD has adopted impact fees for new residential uses pursuant to SB 50.

The payment of school mitigation impact fees authorized by SB 50 is deemed to provide "full and complete mitigation of impacts" on school facilities from the development of real property (California Government Code Section 65995). SB 50 provides that a State or local agency may not deny or refuse to approve the planning, use, or development of real property based on a developer's refusal to provide mitigation in amounts in excess of that established by SB 50.

With payment of school fees or execution of a facility and funding agreement between the Applicant/Property Owner and the school district(s) as required by RR PUB-3, potential impacts to schools would be less than significant and no mitigation is required.

iv) Parks?

Less Than Significant Impact. As specified in Article II, Chapter 5, Part 3, Division I of the AMC, the City has established a Park Facilities Impact Fee Program and authorized the collection of development impact fees to provide a funding source from new development for parks to serve new development. Pursuant to Council Resolution 6602 as codified in Article IX, Chapter 1, Division 5, Section 9105.15.040 of the Development Code, effective March 14, 2008, the City's park facilities impact fee is $3.73 per square foot for multifamily projects, which would apply to the Project's 181 residential units. Also, the City requires 100 sf per unit minimum open space for residential uses in the DMU zone, which results in a required minimum of 18,100 sf of open space for the 181 proposed residential units. Per the AMC, open space may be in the form of private or common open space via balconies, courtyards, at-grade patios, rooftop gardens, and/or terraces. The Project includes 39,713 sf of open space, which is approximately 2.2 times more than the amount of open space that is required for the Project. Exhibit 15, and Exhibits 16a through 16h, illustrate the public and private open spaces that would be provided as part of the Project, as discussed in Section 2.0.

The increase in Project residents and employees would increase the demand on public parks and recreational facilities in the nearby vicinity. However, because the Project results in a relatively small number of new residents and employees to the City's existing population and provides on-site recreational amenities, the increased use of existing public park facilities would not be at a level that would result in a substantial deterioration of existing facilities or require the need for new or physically altered facilities.

Additionally, the Project Applicant/Property Owner would be required to pay the park facilities impact fee applicable at the time building permits are issued. Although the Project's impacts to City of Arcadia park facilities would be less than significant, payment of required park facilities impact fees would further reduce any potential impacts on City parks and recreational facilities associated with the increased demand and use of the facilities (RR PUB-4). Therefore, less than significant impacts would result from the Project, and no mitigation is required.

[8] The Office of Public School Construction defines Class B construction as buildings constructed primarily of reinforced concrete, steel frames, concrete floors, and roofs.

v) Other public facilities?

Less than Significant Impact. Implementation of the Project would increase the demand for library services; however, the Project would not result in the need for the construction of new or expanded library facilities. No physical environmental impacts would result, and no mitigation is required.

3.15.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to public services; therefore, no mitigation measures are required.

3.16 RECREATION	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would/does the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

3.16.1 ENVIRONMENTAL SETTING

There are various County and City parks and recreational facilities in the Project area. Table 33, Parks and Recreational Facilities Within a half-mile of the Project Site, summarizes the eight park and recreational facilities located in the Project site vicinity (Arcadia 2010a).

TABLE 33
PARKS AND RECREATIONAL FACILITIES WITHIN A HALF-MILE OF THE PROJECT SITE

Name (Location)	Size (acres)	Distance from Site (miles)	Type	Facilities
Arcadia Community Regional Park (405 S Santa Anita Ave)	52	0.2	County Park and Facility	Baseball diamonds, bowling greens, play areas, community room, open field, swimming pool, tennis courts
Santa Anita Golf Course (405 S Santa Anita Ave)	147	0.4	County Park and Facility	18-hole golf course
First Avenue Middle School (301 S. First Ave)	3.30	0.4	Joint-Use Park and Facility	3.3 acres of basketball courts and open field
Newcastle Park (143 Colorado Blvd)	2.64	0.5	Neighborhood Park	Tennis courts, handball courts, sand volleyball courts, play area, picnic sites
Civic Center Athletic Field (240 W Huntington Dr)	2.24	0.7	Special Park	Open field for soccer, bleachers
Eisenhower Park and Dog Park (Second Ave and Colorado Blvd)	5.39	0.8	Neighborhood Park	Baseball field, bleachers, batting cage, game courts and fields, picnic shelter, play area, dog park
Bonita Park and Skate Park (Second Ave and Bonita St)	3.38	0.8	Special Park	Baseball diamond, bleachers, batting cage, picnic sites, play area, skate park
Forest Avenue Park (132 Forest Ave)	0.26	1.0	Mini Park	Picnic sites
Source: Arcadia 2010a.				

In addition to the facilities discussed above, the following open space and park areas also serve the residents of the City: the Los Angeles County Arboretum and Botanical Gardens (127 acres); the Arcadia Wilderness Park (120 acres); the Arcadia Par-3 Golf Course (25.8 acres); and the Peck Road Water Conservation Park (120 acres).

The Angeles National Forest is located in the San Gabriel Mountains just north of the City. This National Forest has a natural environment, offering scenic views, with developed campgrounds, picnic areas, and opportunities for swimming, fishing, and skiing. Walking and hiking trails wind throughout the forest for use by hikers, equestrians, mountain bikers, and off-highway vehicle enthusiasts.

3.16.2 PROJECT IMPACTS

Regulatory Requirements

Refer to RR PUB-4 in Section 3.15, Public Services.

Impact Discussion

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact. Project implementation would lead to an increase in the population within the City by approximately 512 residents. These residents would increase demand for parks and recreational facilities and are likely to use proposed recreational amenities on the Project site, existing parks, and other recreational facilities in the City, especially those that are immediately surrounding the Project including Newcastle Park and Arcadia Community Regional Park. The City's Parks and Recreation Master Plan would continue to be implemented for the improvement of existing parks and recreational facilities, as well as the development of new facilities to meet City needs. As stated in RR PUB-4, the Project Applicant/Property Owner would be responsible for paying park facilities impact fees for the development of new or expanded park facilities in the City.

Improvement and expansion of existing parks and facilities would be made through implementation of the Parks and Recreation Master Plan, supported through payment of park facilities impact fees by new residential development, including the subject Project. These improvements would reduce the use and accompanying deterioration that may occur on existing park facilities due to the increase in the City's resident population. With implementation of RR PUB-4, impacts from the increased use of parks and recreational facilities by implementation of the Project would be less than significant. No mitigation is required.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Less than Significant Impact. As described in Section 2.2, Project Description, the Project would include plazas and outdoor areas including courtyards, a swimming pool, spa, large artificial turf area, barbeque grills with counter space, additional seating areas, decorative paving, skydecks and landscaping that would be available for use by residents. These areas would be on the Project site and the physical impacts resulting from the construction of these facilities have been addressed through the impact analysis presented throughout this IS/MND. Impacts would be less than significant, and no mitigation is required.

3.16.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to recreation; therefore, no mitigation measures are required.

3.17 TRANSPORTATION	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☒	☐	☐

Unless otherwise noted, the information presented in this section is based on the *Traffic Impact Study for the Arcadia Town Center Project* (Traffic Study) prepared by Psomas and dated September 2024 (Psomas 2024, Appendix H). The Traffic Study was prepared in accordance with the *City of Arcadia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment.*

3.17.1 ENVIRONMENTAL SETTING

Regional and Local Vehicle Access

Interstate (I) 210 (Foothill Freeway) provides regional access to the Project site via the on- and off-ramps at both Santa Anita Avenue and Huntington Drive. Local access is provided by Huntington Drive, which is a four-lane divided road with dedicated turn lanes and located to the south; Santa Anita Avenue, which is a four-lane divided road with dedicated turn lanes and located to the east; Morlan Place, which is a two-lane road connecting Huntington Drive and Santa Anita Avenue located to the north; and Santa Clara Street, which is a four-lane undivided road with dedicated turn lanes, also located to the north. There are eight existing vehicular access points to the existing uses including four on Huntington Drive to the south, two on Santa Anita Avenue to the east, and two on Morlan Place to the north.

Pedestrian Access

There are existing sidewalks adjacent to the Project site, including a 10-foot-wide sidewalk along Huntington Drive, a 7-foot-wide sidewalk along Santa Anita Avenue, and a 5-foot-wide sidewalk along Morlan Place.

3.17.2 PROJECT IMPACTS

Regulatory Requirements

RR TRANS-1 Require the Applicant/Property Owner to contribute, on a cost-share basis, to the City's Transportation Impact Fee program, for any intersections affected by the Project, based on the net new PM Peak House vehicle trips generated, per the City's Transportation Impact Fee Program Update adopted on October 18, 2016.

Impact Discussion

a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, as discussed below.

RTP/SCS Consistency

The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The Connect SoCal incorporates local land use projections and circulation networks in city and county general plans. The 2020 RTP/SCS goals aim to:

(1) encourage regional economic prosperity and global competitiveness;

(2) improve mobility, accessibility, reliability, and travel safety for people and goods;

(3) enhance the preservation, security, and resilience of the regional transportation system;

(4) increase person and goods movement and travel choices within the transportation system;

(5) reduce greenhouse gas emissions and improve air quality;

(6) support healthy and equitable communities;

(7) adapt to a changing climate and support an integrated regional development pattern and transportation network;

(8) leverage new transportation technologies and data-driven solutions that result in more efficient travel;

(9) encourage development of diverse housing types in areas that are supported by multiple transportation options; (10) promote conservation of natural and agricultural lands and restoration of habitats (SCAG 2020).

Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS. As discussed in Section 3.11, Population and Housing, the proposed Project would result in approximately 512 residents, which would estimate approximately 0.82 percent of the 2045 SCAG estimate for the City's projected total population of 62,200 persons by 2045. Additionally, it is likely that the proposed residential units would accommodate a combination of existing residents and new residents that either currently work within the City and/or new residents that would be hired as a result of projected employment generation within the City, which would be consistent with the RTP/SCS.

In addition, the Project would facilitate a more balanced jobs-housing profile and, once constructed, would continue to support regional economic development. The Project site's vicinity is served by existing public transit and is located adjacent or up to within one-half mile of the Metro A Line Station, Foothill Transit bus lines 187 and 270, and Metro bus lines 179 and 287. Project development would increase transit accessibility of jobs and services within the Project site's vicinity and would provide an additional mix of residential and commercial development, thereby reducing travel demands for people. Therefore, the proposed Project would not conflict with the applicable goals in the RTP/SCS.

City of Arcadia General Plan

The proposed Project's consistency with the City of Arcadia General Plan is summarized in Section 3.11, Land Use and Planning. The Project is designed to implement the City's goals for the City's downtown by enhancing the street frontage, orienting the retail and publicly accessible components of the Project towards Huntington Drive and Santa Anita Avenue, and by providing additional pedestrian and bicycle facilities, such as bicycle parking and proximity to nearby transit facilities, as discussed in further detail below. The Project would not hinder the City's ability to provide an efficient roadway system that serves all transportation modes and balances the roadway system with planned land uses.

In addition, the Project site is located in an Enhanced Pedestrian Environment as identified in the Circulation Element of the City's General Plan (Arcadia 2010a). An Enhanced Pedestrian Environment is defined by the City as a focus area where the goal is to make streets friendlier to pedestrians and improve walkability in mixed use areas. Typical improvements that the City envisions in these zones may include wider sidewalks, ensuring sufficient space and clearance on sidewalks available for walking, improved lighting, seating, enhanced landscaping, shade trees, distinctive sidewalk paving, sidewalk bulb-outs or similar treatments at intersections where feasible, wider crosswalks, and pedestrian signage. Project design has incorporated several of these components, including sufficient space, improved lighting, seating, enhanced landscaping, shade trees, and distinctive sidewalk paving. Furthermore, the Project's orientation towards the streetscapes of Huntington Drive and Santa Anita Avenue would maintain and enhance pedestrian conditions in the Project vicinity.

The Project would support the City's goals to provide a connected, balanced, and integrated bicycle and pedestrian network by developing a mixed-use project that promotes pedestrian connectivity with the City and includes on-site improvements to facilitate circulation and community cohesion within the existing environment. Therefore, the Project would be consistent with the applicable goals and policies of the City's General Plan.

Transit, Bicycle and Pedestrian Facilities

The proposed Project would support transit, bicycle, and pedestrian circulation throughout the Project site and the surrounding environment and would not conflict with any plans or policies regarding existing or proposed transit, bicycle, and pedestrian facilities in the Project vicinity.

The Project would include bicycle parking as well as on-site improvements to support pedestrian connectivity with the City and nearby transit facilities. The Project would provide 40 long-term bicycle parking stalls and 3 short-term bicycle parking stalls. Both Metro and Foothill Transit provide bus service to and through the City as part of their regional systems. Three transit routes occur along Huntington Drive, and the site is located within 0.5 mile of the Metro A Line Station. The Project would not conflict with or result in the change of bus routes in the Project vicinity; therefore, the Project would not severely delay, impact, or reduce the service level of transit in the area.

The Project would enhance the street frontage and orient the retail and publicly accessible components of the Project towards the main thoroughfares. All residential units would be accessible from interior walkways that connect to the three elevators and four stairwells. The elevators would provide access to the basement parking garage, the ground floor, and all four levels of residential units. Sidewalks and other designated pathways would follow direct and safe routes from the external pedestrian circulation system to each building on the Project site. All pedestrian areas within the Project site would meet American Disability Act (ADA) requirements and adhere to the City's Design Guidelines and City Center Design Plan. Site

improvements include open space for future residents including playas, courtyards, skydecks, and landscaping areas.

The Project's setbacks are measured in addition to the ROW dedications.

Additionally, as part of Project implementation, the Project includes dedications to the City that would become part of the public ROW. On Santa Anita Avenue, 2.5 feet of sidewalk alongside the Jiffy Lube parcel and the 10-foot-wide sidewalk for the remaining frontage to Morlan Place would be dedicated. And on Huntington Drive, 18 inches of sidewalk along the entire frontage would be dedicated.

As stated above, the Project would not adversely affect, in a manner that conflicts with, an applicable program, plan, ordinance, or policy, addressing the performance of the circulation system, including public transit, roadway, bicycle or pedestrian facilities. Impacts would be less than significant, and no mitigation is required.

b) Would the project conflict or be inconsistent with the CEQA Guidelines Section 15064.3, subdivision (b)?

Less Than Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. The following VMT analysis is based on the City of Arcadia *Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* and OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA*.

The City's Guidelines provide VMT screening criteria that can be applied to the proposed Project to screen from a project-level VMT assessment, as discussed in the Project's Traffic Study (Psomas 2024, Appendix H). As discussed previously, the Project site is within one-half mile of the Metro A Line station and is therefore within a TPA. Per the City's Guidelines, projects located within a TPA may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project would have an FAR greater than 0.75, the vehicle parking provided would not exceed the amount required by the City, the Project would be consisting with the RTP/SCS, and would not replace affordable residential units with a smaller number of moderate or high income units. Also, consistent with City Public Works requirements, the Applicant/Property Owner would be required to contribute to the City's Transportation Impact Fee Program for any intersections affected by the Project, as defined in the approved Traffic Impact Study (RR TRANS-1). Therefore, the Project is presumed to have a less than significant impact on VMT, and no mitigation is required.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. Primary vehicular access to the Project's parking structure is proposed via entries accessible from Huntington Drive and Morlan Place. All vehicular access from the street leads to parking for visitors to the commercial areas and for residents and guests on the ground level. As shown on Exhibit 3, there is a through path on Level 1 between the Huntington Drive to Morlan Place entrances for commercial visitors. Vehicles would be able to leave the site via these same two driveways. Additionally, the proposed vehicle access point to the building at the sidewalk on Huntington Drive would be oversized to provide vehicles with expanded views of pedestrians on the sidewalk, thus reducing potential public safety hazards. There is one ramp to and from Level B1, the subterranean level with resident parking only. The Project driveways would be constructed to City of Arcadia standards.

The Project's circulation system, including parking areas, would be designed to meet the standards of the City and would not result in uses or design features that would create traffic hazards. The Project would not interfere with access, circulation, or activities at the surrounding land uses. Therefore, impacts would be less than significant, and no mitigation is required.

d) Would the project result in inadequate emergency access?

Less Than Significant With Mitigation. As discussed under Threshold 3.8(g) in Section 3.8, Hazards and Hazardous Materials, construction activities on the Project site have the potential to disrupt traffic and emergency access through temporary lane closures or traffic diversions. As required by MM TRANS-1, a Construction Management Plan shall be prepared in compliance with the MUTCD. Compliance with MM TRANS-1 would ensure that potential short-term impacts to emergency response plans or evacuation routes would be less than significant. Once construction activities that could impact surrounding roadways are completed, the roads would be returned to the previous condition and there would be no impacts. As required by MM TRANS-1, the Project Applicant/Property Owner would be responsible for repairing any damage to City roadways that may occur during construction or through transport of heavy trucks or equipment related to construction.

The long-term operation of the Project involves residential, commercial, and parking land uses that would not result in a significant impact to existing roadways and would neither interfere with nor impact the implementation of the City's Emergency Management Plan. The City Fire Department would review the Project's plans during design review to ensure that emergency access to the site and surrounding areas would be maintained in compliance with applicable City requirements. Therefore, impacts would be less than significant, and no mitigation is required.

3.17.3 MITIGATION MEASURES

MM TRANS-1 Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Project Applicant/Property Owner for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Project Applicant/Property Owner will begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown.

At a minimum, the Construction Management Plan shall:

- Describe the duration and location of lane closures.
- Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage.
- Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.
- Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets.
- Identify of emergency access points/routes.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas.
- All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.
- Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.
- Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.
- Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.
- Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown.

3.18 TRIBAL CULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k)? or	☐	☐	☐	☒
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1 EXISTING CONDITIONS

Section 3.4, Cultural Resources, of this IS/MND addresses other cultural resources, including historical resources, archaeological resources, and human remains. The impact analysis concluded that impacts on these resources would be less than significant. For historic resources, the existing structures are not listed in the CRHR, the NRHP, California Historical Landmarks, or California Points of Historical Interests lists. Existing properties located on the Project site are ineligible for listing in the National Register of Historic Places, California Register of Historical Resources, as well as ineligible for designation as City of Arcadia Historic Landmarks for lack of historical significance and architectural distinction.

For archaeological resources, the cultural resources impact analysis concluded the Project could result in unanticipated discovery of previously unknown archaeological resources. In order to reduce this impact, the Project will be required to implement mitigation measure MM-CUL-1, which includes retaining a professional archaeologist to evaluate the significance of any suspected archaeological resources and to determine an appropriate course of action as necessary. Also, RR CUL-1 provides guidance in the event of inadvertent discovery of human remains, the regulatory requirements that address the handling of human remains if previously unknown human remains are encountered, as well as if the remains are determined to be Native American. Compliance with the State-required regulations would ensure such impacts are reduced to a less than significant level. The following subsections address the potential for the discovery of tribal cultural resources.

METHODOLOGY

Native American Sacred Lands File Review

Psomas submitted a request to the NAHC on July 10, 2020, to review the Sacred Lands File database regarding the possibility of Native American cultural resources and/or sacred places in the Project vicinity that are not documented on other databases. The NAHC completed its Sacred Lands File search on July 15, 2020. The results were positive for known Tribal Cultural Resources and/or sacred sites in the vicinity of the Project site. Additionally, the NAHC recommended contacting the Gabrieleño Band of Mission Indians – Kizh Nation for more information.

AB 52

AB 52 is applicable to projects that have filed a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) or notice of a Negative Declaration (ND) or Mitigated Negative Declaration (MND) on or after July 1, 2015. AB 52 requires that the tribes ask the lead agency to be contacted for consultation. Then, the lead agency must contact the tribes to initiate consultation with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project and have requested such consultation prior to determining the type of CEQA documentation that is applicable to the project (i.e., EIR, ND, MND). AB 52 allows Tribes 30 days after receiving notification to request consultation. The lead agency then has 30 days to initiate consultation. Significant impacts to Tribal cultural resources are considered significant impacts to the environment.

Consistent with requirements of AB 52, the City of Arcadia sent a letter to the one tribe that has previously expressed interest in being consulted regarding Native American resources for projects being undertaken in the City of Arcadia. On December 28, 2022, the City sent an invitation to Andrew Salas, Chairman of the Gabrieleño Band of Mission Indians – Kizh Nation, to request any information or knowledge regarding Native American Sacred Lands or other tribal cultural resource in or around the Project site, and to ask whether the Tribe would like to consult with the City pursuant to AB 52. The City requested that the Tribe respond within 30-days after receiving notification of the letter. On January 19, 2023, Andrew Salas of the Gabrieleño Band of Mission Indians – Kizh Nation emailed the City and requested to schedule consultation to discuss the Project in further detail. On April 12, 2023, the City and Gabrieleño Band of Mission Indians – Kizh Nation met, agreed on mitigation measures (discussed below), and closed consultation.

3.18.2 IMPACT ANALYSIS

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

No Impact. For purposes of impact analysis, a tribal cultural resource is considered a site, feature, place, cultural landscape, sacred place, or object which is of cultural value to a California Native American Tribe and is either eligible for the CRHR or a local register. As indicated in Section 3.4 of this document, based on a SCCIC record search and the results from the NAHC SLF database results there are no resources within the Project area that are currently listed on the CRHR or

local register. As such, there are no known resources on the Project site. The Project would have a less than significant impact on tribal cultural resources and would not cause a substantial adverse change in the significance of a known tribal cultural resource. There would be no impact, and no mitigation is required.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant With Mitigation. As stated previously in Section 3.4, Cultural Resources, the Project site is generally developed, and only limited work would occur within native sediments. However, due to the excavation within native sediments that is required to construct the Project's subterranean parking garage, there is a potential to encounter unknown cultural, historic, and/or tribal cultural resources. Therefore, MM CUL-1 will be implemented during construction requiring the procedures for temporarily stopping work and obtaining an evaluation of the find by a qualified archaeologist. With implementation of MM CUL-1, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource. There would be a less than significant impact on tribal cultural resources with MM CUL-1.

Additionally, based on information available through the record searches at the SCCIC and the NAHC, and the disturbed and urbanized nature of the Project area, there is no information available that indicates there are significant tribal resources within the Project area that would be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1. However, as noted above, AB 52 consultation with the Gabrieleño Band of Mission Indians – Kizh Nation indicates that the area was traditionally and culturally affiliated with their Tribe. Although no archaeological resources important to Native Americans have been identified within the Project area, there is the possibility that undiscovered intact cultural resources, including tribal cultural resources may be present below the surface in native sediments. Mitigation measures were agreed upon by the Gabrieleño Band of Mission Indians – Kizh Nation and the City during the AB 52 consultation process and would be implemented as part of construction activity to ensure impacts to tribal cultural resources would be less than significant. With implementation of RR CUL-1, MM CUL-1, and MMs TCR 1 through TCR 3, any inadvertent discoveries of tribal cultural resources and/or human remains would be reduced to a less than significant level.

3.18.3 MITIGATION MEASURES

MM TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing

activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered tribal cultural resources, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the Project/Applicant/City that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

MM TCR-2 Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial)

Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

MM TCR-3 Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects

A. Native American human remains are defined in Public Resources Code section 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

3.19 UTILITIES AND SERVICE SYSTEMS	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☒	☐	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Information in this section is derived from the *Sewer Area Study Report for Tentative Tract No. 83325, Arcadia Town* Center (Sewer Area Study) prepared by Fuscoe Engineering and dated September 19, 2024 (Fuscoe 2024b, Appendix J); the City of Arcadia's and the utilities' websites; the City of Arcadia General Plan and its Environmental Impact Report (EIR); the City of Arcadia's *2020 Urban Water Management Plan* (UWMP); the will-serve letter from the County Sanitation Districts of Los Angeles County regarding wastewater; and other sources as cited herein.

3.19.1 ENVIRONMENTAL SETTING

The potable water and sewer services for the Project site are provided by the City of Arcadia Public Works Services Department. Water pipeline infrastructure and sewer infrastructure is available in the vicinity. Potable water is available from existing water infrastructure including a 30-inch-diameter welded steel water main in Santa Anita Avenue, a 16-inch-diameter welded steel water main in Huntington Drive, and a 6-inch-diameter water main is available in Morlan Place. Existing sewer infrastructure includes 8-inch8 and 10-inch diameter sewer pipelines located in Huntington Drive, Santa Anita Avenue, and Morlan Place.

The City's water supply sources include groundwater production from Main Basin and the Raymond Basin and direct delivery of treated imported water from the Metropolitan Water District (MWD). The City primarily obtains its water from groundwater wells located in the Main Basin. The City is also a sub-agency of Upper San Gabriel Municipal Water District, a wholesale water agency and can purchase treated, imported water (Arcadia 2021).

Los Angeles County Sanitation Districts (LACSD) includes 24 independent special district and operates 11 wastewater facilities that provide sanitation services, including wastewater and solid waste management, to approximately 5.5 million people in the County. The LACSD currently conveys and treat approximately 510 million gallons per day (mgd) of wastewater. Approximately 165 mgd of the treated wastewater is available for reuse, after receiving a high level of treatment. Wastewater is treated through a regional interconnected sewerage system called the Joint Outfall System (JOS), which includes the main Joint Water Pollution Control Plant in Carson and six satellite water reclamation plants (LACSD 2023).

The City contracts with Waste Management Inc. for solid waste collection services. Waste Management Inc. operates the El Sobrante Landfill located in the City of Corona in Riverside County, which accepts construction/demolition waste, contaminated soil, mixed municipal waste, and tires. Waste generated in the City is ultimately disposed of in this landfill or others in the vicinity. As of April 1, 2018, the latest data available, El Sobrante Landfill had a remaining capacity of 143,977,170 cubic yards (38,873,835 tons). The facility's maximum permitted throughput is 16,054 tons per day, a remaining capacity of 143,944,170 cubic yards as of 2018, and a cease operation date of 2051 (CalRecycle 2023b).

3.19.2 PROJECT IMPACTS

Regulatory Requirements

RR UTIL-1 The Project Applicant/Property Owner shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826.

Impact Discussion

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant With Mitigation. The City of Arcadia provides water and wastewater service to the Project site, LACSD provides conveyance and wastewater treatment, SoCal Gas provides natural gas service, SCE provides electrical service, and telecommunications services are provided by a variety of providers throughout the City. Required Project infrastructure improvements are described in Sections 2.2.2 and 2.2.3, and Project-related off-site improvements are discussed in Section 2.2.4.

Potable Water Conveyance

The City of Arcadia Public Works Services Department is responsible for producing, storing, and distributing potable water to the City and maintaining the City's water system infrastructure. The existing water infrastructure adjacent to the Project site includes a 30-inch-diameter welded steel

water main in Santa Anita Avenue, a 16-inch-diameter welded steel water main in Huntington Drive, and a six-inch-diameter water main is available in Morlan Place.

The Project's proposed water infrastructure would include domestic, irrigation, and fire water service lines, meters, and backflow preventers. The Project would connect to the existing water lines in Santa Anita Avenue, Huntington Drive via several proposed 2-inch lateral pipes. Domestic water service for residential units would be provided by a common master meter with an approved reduced-pressure backflow device for meter services protection. Additionally, a proposed eight-inch fire water line would be connected to the existing water line in Santa Anita Avenue for use by the existing fire hydrant, and a two-inch irrigation lateral would be connected to the existing water line in Morlan Place. Any portions of Huntington Drive, Santa Anita Drive, or Morlan Place that are disturbed during Project construction would be repaved in-kind, as described in MM TRANS-1.

The City of Arcadia has confirmed that the Project's anticipated potable water demands (discussed below under Threshold 3.19b) can be accommodated with the existing potable water infrastructure, and therefore, impacts would be less than significant.

Sewer Conveyance

On-Site Sewer Improvements

Local sewer main lines adjacent to the Project site are maintained by the City, and they convey wastewater into trunk lines that are maintained by the LACSD. The City's sewer system has approximately 138 miles of sewer pipes, six siphons, and one pump station. There are also 15 miles of County-owner pipelines within the City limits into which the City's system discharges. The City's sewer system serves existing developments in the City, with connections to the sewer systems of the cities of Sierra Madre, Temple City, and Monrovia and in unincorporated County areas that allow for sewage conveyance through the City's system and discharging into trunk lines maintained by LACSD (Arcadia 2010b).

In the existing condition, sewage from the Project site is conveyed via 8-inch-diameter and 10-inch-diameter sewer pipelines located in Huntington Drive and Santa Anita Avenue. Wastewater generated on the Project site discharges into the 18-inch diameter Arcadia-Sierra Relief Trunk Sewer Section 2, located in First Avenue at East Camino Real. The Project proposes to connect to these existing sewer lines located in Santa Anita Avenue via several proposed 6-inch lateral pipes.

Off-Site Sewer Improvements

The Sewer Area Study (Fuscoe 2024b, Appendix J) determined that approximately 1.3 miles (6,685 linear feet) of sewer line would need to be upsized along Santa Anita Avenue between Huntington Drive and Camino Real Avenue to properly handle the additional capacity needed for the Project's wastewater generation. This additional capacity must be available before residents and businesses occupy this Project. Therefore, the City's proposed off-site sewer upsizing is being addressed in this IS/MND.

The proposed sewer upsizing along Santa Anita Avenue would replace the existing 8- and 10-inch-diameter sewer lines with 12-inch diameter sewers. The sewer upsizing would be split into three phases to be included in future capital improvement plans (CIPs) for the years prior to occupancy of the Project, as follows:

- Phase 1, scheduled for Fiscal Year 2024 – 2025, would upsize approximately 0.47 mile (2,467 linear feet) of sewer line between Christina Street and Camino Real Avenue;
- Phase 2, scheduled for Fiscal Year 2025 – 2026, would upsize approximately 0.41 mile (2,176 linear feet) of sewer line between Christina Street and El Dorado Street; and
- Phase 3, scheduled for Fiscal Year 2026 – 2027, would upsize approximately 0.39 mile (2,304 linear feet) of sewer line between Huntington Drive and El Dorado Street.

The Sewer Area Study considered all tributary flow, existing and proposed; and a portion of existing sewer mains downstream of the Project site were studied based on the City's built-out development condition. Based on the Project's incremental impact to the City's sewer infrastructure on Santa Anita Avenue downstream on the site, the Project Applicant would be required to implement MM UTIL-1 that requires a fair share payment for the upsized sewer line.

The depth of the existing sewer lines along Santa Anita Avenue varies between 7 feet to 15 feet. The average, approximate trench dimensions would be 10 feet deep by 40 feet long by 4 feet wide. The length of open trench and number of trenches that would be in active construction at any one time as well as the excavation depth would vary depending on field conditions. However, the trench width of 4 feet would be consistent. This represents a typical and common construction scenario for municipal utility work in the City of Arcadia, the San Gabriel Valley, and the wider area. Construction of this type of utility work typically results in limited impacts for a brief period, as the work moves in a linear fashion.

Construction of the sewer upsizing would not entail the use of unusually loud or vibration-intensive equipment to implement the Project. Excavation during the replacement of the sewer lines would not extend more than about 12 inches below the bottom of the existing sewer lines (i.e., between 8 feet and 15 feet). The materials located immediately below the existing sewer lines were previously disturbed during construction of the existing sewer line. Therefore, it is unlikely that excavation would extend into undisturbed soils and potentially encounter unknown cultural resources. Additionally, the off-site construction activity would be limited to the public right-of-way of Santa Anita Avenue, which is a paved roadway throughout the sewer upsizing alignment. No built structures, natural resources, or other environmentally sensitive conditions existing in the proposed sewer alignment. Additionally, the sewer upsizing would be constructed in compliance with applicable federal, State, and City planning, engineering, and environmental regulations, including but not limited to: SCAQMD rules related to air quality, the requirements of the Migratory Bird Treaty Act and California Fish and Game Code regarding nesting birds that may be present in the vicinity, Title 24/CALGreen construction energy efficiency requirements, coverage under the NPDES Construction General Permit related to water quality, Section 4261 of the AMC related to construction noise generation, preparation of a Construction Management Plan related to traffic control, and Section 5130.1 of the AMC related to construction and demolition debris reduction and recycling.

The Project would be required to fund its fair share of the costs associated with the necessary sewer upsizing and this municipal improvement would have to be fully constructed before a Certificate of Occupancy is issued, as required in MM UTIL-1. Therefore, indirect impacts on the City's wastewater infrastructure from Project implementation would be less than significant with mitigation. Additionally, the potential direct impacts of the City's construction of the sewer upsizing

as per MM UTIL-1 would be less than significant through compliance with applicable federal, State, and City regulations, as addressed above, and no mitigation is required.

LACSD Wastewater Conveyance and Treatment

The Sewer Area Study estimated the Project would generate an average wastewater generation of approximately 66,266 gallons per day (gpd) and a peak flow of approximately 165,665 gpd. The LACSD estimates the net increase in average wastewater generation from the Project, when considering the site's existing wastewater generation, that would be contributed to its facilities would be 26,379 gpd.

As noted above, wastewater from the Project site discharges into the LACSD's 18-inch-diameter trunk sewer in First Avenue at East Camino Real. According to the LACSD will-serve letter for the Project (see Appendix D of the Sewer Area Study [Appendix J to this IS/MND]), this trunk sewer "has a capacity of 6.7 million gallons per day (mgd) and conveyed a peak flow of 3 mgd when last measured in 2013" (Fuscoe 2024b). The proposed Project's estimated average net increase of 26,379 gpd, or 0.026 mgd, represents approximately 0.007 percent of the approximate 3.7 mgd remaining capacity of the downstream trunk sewer. The Project site's future total average wastewater generation (66,266 gpd) would represent approximately 0.018 percent of the remaining capacity of this sewer line. Even when considering the area's growth since 2013 when the capacity was last measured, these miniscule incremental wastewater contributions would not exceed the capacity of any LACSD conveyances. Therefore, the Project can be accommodated and no capacity-driven expansions and/or relocations of LACSD sewer lines are required.

The LACSD states that wastewater generated by the proposed Project would be treated at the San Jose Creek Water Reclamation Plant (WRP) located adjacent to the City of Industry, which has a capacity of 100 mgd and currently processes an average recycled flow of 62.7 mgd. All biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP are diverted to and treated at the Joint Water Pollution Control Plant in the City of Carson (Fuscoe 2024b). The average net increase with Project implementation of approximately 0.026 mgd would represent about 0.0007 percent of the San Jose Creek WRP's approximate 37.3 mgd remaining treatment capacity. Therefore, the LACSD would have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

Therefore, impacts related to the LACSD's infrastructure would be less than significant, and no mitigation is required.

Dry Utilities

As discussed, dry utility service for the Project would be provided by SCE (electric); SoCal Gas (natural gas); and one or more of the private telecommunications providers with facilities in the City such as AT&T, Spectrum, EarthLink, and Frontier. The Project would require the removal and replacement of the existing dry utility lines within the Project site, which include electricity, telephone, and cable lines. The Project would connect to the existing electric lines located in Morlan Place; existing gas infrastructure located in Huntington Drive, Santa Anita Avenue and Morlan Place; and existing telecommunications lines located in Santa Anita Avenue. Existing utility service to adjacent and nearby parcels would be maintained throughout Project construction. The Project would not necessitate the construction of additional dry utility infrastructure outside the laterals to connect to the existing utility lines and related infrastructure. Therefore, there would be less than significant impacts related to dry utilities, and no mitigation is required.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. Based on information provided by the Project Applicant, the average existing water demand for the Project site is approximately 2,367 gallons per day (gpd) and the estimated total water use for the Project would be approximately 57,459 gpd. Therefore, the net water demand would be approximately 55,092 gpd. The Project would be required to comply with the California Green Building Standards Code (CALGreen) (California Code of Regulations [CCR], Title 24, Part 11) water efficiency and conservation requirements; and City of Arcadia Ordinance 2330, Water Efficient Landscaping, which requires drought tolerant plants and LID strategies, as discussed in further detail in Section 3.10, Hydrology and Water Quality.

Water supplies would be provided by the City of Arcadia and subject to the requirements set forth in the City's 2020 Urban Water Management Plan (UWMP) (Arcadia 2021). UWMPs are prepared every five years by urban water suppliers to support long-term resource planning and ensure that adequate water supplies are available to meet existing and future water needs. The Project, then referred to as Huntington Parkview, was considered as a major project during development of the 2020 UMWP (Lee 2024). As such, the water demand for the Huntington Parkview project was factored into the water supply forecast during UWMP preparation. While the Huntington Parkview project included slightly fewer residential units (160 units instead of 181 units) and slightly more commercial uses (18,000 sf instead of 13,130 sf), this iteration of the Applicant's development is consistent in scale, form, and intensity of land uses with the proposed Project. As such, the water demand for these two project variations would be comparable.

It is also noted the Project is consistent with the General Plan land use designation and zoning, and the Huntington Parkview project was consistent as well. Buildout of the applicable land use plan(s) within the service area of a water supplier is also considered in UWMP preparation. Because the Project (represented as Huntington Parkview) was included in the 2020 UWMP and both projects are consistent with land use planning policies, the water demand for the Project would already be anticipated in the City's protections of future water supply.

The Project is consistent with the 2020 UWMP, which concluded that the City is able to meet projected water demands during normal years, single dry years, and five consecutive year drought periods over the next 25 years (Arcadia 2021). Therefore, less than significant impacts would occur, and no mitigation is required.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. The Project involves demolition of the existing structures, removal of the existing vegetation on the site, and removal of soil to accommodate the subterranean parking garage, which would generate debris that would need to be removed from the site. To comply with the State of California Waste Management Act (AB 939), the City of Arcadia has implemented a recycling program. In accordance with Section 5130.1, Commercial/Industrial Waste Hauler Requirements, of the AMC, the Project Applicant/Property Owner is required to divert at least 50 percent of demolition debris generated at the Project site from landfills by recycling, reuse, and diversion programs. Even without recycling efforts, the solid waste generated from the demolition Project could be accommodated within the permitted capacity of the El Sobrante Landfill as discussed below.

Project implementation would result in the development of 181 multi-family residential units and 13,130 sf of commercial space. Based on a solid waste generation rate of 4.9 pounds per person per day, assuming a maximum occupancy of 512, the Project's residential uses would generate 2,509 pounds of trash per day (USEPA 2023). Based on 5 pounds per 1,000 sf per day for commercial solid waste generation, the Project's commercial uses would generate approximately 66 pounds of solid waste per day (CalRecycle 2023b).

The City of Arcadia is serviced by Waste Management, Inc., which takes trash from Southern California to the El Sobrante Landfill in the City of Corona in Riverside County. The Project's estimated increase in solid waste disposal could be accommodated within the permitted capacity of the El Sobrante Landfill, which has a remaining capacity of 143,944,170 cubic yards as of 2018, and a cease operation date of 2051 (CalRecycle 2023b). Less than significant impacts would occur, and no mitigation is required.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. Section 5130 of the AMC sets forth requirements for achieving annual diversion rates in compliance with AB 939 for all commercial waste as defined in the City's Source Reduction and Recycling Element, including varieties of paper, plastic, glass, wood, yard and greenwaste, and construction/demolition debris. These diversions must be reported to the City by the recycling company or waste hauler, and each permitted commercial hauler must provide a recycling container for the customer's separated recyclables at no additional charge upon request of the commercial customer. Also, AB 341 requires that businesses generate over four cubic yards of waste per week and multifamily residential properties with five or more units must establish a recycling program. Similarly, AB 1826 requires businesses and multifamily properties to separate and recycle organic waste if they generate more than four cubic yards of each type of waste per week. The AMC Section 5130.1 covers commercial/industrial waste hauler requirements, including multifamily residential, and outlines how the City's contracted waste hauler shall comply with State requirements related to waste diversion. Compliance with the AMC (RR UTIL-1) will ensure that the Project has no impact on the ability to satisfy applicable regulations related to solid waste.

3.19.3 MITIGATION MEASURES

MM UTIL-1 **Sewer Upsizing Fair Share Payment.** Prior to issuance of a Certificate of Occupancy permit for the Project, the Applicant/Property Owner shall make a fair share contribution of 9 percent of the total Santa Anita Avenue sewer upsizing project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue with 12-inch diameter pipelines. The Santa Anita Avenue sewer upsizing project shall be split into three phases and included in the City's 2024-25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue sewer upsizing project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate.

3.20 WILDFIRE	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 ENVIRONMENTAL SETTING

The Project is located in a fully developed location within the City of Arcadia with no exposure to wildfire risk. The Project site is not located within a very high fire hazard severity zone (VHFHSZ) (CalFire 2023). The nearest VHFHSZ is located over two miles to the north associated with the undeveloped foothills in the City.

3.20.2 PROJECT IMPACTS

Regulatory Requirements

None required.

Impact Discussion

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. As detailed in response to Threshold 3.9(g), given the Project is not located in lands classified as VHFHSZ and there is no wildfire risk to the Project during or site users during its construction or operation, the Project would have no impact and no mitigation is required.

3.20.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to wildfire; therefore, no mitigation measures are required.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Does the project:				
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c. Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant With Mitigation. As discussed in Section 3.4, Biological Resources, there are no sensitive biological resources, habitat, or species located on the Project site that would be affected by implementation of the Project. Potential impacts to nesting birds would be less than significant with implementation of standard regulatory requirements listed in RR BIO-1, and impacts related to removal of Protected Trees and trees in the public ROW would be less than significant with implementation of City requirements listed in RRs BIO-2 and BIO-3.

As discussed in Section 3.5, Cultural Resources, potential impacts to unknown cultural resources and human remains from implementation of the Project would be less than significant with implementation of MM CUL-1 and RR CUL-1, respectively. Similarly, as discussed in Section 3.18, Tribal Cultural Resources, potential impacts to unknown tribal cultural resources from implementation of the Project would be less than significant with implementation of MMs TCR-1 through TCR-3. Therefore, with the incorporation of identified RR's and MM's, the Project does not have the potential to restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. No further mitigation is required.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant With Mitigation. The proposed Project would result in potentially significant impacts involving cultural resources, hazards and hazardous materials (emergency access during construction), noise (vibration during construction), transportation (construction traffic), tribal cultural resources, and utilities and service systems (wastewater conveyance). However, feasible mitigation measures have been identified that would reduce these impacts to less than significant levels. All reasonably foreseeable future development in the City would be subject to the same land use and environmental regulations that have been described throughout this document. Furthermore, all development projects are guided by the policies identified in the City's General Plan and by the regulations established in the Development Code and AMC. Therefore, compliance with applicable land use and environmental regulations and implementation of the mitigation program would ensure that environmental effects associated with the proposed Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts. Cumulative impacts would therefore be less than significant with mitigation incorporated. No further mitigation is required.

c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant With Mitigation. As detailed throughout this IS/MND, the proposed Project would not exceed any significance thresholds or result in significant impacts in the environmental categories typically associated with indirect or direct effects to human beings, such as aesthetics, air quality, hazards and hazardous materials (involving hazard materials), public services, or transportation (involving long-term adverse effects). However, as described in Section 3.13, Noise, the proposed Project would result in a potential significant impact related to vibration generated during construction activity. With implementation of MM-NOI-1, this impact would be reduced to a less than significant level. As such, impacts would be less than significant with mitigation incorporated. No further mitigation is required.

SECTION 4.0 REPORT PREPARERS AND CONTRIBUTORS

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City Engineer..... Kevin Merrill, PE
Associate Civil Engineer .....Michael Kwok
Deputy Development Services Director/City Engineer (Retired).....Phil Wray, PE

Consultants

Psomas

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Project Manager..... Jillian Neary
Environmental Planner..... Jessica Hitchcock
Environmental Planner.....Chaise Lapierre
Air Quality/Energy/Greenhouse Gas/Noise..... Tin Cheung
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ARCADIA CITY COUNCIL
REGULAR MEETING MINUTES
TUESDAY, MARCH 4, 2025

CALL TO ORDER – Mayor Cao called the Closed Session to order at 6:00 p.m.

ROLL CALL OF CITY COUNCIL MEMBERS

PRESENT: Cheng, Fu, Wang, Kwan, and Cao
ABSENT: None

PUBLIC COMMENTS – No one appeared.

CLOSED SESSION

a. Confer with legal counsel regarding anticipated litigation.

Potential initiation of litigation pursuant to Government Code Section 54956.9(d)(4): one (1) Case.

The Closed Session ended at 6:27 p.m.

No reportable action was taken on the Closed Session item.

Regular Meeting
City Council Chambers, 7:00 p.m.

1. CALL TO ORDER – Mayor Cao called the Regular Meeting to order at 7:00 p.m.

2. INVOCATION – Reverend John Scholte, Journey Community Church

3. PLEDGE OF ALLEGIANCE – John Cullen, Navy Veteran and Arcadia Resident

4. ROLL CALL OF CITY COUNCIL MEMBERS

PRESENT: Cheng, Fu, Wang, Kwan, and Cao
ABSENT: None

5. REPORT FROM CITY ATTORNEY REGARDING CLOSED/STUDY SESSION ITEMS

City Attorney Maurer reported that prior to the Regular Meeting, the City Council met in a Closed Session to discuss the one item listed on the posted agenda and that no reportable action was taken.

6. SUPPLEMENTAL INFORMATION FROM CITY MANAGER REGARDING AGENDA ITEMS

City Manager Lazzaretto had nothing to report.

7. PRESENTATIONS

a. Presentation of Mayor's Certificates to the Foothills Middle School Girls Basketball Team for winning the League Championship.

b. Presentation of the 2025 Arbor Day Proclamation.

8. PUBLIC COMMENTS

Michelle Wu, an Arcadia resident, appeared and requested that Council Member Wang resign from office, expressing her reasons why she should step down.

Elizabeth Vargas, Public Information Officer form the U.S. Small Business Administration ("SBA") Office of Disaster Recovery, announced that the SBA is working with the Federal Emergency Management Agency ("FEMA") to offer disaster relief loans to assist those affected by the recent wildfires. She encouraged impacted Arcadia property owners and businesses to apply for these funds.

9. REPORTS FROM MAYOR, CITY COUNCIL AND CITY CLERK *(including reports from the City Council related to meetings attended at City expense [AB 1234]).*

Mayor Pro Tem Kwan shared a video of Los Angeles City Controller, Kenneth Mejia, overviewing the City of Los Angeles' budget for Fiscal Year 2023-24; she expressed concerns about Arcadia's Operating Budget and emphasized the importance of responsible budgeting.

Mayor Cao provided a report on the various events that he attended or will be attending as a representative of the City; and shared two recent stories of Arcadia Police Officers apprehending alleged burglars, expressing his gratitude for the Police Department's service.

Council Member Fu announced that on March 2 he attended the Arcadia Chinese Association's 42nd Annual Gala, noting Fire Chief Suen's presentation at the event; he highlighted the potential benefits of a local training facility for use by Arcadia firefighters; he commended City staff for prioritizing the best interests of the City; and he thanked residents for collaborating with staff to keep the City safe.

Council Member Wang addressed comments made during Public Comment regarding the FBI activity that occurred in Arcadia on December 19, 2024; and provided a report on the various events that she attended or will be attending as a representative of the City.

Council Member Cheng thanked his colleagues for recognizing the efforts and commitment of City staff; he expressed his gratitude to City staff for their continued service to the community; and thanked residents who have lived in Arcadia for generations, reminding them that the City Council is here to serve them.

10. CONSENT CALENDAR

a. Regular Meeting Minutes of February 18, 2025.
CEQA: Not a Project
Recommended Action: Approve

b. Ordinance No. 2403 amending Article V, Chapter 6 of the Arcadia Municipal Code and adopting by reference the Los Angeles County Health Code; and authorizing the City Manager to enter into a Public Services Contract with the Los Angeles County Department of Public Health.

CEQA: Not a Project
Recommended Action: Introduce, Approve, and Set Public Hearing Date

c. Contract with Carter Enterprises Group, Inc. for the Americans with Disabilities Act Curb Ramp Project in the amount of $211,000.
CEQA: Exempt
Recommended Action: Approve

d. Extension to the contract with Crosstown Electrical & Data, Inc. for extraordinary traffic signal maintenance services in the amount of $91,855.
CEQA: Not a Project
Recommended Action: Approve

e. Police Department lease of two vehicles from Longo Toyota for three years with the option to renew for three additional one-year periods, in an amount not to exceed $38,407.
CEQA: Not a Project
Recommended Action: Approve

f. Purchase Order with Granite Data Solutions for the purchase of 75 Dell computer workstations in the amount of $75,000.
CEQA: Not a Project
Recommended Action: Approve

Mayor Pro Tem Kwan pulled Item 10.e for separate discussion.

It was moved by Council Member Cheng, seconded by Council Member Wang, and carried on a roll call vote to approve Consent Calendar Items 10.a through 10.d and 10.f.

AYES: Cheng, Wang, Fu, Kwan, and Cao
NOES: None
ABSENT: None

Regarding Consent Calendar Item 10.e, Mayor Pro Tem Kwan requested an update on the number of police employees and more background information on the lease of these two vehicles.

In response to Mayor Pro Tem Kwan's inquiries, City Manager Lazzaretto stated that the lease is not due to additional staffing. He explained that the vehicles are used for investigative and administrative roles, and further noted that they are replacing existing vehicles that have reached the end of their useful life.

In response to Mayor Pro Tem Kwan's inquiry, Police Chief Nakamura reiterated that the number of budgeted police officers has not increased, but recruitment efforts are ongoing. He stated that with the current number of officers, the department is able to maintain its service to the community.

In response to Council Member Fu's comment, City Manager Lazzaretto confirmed that the previous lease had expired and that it was time to return the old vehicles to the vendor, necessitating the need for replacements.

Council Member Cheng commended the Police Department for their efforts in keeping the City safe.

A motion was made by Council Member Fu, seconded by Council Member Cheng, and carried on a roll call vote to approve the Police Department lease of two vehicles from Longo Toyota for

three years, with the option to renew for three additional one-year periods, in an amount not to exceed $38,407.

AYES: Fu, Cheng, Wang, Kwan, and Cao
NOES: None
ABSENT: None

11. CITY MANAGER

a. Resolution No. 7619 amending the Fiscal Year 2024-25 General Fund Budget and authorizing a supplemental budget appropriation for the expansion of the Basic Life Support Peak Hours Ambulance Program in the amount of $23,900, offset by additional revenues from the expanded program.
CEQA: Not a Project
Recommended Action: Adopt

Fire Chief Suen presented the staff report.

After discussion, a motion was made by Council Member Wang, seconded by Council Member Cheng, and carried on a roll call vote to adopt Resolution No. 7619, amending the Fiscal Year 2024-25 General Fund Budget and authorizing a supplemental budget appropriation for the expansion of the Basic Life Support Peak Hours Ambulance Program in the amount of $23,900, offset by additional revenues from the expanded program.

AYES: Wang, Cheng, Fu, Kwan, and Cao
NOES: None
ABSENT: None

12. ADJOURNMENT

The City Council adjourned in memory of longtime Arcadia volunteer Dianne Chapman at 8:19 p.m. to Tuesday, March 18, 2025, at 6:00 p.m., in the City Council Conference Room.

Linda Rodriguez
City Clerk

STAFF REPORT

Office of the City Clerk

DATE: March 18, 2025

TO: Honorable Mayor and City Council

FROM: Dominic Lazzaretto, City Manager
By: Linda Rodriguez, City Clerk

SUBJECT: DECLARE A VACANCY ON THE LIBRARY BOARD OF TRUSTEES ACCORDING TO THE ARCADIA CITY CHARTER.
CEQA: Not a Project
Recommendation: Approve

SUMMARY

Each June, the City Council makes appointments to fill various openings on City Boards and Commissions. Board and Commission members serve four-year terms, except for the Senior Citizens Commission, which maintains two-year terms. There are instances where the full term of service cannot be completed by some Board and Commission members, and it results in a vacancy.

In the instance where a member of a City Board or Commission has three consecutive unexcused absences, Section 805 of the Arcadia City Charter calls for the City Council to declare that a vacancy has occurred. Library Board of Trustees Member Pardha Akalamkam has missed three consecutive meetings without being excused by the Board. Therefore, it is recommended that the City Council declare that position vacant, and direct the City Clerk to present a list of applicants on file for consideration to fill the unexpired term, at the next City Council Meeting.

HISTORY

At the City Council Meeting on June 20, 2023, the City Council made annual appointments to fill vacancies for City Boards and Commissions. During the meeting, the City Council appointed Pardha Akalamkam to serve on the Library Board of Trustees for a four-year term, which expires June 30, 2027.

Mr. Akalamkam has missed three consecutive monthly meetings – November 2024, January 2025, and February 2025 (the Board does not meet in December). According to the Arcadia City Charter, Section 805: *"If a member of a board or commission is absent form three consecutive regular meetings…unless by permission of such board or*

commission expressed in its official minutes…their office shall become vacant and shall be so declared by the Council."

On March 10, 2025, the City Clerk's Office notified Mr. Akalamkam that, due to these unexcused absences, his seat on the Board would be presented to the City Council for vacation during the March 18, 2025, City Council Meeting. This agenda item will allow the City Council to declare a vacancy on the Library Board of Trustees, according to the Arcadia City Charter, and provide direction on filling the vacant seat.

DISCUSSION

Due to Mr. Akalamkam's absences, it is recommended that the City Council declare a vacancy on the Library Board of Trustees and consider the following options to fill the position:

Option A: Appoint From Previous Applicants On File

The City typically receives more applications for Board and Commission positions than are available when the routine appointment process is conducted each June. After the annual appointment process, the resumes of applicants not selected for appointment are kept on file with the City Clerk's Office. If a mid-term vacancy occurs on a City Board or Commission, the City Council may choose to fill the vacancy from the list.

For this vacancy, the City Clerk's Office has contacted individuals with resumes on file, with four applicants expressing an interest in serving on the Library Board of Trustees. This option allows the Library Board to achieve full membership as expediently as possible.

Option B: Fill the Vacancy Through Annual Recruitment Process

Each Spring, the City Clerk's Office initiates a recruitment process for City Boards and Commissions. The recruitment period begins a few months before appointments are made by the City Council in June. For the June 2025 appointments, the City Clerk's Office has already initiated the recruitment process. Openings are advertised through Arcadia's printed and digital publications, including the monthly utility bill insert, monthly E-Newsletter, City social media, and City website.

The Library Board is comprised of five members and a one-seat vacancy from the months of March – June 2025, should not excessively hinder the operations of the Board. Based on the timing of this vacancy, if the City Council prefers to undertake a broader recruitment process, this vacancy could be filled as part of the annual appointment process at the June 17, 2025, City Council Meeting.

Option C: Conduct A Full Recruitment Process

At the City Council's discretion, a full recruitment process could be initiated to fill the vacancy on the Library Board. The recruitment to fill any vacancy necessitates 30 days for advertising and publication, followed by a City Council Meeting to conduct the appointment process. Based on current timing, the earliest the recruitment process and appointment could be completed would be the May 6, 2025, City Council Meeting.

Based on the length of time needed to undertake a separate recruitment and the ongoing annual recruitment process, this option is not recommended for pursuit. Conducting a separate recruitment for the Library Board vacancy while the City is already running its annual recruitment process will cause confusion.

Based on all the available options to fill this vacancy, it is recommended that the City Council select Option A, making an appointment to the Library Board of Trustees from the four applications on file, at the April 1, 2025, City Council Meeting, with the term expiring June 30, 2027.

ENVIRONMENTAL ANALYSIS

The proposed action does not constitute a project under the California Environmental Quality Act ("CEQA"), as it can be seen with certainty that it will have no impact on the environment.

FISCAL IMPACT

There is no fiscal impact resulting from the City Council declaring a vacancy on the Library Board of Trustees. Conducting a separate recruitment process under Option C would create some minor costs.

RECOMMENDATION

It is recommended that the City Council determine this action does not constitute a project under the California Environmental Quality Act ("CEQA"); declare a vacancy on the Library Board of Trustees according to the Arcadia City Charter; and make an appointment to the Library Board of Trustees at the April 1, 2025, City Council Meeting to fill the vacancy, with the term expiring June 30, 2027.

STAFF REPORT

Public Works Services Department

DATE: March 18, 2025

TO: Honorable Mayor and City Council

FROM: Paul Cranmer, Public Works Services Director
By: Jan Balanay, Assistant Engineer

SUBJECT: CONTRACT WITH AMERICAN ASPHALT SOUTH, INC. FOR THE FISCAL YEAR 2024-25 ANNUAL SLURRY SEAL PROJECT IN THE AMOUNT OF $1,182,734.45
CEQA: **Exempt**
Recommendation: Approve

SUMMARY

As part of the City's Annual Asphalt and Concrete Program, the Public Works Services Department ("PWSD") is preparing to slurry seal various residential streets within Arcadia. The proposed area can generally be described as the residential neighborhoods in the southwest corner of the City (within City Council Districts 4 and 5) and the industrial area in the southeast portion of the City (District 5). To ensure that the City is receiving the most competitive price and quality service for this work, the PWSD conducted a formal bid process, and American Asphalt South, Inc. submitted the lowest responsive bid.

It is recommended that the City Council approve, authorize, and direct the City Manager to execute a contract with American Asphalt South, Inc. for the Fiscal Year 2024-25 Annual Slurry Seal Project, in the amount of $1,182,734.45, and approve a 5% construction contingency.

BACKGROUND

The PWSD is responsible for the maintenance and repair of approximately 147 miles of roadway within the City. The 2021 Pavement Management Program Update assessed the condition of all City streets and assigned a numerical index between 0 and 100, which is used to indicate the general condition of pavement. The Annual Slurry Seal Maintenance Program assists in extending the useful life of the pavement and improves the overall appearance and safety of City streets. This program provides surface maintenance for all City streets and divides Arcadia into eight zones, with one zone being addressed each year as part of an eight-year cycle. Updates to the plan are conducted regularly to ensure that the program is effective and to identify street segments with unusual wear and tear.

DISCUSSION

The Fiscal Year 2024-25 Annual Slurry Seal Project will address approximately 17.9 miles of residential and arterial streets in City Council Districts 4 and 5, as shown on the attached Project Location Map (Exhibit "A"). The project area includes streets north of Live Oak Avenue from West City Limits to Santa Anita Avenue; south of Lemon Avenue from West City Limits to Holly Avenue; south of Longden Avenue from Holly Avenue to Santa Anita Avenue; El Capitan Avenue from Live Oak Avenue to the north end of the Cul de Sac; south of Clark Street from Peck Road to east City Limits; north of Randolph Street from Peck Road to east City Limits; and east of Peck Road to east City Limits. The work includes crack sealing, the application of an emulsified asphalt and sand coating, commonly referred to as slurry, and the re-striping of street centerlines, stop bars, and other safety striping. This process protects the asphalt pavement surface from weather, restores skid resistance, and provides an aesthetic improvement to the roadway.

A bid alternate was also included to slurry all arterial streets in the slurry seal area. The bid alternate was included to allow for flexibility in the event that the bids received were over the amount budgeted. The alternate work includes weed spray, crack seal, application of Type II slurry, and install paint and reflective pavement markers at Holly Avenue from Longden Avenue to Live Oak Avenue; El Monte Avenue from Lemon Avenue to Live Oak Avenue; Santa Anita Avenue from Duarte Road to Live Oak Avenue; Las Flores Drive from El Monte Avenue to Santa Anita Avenue; Live Oak Avenue from El Monte Avenue to Second Avenue; and Peck Road from north City limits to south City limits. Per bid documents, the City is to award a contract for the Annual Slurry Seal Project to the lowest responsive, responsible bidder as determined by the City, from the base bid alone.

A Notice Inviting Bids was published in accordance with City Council Resolution No. 7483, and bid packages were provided to contractors that perform this type of work. On February 20, 2024, the City Clerk received seven sealed bids with the following results:

Rank	Firm	Location	Base Bid
1.	American Asphalt South, Inc.	Riverside	$620,327.00
2.	Mission Paving and Sealing, Inc.	Irwindale	$674,760.00
3.	Doug Martin Contracting Co., Inc.	La Habra	$721,559.80
4.	Pavement Coatings Co.	Jurupa Valley	$731,980.00
5.	Union Pavement Services, Inc.	Jurupa Valley	$779,460.00
6.	All American Asphalt	Corona	$798,665.00
7.	Roy Allan Slurry Seal Inc.	Santa Fe Springs	$882,744.80

Bid documents were reviewed for content and the contractors' background and recent projects were investigated. Based on this review, it has been determined that American Asphalt South, Inc. is the lowest responsive bidder for this work. Furthermore, the alternate bid submitted by American Asphalt South, Inc. is within budget. Funds in the amount of $1,320,000 have been budgeted in the Fiscal Year 2024-25 Capital Improvement Program for the Annual Slurry Seal Program. American Asphalt South, Inc.'s base bid is $620,327 and the alternate bid is $562,407.45. Therefore, a contract in the amount of $1,182,734.45 will be awarded. American Asphalt South, Inc. has successfully completed similar work within budget for Arcadia as well the Cities of Carlsbad, Laguna Niguel, Palm Springs, Santa Barbara, Temecula, and Walnut.

ENVIRONMENTAL ANALYSIS

This project is considered a Class 1 exemption as defined in Section 15301(c) of the California Environmental Quality Act, since the project consists of the maintenance of existing public streets and does not involve expansion of the existing use of the streets.

FISCAL IMPACT

Funds in the amount of $1,320,000 have been budgeted in the Fiscal Year 2024-25 Capital Improvement Program for the Annual Slurry Seal Program. The total cost for this Project is $1,182,734.45 and a 5% construction contingency would bring the total cost to $1,241,871.17, which is within the adopted budget.

RECOMMENDATION

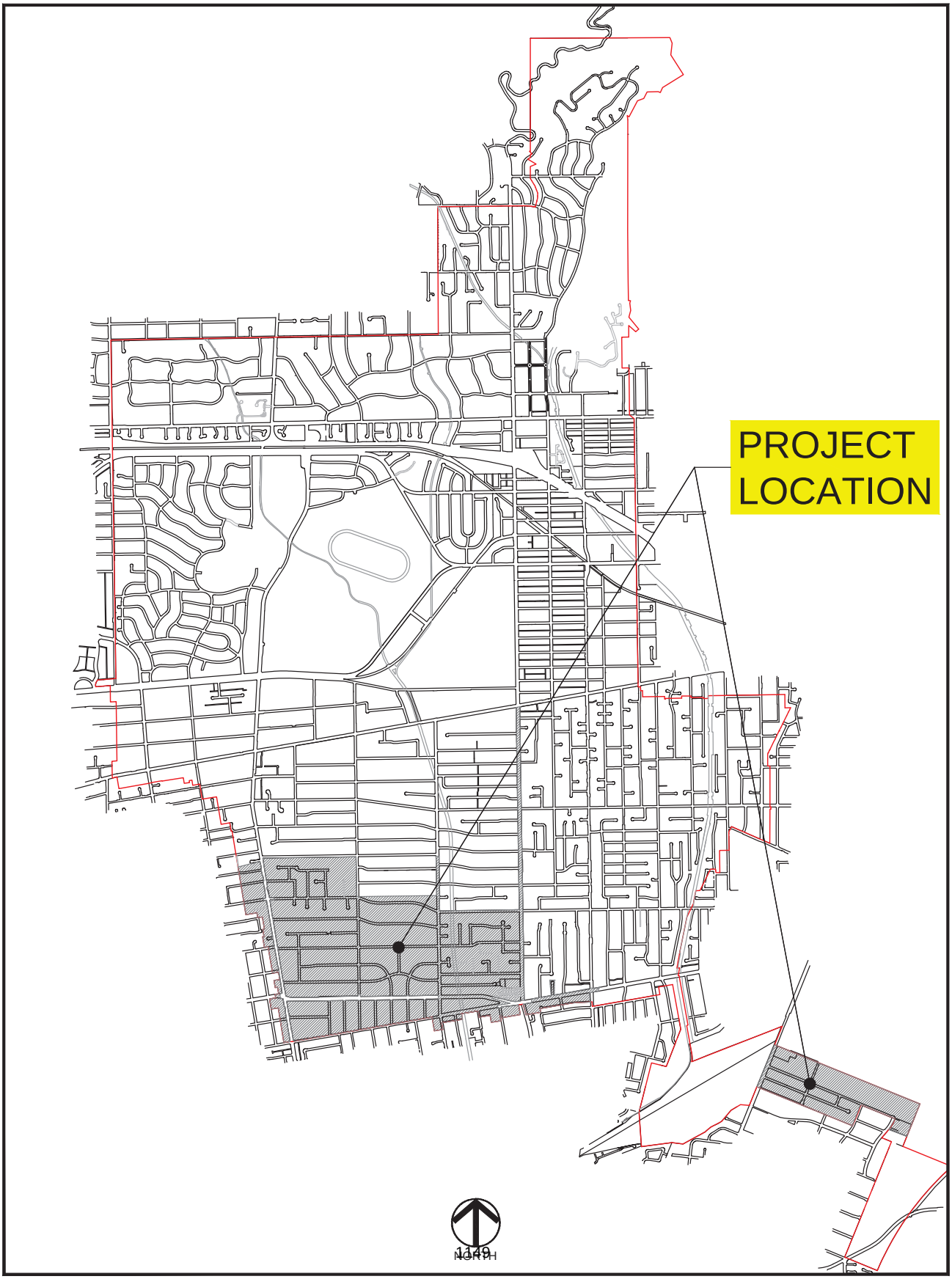
It is recommended that the City Council determine that this project is a Class 1 exemption under the California Environmental Quality Act ("CEQA"); and approve, authorize, and direct the City Manager to execute a contract with American Asphalt South, Inc. for the Fiscal Year 2024-25 Annual Slurry Seal Project in the amount of $1,182,734.45, and approve a 5% construction contingency.

Approved:

Dominic Lazzaretto
City Manager

Attachments: Exhibit "A" - Project Location Map
Proposed Contract

2024/2025 ANNUAL SLURRY SEAL PROJECT
PROJECT NO.: 55331025
EXHIBIT "A" - PROJECT LOCATION MAP



CITY OF ARCADIA

2024/2025 ANNUAL SLURRY SEAL PROJECT
PROJECT NO.: 55331025

CONTRACT

BETWEEN
CITY OF ARCADIA
AND
AMERICAN ASPHALT SOUTH, INC.

CONTRACT FOR THE
CITY OF ARCADIA

This CONTRACT, No. _____ is made and entered into this ____ day of _____, _____, by and between City of Arcadia, sometimes hereinafter called "City," and **American Asphalt South, Inc.**, sometimes hereinafter called "Contractor."

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other as follows:

A. SCOPE OF WORK. The Contractor shall perform all Work within the time stipulated in the Contract, and shall provide all labor, materials, equipment, tools, utility services, and transportation to complete all of the Work required in strict compliance with the Contract Documents as specified in Article 5, below, for the following Project:

2024/2025 Annual Slurry Seal Project / Project No.: 55331025

The Contractor and its surety shall be liable to the City for any damages arising as a result of the Contractor's failure to comply with this obligation.

B. TIME FOR COMPLETION. Time is of the essence in the performance of the Work. The Work shall be commenced on the date stated in the City's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within **Sixty (60)** calendar days from the commencement date stated in the Notice to Proceed. By its signature hereunder, Contractor agrees the time for completion set forth above is adequate and reasonable to complete the Work.

C. CONTRACT PRICE. The City shall pay to the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of **ONE MILLION, ONE HUNDRED EIGHTY-TWO THOUSAND, SEVEN HUNDRED THIRTY-FOUR DOLLARS AND FORTY-FIVE CENTS ($1,182,734.45)**. Payment shall be made as set forth in the General Conditions.

D. LIQUIDATED DAMAGES. In accordance with Government Code section 53069.85, it is agreed that the Contractor will pay the City the sum set forth in Special Conditions, Article 1.11 for each and every calendar day of delay beyond the time prescribed in the Contract Documents for finishing the Work, as Liquidated Damages and not as a penalty or forfeiture. In the event this is not paid, the Contractor agrees the City may deduct that amount from any money due or that may become due the Contractor under the Contract. This Article does not exclude recovery of other damages specified in the Contract Documents.

E. COMPONENT PARTS OF THE CONTRACT. The "Contract Documents" include the following:

Notice Inviting Bids
Instructions to Bidders
Bid Form
Bid Bond
Designation of Subcontractors
Information Required of Bidders
Non-Collusion Declaration Form
Iran Contracting Act Certification
Public Works Contractor Registration Certification

Performance Bond
Payment (Labor and Materials) Bond
General Conditions
Special Conditions
Technical Specifications
Addenda
Plans and Drawings
Standard Specifications for Public Works Construction “Greenbook”, latest edition, Except Sections 1-9
Applicable Local Agency Standards and Specifications, as last revised
Approved and fully executed change orders
Any other documents contained in or incorporated into the Contract

The Contractor shall complete the Work in strict accordance with all of the Contract Documents.

All of the Contract Documents are intended to be complementary. Work required by one of the Contract Documents and not by others shall be done as if required by all. This Contract shall supersede any prior agreement of the parties.

F. PROVISIONS REQUIRED BY LAW AND CONTRACTOR COMPLIANCE. Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the California Labor Code and California Public Contract Code which are applicable to this Work.

G. INDEMNIFICATION. Contractor shall provide indemnification and defense as set forth in the General Conditions.

H. PREVAILING WAGES. Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at the City’s Administrative Office or may be obtained online at dir.ca.gov and which must be posted at the job site.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS WHEREOF, this Contract has been duly executed by the above-named parties, on the day and year above written.

CITY OF ARCADIA

By: _____
Dominic Lazzaretto
City Manager

Attest:

By: _____
City Clerk

Approved as to Form:

_____
Michael J. Maurer
City Attorney

AMERICAN ASPHALT SOUTH, INC.

By: _____
Signature

_____
Print Name and Title

By: _____
Signature

_____
Print Name and Title

STAFF REPORT

Public Works Services Department

DATE: March 18, 2025

TO: Honorable Mayor and City Council

FROM: Paul Cranmer, Public Works Services Director
By: Carmen Masud, Deputy Public Works Director

SUBJECT: AMENDMENT TO THE PROFESSIONAL SERVICES AGREEMENT WITH RAFTELIS FINANCIAL CONSULTANTS, INC. TO INCLUDE A WATER AND SEWER CAPACITY FEE STUDY IN THE AMOUNT OF $19,960
CEQA: Not a Project
Recommendation: Approve

SUMMARY

On July 16, 2024, the City Council authorized and directed the City Manager to execute a Professional Services Agreement ("PSA") with Raftelis Financial Consultants, Inc., in the amount of $89,977 with a 10% contingency, for the Water and Sewer Cost of Service Study. Due to the number of new developments being proposed in the City, an amendment to the PSA and change order to the purchase order with Raftelis Financial Consultants, Inc. ("Raftelis") to include a Water and Sewer Capacity Fee Study is necessary. The Water and Sewer Capacity Fee Study will assist the City in developing water and sewer fees based on industry practices and in full compliance with California legal standards, similar to the traffic, recreation, and other development impact fees currently in place.

It is recommended that the City Council approve, authorize, and direct the City Manager to execute an amendment to the PSA with Raftelis Financial Consultants, Inc. to include a Water and Sewer Capacity Fee Study in the amount of $19,960.

BACKGROUND

The City provides water and sewer service to more than 56,000 residents. To determine if water and sewer rate increases are needed to fund ongoing operations and maintenance budgets, as well as the Capital Improvement and Equipment Program, the Public Works Services Department ("PWSD") requested proposals for a comprehensive Water and Sewer Cost of Service Study. On July 16, 2024, the City Council authorized and directed the City Manager to execute a PSA in the amount of $89,977, with a 10% contingency with Raftelis Financial Consultants, Inc., for the Water and Sewer Cost of

Service Study. The PSA includes the development of a financial model that will determine how best to recover projected ongoing operational costs and capital improvements to water and sewer infrastructure. The PWSD and Raftelis have been gathering and analyzing data on the City's water and sanitary sewer operations. The findings of that analysis show that due to the number of new developments being proposed in the City, a Water and Sewer Capacity Fee Study is necessary and should be included as part of the Water and Sewer Cost of Service Study. This work was not included in the original work plan.

DISCUSSION

As new developments are being proposed, the PWSD must make sure that the City's water and sewer infrastructure is adequate to meet growth-related needs. Additionally, it is imperative that new developments pay their fair share of costs to build and maintain infrastructure required to handle additional water and wastewater flows. Implementing Water and Sewer Capacity Fees guarantees that the cost of maintaining or expanding the water and sewer system is distributed equitably among all users. Raftelis is currently assisting the City with its Water and Sewer Cost of Service Study and has provided a proposal to include a Water and Sewer Capacity Fee Study as well.

The Water and Sewer Capacity Fee Study will assist the City in developing fees that are based on industry practices and in full compliance with California legal standards, as contained in California Government Code Sections 6600-66025. This will include compliance with the requirements of California's Mitigation Fee Act. Due to the number of new developments being proposed in the City – including large mixed-use projects, the proliferation of accessory dwelling units, and other new housing developments – a Water and Sewer Capacity Fee Study is essential. Similar to Traffic Mitigation Fees, Recreation Impact Fees, or Fire Protection Facilities Fees, a Water and Sewer Capacity Fee would ensure that new developments pay their fair share of any necessary upgrades to the overall system, to maintain adequate capacity as the community continues to expand. The proposed Fee Study would provide a legally defensible and statistically objective methodology for establishing a fee for future water and sewer improvements. While this work is separate from the Water and Sewer Cost of Service Study, there are many efficiencies that could be achieved by completing these efforts simultaneously using the same firm.

ENVIRONMENTAL ANALYSIS

The proposed action does not constitute a project under the California Environmental Quality Act ("CEQA"), and it can be seen with certainty that it will have no impact on the environment.

FISCAL IMPACT

Funds in the amount of $175,000 were budgeted in the Fiscal Year 2024-25 Capital Improvement Program for the Water and Sewer Cost of Service Study. On July 16, 2024, the City Council executed a PSA in the amount of $89,977, with a 10% contingency with Raftelis Financial Consultants, Inc., for the Water and Sewer Cost of Service Study. The total cost for the Water and Sewer Capacity Fee Study is $19,960. Sufficient funds are available in the Fiscal Year 2024-25 Capital Improvement Program to include the Water and Sewer Capacity Fee Study.

Any fee that is ultimately adopted would provide additional revenues for future water and sewer system improvements. By assigning a fair share allocation to new developments that generate the need for additional capacity, rates for existing customers can remain lower. The proposed Water and Sewer Capacity Fee Study would provide estimates on potential future costs and associated revenues that could be derived from any proposed fee structures.

RECOMMENDATION

It is recommended that the City Council determine that this action does not constitute a project under the California Environmental Quality Act (“CEQA”); and approve, authorize, and direct the City Manager to execute an amendment to the Professional Services Agreement with Raftelis Financial Consultants, Inc. to include a Water and Sewer Capacity Fee Study in the amount of $19,960.

Approved:

Dominic Lazzaretto
City Manager

Attachment: Amendment No. 1 to the Professional Services Agreement

AMENDMENT NO. 1 TO THE PROFESSIONAL SERVICES AGREEMENT REGARDING WATER AND SEWER RATE STUDY BY AND BETWEEN THE CITY OF ARCAIDA AND RAFTELIS FINANCIAL CONSULTANT, INC.

This Amendment No. 1 ("Amendment No. 1") is hereby entered into this ____ day of _____, 2025 by and between the City of Arcadia, a municipal corporation of the State of California, and **Raftelis Financial Consultant, Inc.**, a California Corporation, with respect to that certain Professional Services Agreement between the parties dated September 3, 2024 ("Agreement").

The Parties agree as follows:

1. Pursuant to Section 1 of the Agreement, the Scope of Services is hereby amended as set forth in the attached Exhibit "A".

2. Pursuant to Section 2 of the Agreement, Compensation is hereby amended as set forth in the attached Exhibit "B" to include a Water and Sewer Capacity Fee Study in an amount not to exceed Nineteen Thousand, Nine Hundred Sixty Dollars and No Cents ($19,960.00).

3. All terms and provisions of the Agreement not amended by this Amendment No. 1 are hereby reaffirmed.

In witness whereof the Parties have executed this Amendment No. 1 on the date set forth below.

CITY OF ARCADIA

By: _____
Dominic Lazzaretto
City Manager

Dated: _____

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
Michael J. Maurer
City Attorney

RAFTELIS FINANCIAL CONSULTANTS, INC.

By: _____

Title: _____

Dated: _____

By: _____

Title: _____

Dated: _____

CONCUR:

_____
Paul Cranmer
Public Works Services Director

Exhibit "A"
Scope of Services

The Scope of Services for the Water and Sewer Rate Study are hereby amended to include and incorporate a Water and Sewer Capacity Fee Study. The following new tasks to the Agreement dated September 3, 2024, shall include, but are not limited to the following:

Consultant shall consult with City staff to understand how capacity fees are currently assessed and what costs they recover. Based on the understanding gained from this discussion Consultant will develop a proposed approach and provide the City with a comprehensive data request. Consultant will then review all relevant documentation, including the water and sewer engineering master plants, the City's Urban Water Management Plan, and the City's rules/regulations for capacity fees. A key decision point in the capacity fee calculation process is the determination of the appropriate methodology to use. There are three industry-standard methods for the calculation of capacity fees:

- **Buy-In Approach**: Appropriate for utilities with existing available infrastructure capacity to meet projected demand

- **Incremental Approach**: Appropriate for utilities with existing infrastructure capacity constraints that must construct significant new infrastructure to meet projected demand

- **Hybrid Approach**: Appropriate for utilities with some available existing infrastructure capacity but also a need to construct new infrastructure to meet projected demand

The capacity fees we develop will be based on industry practices and in full compliance with California legal standards as contained in California Government Code Sections 6600 - 66025. This will include compliance with the requirements of California's Mitigation Fee Act and general legal principles related to impact fees. Under California law, "fees," as opposed to "taxes," can be adopted without the two-thirds vote of the public as required by Proposition 13. The State of California Mitigation Fee Act, also known as AB 1600 and codified in Sections 66000-66025 of the California Government Code, establishes a requirement for "nexus" in the

Buy-In Method

The buy-in approach is most suitable when the current utility system has excess capacity to accommodate growth. It is also the most common methodology. The buy-in approach rests on the premise that new customers are entitled to service at the same "price or cost" as existing customers. However, existing customers have already developed the facilities that will serve new customers, including the costs associated with financing those services. Under the buy-in approach, new customers pay an amount equal to the net investment (accounting for depreciation) already made by existing customers, based on the value of the utility. The value is normally established using the cost approach of replacement cost less depreciation. There are two variations of the buy-in approach: the system buy-in and the equity buy-in. For the system buy-in, the system value is divided by the ultimate system demand to determine the proposed capacity fee. For the equity buy-in, the system value is divided by the current demand.

Incremental Method

The incremental method is a forward-looking calculation and can be used when substantial new investment in capital facilities is required to serve new customers. Stated simply, it is the value of the new facilities divided by the total capacity of the new facilities.

Hybrid Method

A hybrid approach can be used when new customers will use both current excess capacity in existing facilities and new facilities. Mathematically, it is the weighted average of the buy-in method and the incremental method.

establishment of a development fee. The nexus requirements are that: 1) a development fee is directly related to the impacts of the development and 2) the fee is roughly proportional to the cost of serving the project.

Task 1: Water Capacity Fee Study

Determination of the Calculation Methodology

Raftelis will provide information to the City on the industry standard capacity fee calculation methodologies (mentioned above) and work with the City to choose the appropriate methodology to be used in the City's water capacity fee study.

Valuation of Water Infrastructure

Informed by the chosen calculation methodology, Raftelis will develop a water capacity fee model that reflects either, or both, of the following:

- **Existing Infrastructure:** An infrastructure valuation for each major existing functional component of the water system. For existing assets, the valuation will be based on "replacement cost less deprecation" (RCLD). The replacement cost will be developed using the construction cost inflation factors published in the Engineering News-Record (ENR CCI). The value of growth-related infrastructure will be based on present value as expressed in 2024 dollars. If the City's fixed asset subsidiary ledger does not contain an adequate level of information to develop a replacement cost estimate using these construction cost inflation factors (for example, inadequate information on the function performed by major assets), then an alternative valuation method will be selected in consultation with City staff.

- **Planned Infrastructure Expansion:** The present value of projected water growth-related infrastructure expenditures contained in the City's current capital improvement plans.

As part of the infrastructure valuation process, outstanding debt principal used to finance existing system water infrastructure will be subtracted from the RCLD valuation. Accumulated cash reserves will be added to the RCLD valuation.

Determination of Customer Demand

For the Buy-In Method, Raftelis will estimate the number of equivalent residential units (ERU) currently served by the City's existing water system. The number of ERUs will reflect the number of equivalent connections of the appropriate meter size (e.g., 3/4") calculated for the City's water system using your current meter technologies and associated maximum meter flow rates. For the Incremental Method, Raftelis will project the number of future ERUs that can be served by planned growth-related infrastructure additions. This estimate will be based on residential customer household density and GPCD water usage. As part of this process, Raftelis will analyze billing data for existing customers, consult your current Urban Water Management Plan, and the most recent engineering master plan.

Calculation of the Water Capacity Fee

Based on the work completed in the above subtasks, Raftelis will calculate the following:

- The baseline water capacity fee expressed on a $/ERU basis (e.g., for a 3/4" equivalent connection)
- A water capacity fee assessment schedule for each water meter size served by the City's water system

Task 2: Sewer Capacity Fee Study
The process used to calculate the sewer capacity fees will be similar to that used for the water capacity fee. Raftelis will work with the City to determine the basis which is appropriate for the sewer capacity fee study. At present, Raftelis assumes the City will wish to use ERUs as the basis for calculating sewer capacity fees. However, other metrics may be used.

Determination of the Calculation Methodology
Raftelis will work with City staff to determine the appropriate methodology for the sewer capacity fee study (i.e., Buy-In, Incremental, Hybrid).

Valuation of Sewer Infrastructure
The RCLD of sewer infrastructure will be calculated using the following key inputs:

- Existing and planned future sewer infrastructure directly owned by the City
- Existing and planned future sewer infrastructure shared with the Los Angeles County Sanitation Districts

As part of the infrastructure valuation process, outstanding debt principal used to finance existing system sewer infrastructure will be subtracted from the RCLD valuation. Accumulated cash reserves will be added to the RCLD valuation.

Determination of Customer Demand
Pending discussions with City staff, ERUs will be calculated based on the chosen ERU basis.

Calculation of the Sewer Capacity Fee
Based on the work completed in in the above sub-tasks, Raftelis will calculate the following:

- The sewer capacity fee expressed in a baseline $/ERU basis

Task 3: Comprehensive Reports
Raftelis will complete a comprehensive report discussing the assumptions, calculation methodologies, and recommended water and wastewater capacity fees calculated in Tasks 2 and 3 above.

Proposed Project Team

The Raftelis project team will consist of the same personnel who are currently assigned to the City's Water and Sewer Rate Study:

- Sudhir Pardiwala, Project Director
- John Wright, Project Manager
- Katelyn Milius, Lead Consultant
- Nick Kennedy, Staff Consultant

Exhibit "B"
Schedule of Charges/Payments

Consultant will invoice City on a monthly cycle. Consultant will include with each invoice a detailed progress report that indicates the amount of budget spent on each task. Consultant will inform the City regarding any out-of-scope being performed by Consultant. This is a time-and-materials contract.

Compensation shall be based on time and materials spent in accordance with the following tasks, not to exceed the total Amended compensation listed below:

The schedule of prices is attached as attachment "A" to this Exhibit "B."

Water and Sewer Capacity Fee Study	-	$19,960.00
Total Compensation (for additional study)	-	$19,960.00

The total compensation shall not exceed the total listed without written authorization in accordance with Section 2 (b) of the Agreement dated September 3, 2024. The project timeline is attached as attachment "A" to this Exhibit "B."

Attachment “A” to Exhibit “B”

Tasks	Web Meetings	Hours					Total Fees & Expenses
		SP	JW	SC/KM	Admin	Total	
Task 1: Water Capacity Fee	1	1	6	18	1	26	**$6,640**
Task 2: Wastewater Capacity Fee	1	1	4	16		21	**$5,410**
Task 43: Comprehensive Report	1	1	6	24		31	**$7,910**
Total Meetings / Hours	**3**	**3**	**16**	**58**	**1**	**78**	
Hourly Billing Rate		**$400**	**$320**	**$220**	**$100**		
Total Professional Fees		**$1,200**	**$5,120**	**$12,760**	**$100**	**$19,180**	

SP = Sudhir Pardiwala, Project Director
JW = John Wright, Project Manager
Katelyn Milius, Lead Consultant
Admin = Raftelis Administration

Total Fees	**$19,180**
Total Expenses	**$780**
Total Fees & Expenses	**$19,960**

Proposed Project Schedule

Proposed schedule is completion of the study in three months from the notice to proceed.

STAFF REPORT

Development Services Department

DATE: March 18, 2025

TO: Honorable Mayor and City Council

FROM: Jason Kruckeberg, Assistant City Manager/Development Services Director
By: Kevin Merrill, City Engineer

SUBJECT: PURCHASE ORDERS WITH AMERICAN RIGHT OF WAY, INC. AND SWARCO, INC. FOR THE PURCHASE OF NEW TRAFFIC SIGNAL POLES AND FOUR NEW TRAFFIC SIGNAL CABINETS FOR THE CENTENNIAL WAY AND EL MONTE AVENUE & DUARTE ROAD/CAMPUS DRIVE TRAFFIC SIGNAL PROJECT, IN THE AMOUNT OF $180,457.17
CEQA: Exempt
Recommendation: Approve

SUMMARY

The Development Services Department identified four unsignalized intersections, two at Centennial Way and two on El Monte Avenue at Duarte Road and Campus Drive, for safety enhancements. Willdan Engineering was contracted to perform traffic signal warrant analyses, which recommended new traffic signals for all four intersections. As labor and equipment costs continue to increase and material delivery times grow substantially, it is beneficial to purchase traffic signal poles and cabinets well in advance of a project. By purchasing traffic signal poles and cabinets directly from the distributor or manufacturer, the City is able to purchase at a reduced price, receive delivery in a timely manner, and eliminate contractor markups.

It is recommended that the City Council authorize and direct the City Manager to execute Purchase Orders with American Right of Way, Inc. in the amount of $91,225.23 for traffic signal poles, and with Swarco, Inc. in the amount of $89,231.94 for traffic signal cabinets, for the combined total of $180,457.17.

BACKGROUND

Through annual safety reviews of City streets, the Development Services Department identified four unsignalized intersections that needed safety enhancements for pedestrians, cyclists, and motorists. The intersections are as follows:

- Centennial Way & Westbound Huntington Drive
- Centennial Way & Eastbound Huntington Drive
- El Monte Avenue & Campus Drive
- El Monte Avenue & Duarte Road

Willdan Engineering was contracted to perform traffic signal warrant analyses for the Centennial Way intersections in 2023 and the El Monte Avenue & Duarte Road/Campus Drive intersections in 2024. Each analysis recommends that new traffic signals be installed at each intersection. As a result, the Centennial Way and El Monte Avenue & Duarte Road/Campus Drive Traffic Signal Project ("Project") was included in the City's Fiscal Year 2024-25 Capital Improvement Program. The Project will install new traffic signal poles, equipment, and cabinets.

Traffic signal poles and cabinets are traditionally included in traffic signal improvement projects handled by the contractors. However, in 2022, the City began purchasing traffic signal cabinets ahead of projects, and it has lowered costs and eliminated procurement delays. This project requires a significant number of traffic signal poles in addition to cabinets, and new traffic signal poles have even longer lead times. In order to ensure timely completion of the Project, the City will procure the poles and cabinets prior to construction. The City will be saving costs by purchasing the poles and cabinets directly from the distributor or manufacturer.

DISCUSSION

Arcadia's Purchasing Policy allows the use of other agencies' contracts to facilitate purchases, also known as "piggybacking", in its procurement process. Essentially, piggybacking is a form of intergovernmental cooperative purchasing, in which a public agency uses an existing public contract to procure similar items or services. This method allows savings in time, resources, and cost by leveraging another agency's successful competitive bidding process, with the benefits of volume or bulk pricing.

In 2022, the City purchased traffic signal cabinets by piggybacking on a County of Riverside competitive bid. In 2023, the County of Riverside readvertised for traffic signal controller cabinets and the cabinets are still the same ones preferred by the City of Arcadia. Swarco, Inc. was the low bidder and was awarded a five-year contract to provide equipment on an as-needed basis. Piggybacking on the County of Riverside's bidding process ensures the City will get the best price for the desired equipment.

The City received Swarco, Inc.'s pricing from their contract with the County of Riverside. The desired cabinet is the 352i-ATC Cabinet anodized (fully loaded), priced at $20,234, highlighted in green on the Attachment. In total, four (4) cabinets will be purchased at this price for a total of $89,231.94.

In February 2025, the City advertised for the procurement of traffic signal poles and received bids from two (2) companies, summarized below.

Bidder	Location	Price
American Right of Way	La Puente, CA	$91,225.23
Crosstown Electric	Irwindale, CA	$123,765.00

American Right of Way, Inc. was the low bidder and is fully qualified to purchase and distribute the poles. Additionally, they may continue to provide traffic signal poles and other traffic signal equipment, if selected as the low bidder in the future. Swarco, Inc. is fully qualified to manufacture and distribute the cabinets, and will continue to provide them and other traffic signal equipment to the City.

ENVIRONMENTAL ANALYSIS

This project is categorically exempt pursuant to the California Environmental Quality Act ("CEQA"), Section 15303 (New Construction or Conversion of Small Structures), as the project involves the replacement of existing facilities, and limited installation of new, small structures related to the traffic signal system, with no expansion of use.

FISCAL IMPACT

The cost for new traffic signal poles and traffic signal cabinets, including shipping and sales tax, is shown below:

Supplier	Items	Price
American Right of Way	Traffic Signal Poles	$91,225.23
Swarco, Inc.	Traffic Signal Cabinets	$89,231.94
Total		**$180,457.17**

The Project was programmed in the Fiscal Year 2024-25 Capital Improvement Plan with a total budget of $900,000, with $500,000 from Transportation Impact Fees and $400,000 from Measure M funds. Design of the Project is still ongoing, but is being done by City staff, so there will be no major costs incurred from design, and the remaining balance after this purchase, will cover construction costs. There are sufficient funds budgeted to cover this purchase.

RECOMMENDATION

It is recommended that the City Council determine that this project is exempt under the California Environmental Quality Act (“CEQA”); and authorize and direct the City Manager to execute Purchase Orders with American Right of Way, Inc. and Swarco, Inc. for the purchase of new traffic signal poles and four new traffic signal cabinets for the Centennial

Way and El Monte Avenue & Duarte Road/Campus Drive Traffic Signal Project, in the amount of $180,457.17.

Approved:

Dominic Lazzaretto
City Manager

Attachment: Swarco Pricing from County of Riverside Bid

CONTRACT

County of Riverside

County of Riverside
TLMA Administration
PO Box 1605
Riverside CA 92502
USA

Dispatch via E-Mail

Contract ID			Page
TLARC-55089-00090-06/26			1 of 4
Contract Dates	**Currency**	**Rate Type**	**Rate Date**
03/10/2023 to 06/30/2026	USD	CRRNT	PO Date
Description:		**Contract Maximum**	
TRAFFIC SIGNAL CONTROLLERS, CA		252,739.00	
Allow Multicurrency PO			

Supplier 0000001603
McCain Traffic Supply
2365 Oak Ridge Way
Vista CA 92081
USA

Tax Exempt? N Tax Exempt ID:

Contract Lines:

Line #	Supplier Item	Item Desc	UOM	Minimum Order Qty	Minimum Order Amt	Maximum / Open Qty	Maximum / Open Amt
1		TRAFFIC SIGNAL CONTROLLERS, CABINETS & COMPONENTS	EA	1.00	0.00	0.00	0.00

Pricing Agreement:
Pricing Date: PO Date
Pricing Quantity: PO Date
Quantity Type: Current Order Quantity

This contract is being issued at the request of the Department of TLMA for items as noted.

All discrepancies in price or quantities must be communicated before work is completed or orders are shipped. No partial orders or backorders accepted. Please ship complete order.

Riverside County Terms and Conditions are in full effect as noted.
To view County's Terms and Conditions, please refer to http://www.purchasing.co.riverside.ca.us
*116-200 General Conditions Personal/Professional Services
*116-210 General Conditions Materials and/or Services
*116-220 General Conditions Public Works Under $25K
*116-222 General Conditions Public Works Over $25K
*116-230 General Conditions Equipment
*Acceptance of order confers acceptance of terms as applicable to the product or service noted on this PO
TO INSURE PROMPT PAYMENT THE CONTRACT NUMBER MUST BE REFERENCED ON ALL INVOICES & DOCUMENTS.
In the Event of contradiction, between the County's and the Seller's conditions, the County's conditions shall prevail.

PAYMENT TERMS: Net 30 unless acceptable prompt payment discount terms are stated. For calculating due dates for payment terms, the County will use either the date that the invoice is received by the County or the date the goods/services are received, whichever is later.
PO number must be referenced on all work orders and invoices to assure prompt payment.
Invoices must be itemized and include a breakdown of parts and labor, if applicable.
Electronic invoices and payment inquiries can be sent to: tlmaacctspay@rivco.org

Monica Rossow
Procurement Contract Specialist
Department of Waste Resources
Office (951) 955-8324
Dec 2023 Revised Price Effective 1/1/2024

Vendro Item Number Item Name Item Description PROPOSED PRICE
M68610+ 332L Cabinet, anodized (fully loaded) 332L Cabinet, anodized (fully loaded) including all components & 2070E controller/2033 software (latest) $14,729.00
M46312+ 333L Cabinet, anodized (fully loaded) 333L Cabinet, anodized (fully loaded) including all components & 2070E controller/2033 software (latest) $16,505.00
M68610 332L cabinet, anodized Component for 332L or 333L Cabinet and Controller Assembly $7,086.50
M46312 333L cabinet, anodized Component for 332L or 333L Cabinet and Controller Assembly $9,127.58
M14317 Corbin #2 lock, left door Component for 332L or 333L Cabinet and Controller Assembly $30.56
M14318 Corbin #2 lock, right door Component for 332L or 333L Cabinet and Controller Assembly $30.56
M44004 2070E controller (without software) Component for 332L or 333L Cabinet and Controller Assembly $2,025.97
S-2033RV 2033 software (latest). Component for 332L or 333L Cabinet and Controller Assembly $1,100.50
M62989 Power Distribution Assembly PDA-2L Component for 332L or 333L Cabinet and Controller Assembly $609.76
M68763 EDI 2010ECLip EDI Conflict monitor Component for 332L or 333L Cabinet and Controller Assembly $950.00
M15545 Red Monitor Kit Component for 332L or 333L Cabinet and Controller Assembly $75.00
M15924 C-2 Cable Component for 332L or 333L Cabinet and Controller Assembly $65.00
M44010 + M33998 2070-1E, CPU Module, (standard included). Component for 332L or 333L Cabinet and Controller Assembly $603.22
M44020 2070-2E, Field I/O Module, (standard included). Component for 332L or 333L Cabinet and Controller

Final = The price is final after adjustments
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Authorized Signature
Monica Rossow

CONTRACT

County of Riverside

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Tax Exempt? N Tax Exempt ID:

Assembly $445.00
M44015 2070-3B, 8x40 Display Module, (standard included). Component for 332L or 333L Cabinet and Controller Assembly $372.13
M77873 2070-4A, Power Supply Module, (standard included). Component for 332L or 333L Cabinet and Controller Assembly $325.00
M33152 2070-6A, 1200 Baud Modem Module Component for 332L or 333L Cabinet and Controller Assembly $765.00
M45581 2070-7G, GPS Time Source Module (model M45581). Component for 332L or 333L Cabinet and Controller Assembly $625.14
M11371 200 Modular encapsulation I/O Load Switch Component for 332L or 333L Cabinet and Controller Assembly $39.97
M11377 204 flasher, Modular encapsulation Component for 332L or 333L Cabinet and Controller Assembly $42.50
M35579 206L power supply Component for 332L or 333L Cabinet and Controller Assembly $207.32
M68373 EDI LMD222 detectors Component for 332L or 333L Cabinet and Controller Assembly $135.00
M56812 242 Isolator, PDC Component for 332L or 333L Cabinet and Controller Assembly $56.80
M11556 430 F.T.R. flash transfer relay Component for 332L or 333L Cabinet and Controller Assembly $25.00
M12549 Harness Assembly for I/O Load Switches Component for 332L or 333L Cabinet and Controller Assembly $2.00
M36633 LED Lamp Kit, 1 light, 2 switches, for 332L or 333L Component for 332L or 333L Cabinet and Controller Assembly $266.55
M42176-MOD Drawer/Shelf for 332L or 333L Component for 332L or 333L Cabinet and Controller Assembly $100.00
M36210 Rack mount detector input panel for 332L or 333L Component for 332L or 333L Cabinet and Controller Assembly $225.00
E17515 Intersection sketch/cabinet print Component for 332L or 333L Cabinet and Controller Assembly $74.00
E24876 Certificate of Compliance Component for 332L or 333L Cabinet and Controller Assembly $50.00
M91509+ 352i-ATC Cabinet, anodized (fully loaded) 352i-ATC Cabinet, anodized (fully loaded) including all components & 2070LX controller with (latest) software $20,234.00
M76098-RIVCO+ 350i-ATC Cabinet, anodized (fully loaded) 350i-ATC Cabinet, anodized (fully loaded) including all components & 2070LX controller with (latest) software. $22,064.00
M91509 352i cabinet, anodized Components for 352i or 350i 2070LX Controller Cabinets $9,916.00
M76098-RIVCO 350i cabinet, anodized Components for 352i or 350i 2070LX Controller Cabinets $11,692.00
M14317 Corbin #2 lock, left door Components for 352i or 350i 2070LX Controller Cabinets $30.56
M14318 Corbin #2 lock, right door Components for 352i or 350i 2070LX Controller Cabinets $30.56
M54372 OMNI 2070 LX controller (without software) Components for 352i or 350i 2070LX Controller Cabinets $2,075.00
S-OMNI OMNI eX software (latest). Components for 352i or 350i 2070LX Controller Cabinets $1,100.50
M84650 CMUip Monitor Key Programming Tool. Components for 352i or 350i 2070LX Controller Cabinets $573.68
M33152 2070-6A, 1200 Baud Modem Module. Components for 352i or 350i 2070LX Controller Cabinets $752.60
M45581 2070-7G, GPS Time Source Module (model M45581). Components for 352i or 350i 2070LX Controller Cabinets $625.14
24CH-IA-ATC 24-channel input assembly & field input assembly. Components for 352i or 350i 2070LX Controller Cabinets $548.27
M54140 16-channel output assembly & field output assembly. Components for 352i or 350i 2070LX Controller Cabinets $1,764.65
M36256 Model 22202-HV (HDSP-FU) Flasher Unit. Components for 352i or 350i 2070LX Controller Cabinets $266.96
M36258 Model 2218 Serial Interface Unit (SIU). Components for 352i or 350i 2070LX Controller Cabinets $295.00
M52476 Model 21H High-Density Flash Transfer Relay (HDFTR). Components for 352i or 350i 2070LX Controller Cabinets $33.58
M36259 Model 2212-HV Cabinet Monitor Unit (CMUip). Components for 352i or 350i 2070LX Controller Cabinets $825.00
M36261 Model 2216-24 Cabinet Power Supply (CPS). Components for 352i or 350i 2070LX Controller Cabinets $527.85
M36255 Model 2220 Auxiliary Display Unit (ADU). Components for 352i or 350i 2070LX Controller Cabinets $566.80
M52495 Red Flash Program Block. Components for 352i or 350i 2070LX Controller Cabinets $3.59
M52497 Yellow Flash Program Block. Components for 352i or 350i 2070LX Controller Cabinets $3.59
M52496 White Flash Program Block. Components for 352i or 350i 2070LX Controller Cabinets $3.53
M58625 Cabinet Suppressor-Filter. Components for 352i or 350i 2070LX Controller Cabinets $130.00
M73486 High Density Switch Pack (HDSP) Suppressor. Components for 352i or 350i 2070LX Controller Cabinets $15.58
35XLAMPKIT LED Lamp Kit, 1 light, 2 switches, for 352i or 350i Components for 352i or 350i 2070LX Controller Cabinets $250.00
M42725 Drawer/Shelf for 352i or 350i Components for 352i or 350i 2070LX Controller Cabinets $101.00
RM-DET-PANEL-ATC Rack mount detector input panel for 352i or 350i Components for 352i or 350i 2070LX Controller Cabinets $224.00
E17515 Intersection sketch/cabinet print Components for 352i or 350i 2070LX Controller Cabinets $74.00
E24876 Certificate of Compliance Components for 352i or 350i Controller Cabinet Assembly $50.00
M91509 352i-ATC Cabinet, anodized (fully loaded) 352i-ATC Cabinet, anodized (fully loaded) including all components &

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FLeX controller with (latest) software. $20,234.00
M76098 350i-ATC Cabinet, anodized (fully loaded) 350i-ATC Cabinet, anodized (fully loaded) including all components & FLeX controller with (latest) software. $22,064.00
M91509 352i cabinet, anodized Components for 352i or 350i Flex Controller Cabinets $9,916.00
M76098-RIVCO 350i cabinet, anodized Components for 352i or 350i Flex Controller Cabinets $11,692.00
M14317 Corbin #2 lock, left door Components for 352i or 350i Flex Controller Cabinets $30.56
M14318 Corbin #2 lock, right door Components for 352i or 350i Flex Controller Cabinets $30.56
M73101RWA FLeX controller (rack mounted) (no software) Components for 352i or 350i Flex Controller Cabinets $2,075.00
S-OMNI OMNI eX software (latest) Components for 352i or 350i Flex Controller Cabinets $1,100.50
M84650 CMUip Monitor Key Programming Tool Components for 352i or 350i Flex Controller Cabinets $573.68
M44342 + M59207 GPS Time Source Module (model M44342) & Cable (M59207) Components for 352i or 350i Flex Controller Cabinets $660.29
24CH-IA-ATC 24-channel input assembly & field input assembly. Components for 352i or 350i Flex Controller Cabinets $548.27
M54140 16-channel output assembly & field output assembly Components for 352i or 350i Flex Controller Cabinets $1,764.65
M36256 Model 22202-HV (HDSP-FU) Flasher Unit Components for 352i or 350i Flex Controller Cabinets $266.96
M36258 Model 2218 Serial Interface Unit (SIU) Components for 352i or 350i Flex Controller Cabinets $295.00
M52476 Model 21H High-Density Flash Transfer Relay (HDFTR) Components for 352i or 350i Flex Controller Cabinets $33.58
M36259 Model 2212-HV Cabinet Monitor Unit (CMUip) Components for 352i or 350i Flex Controller Cabinets $825.00
M36261 Model 2216-24 Cabinet Power Supply (CPS) Components for 352i or 350i Flex Controller Cabinets $527.85
M36255 Model 2220 Auxiliary Display Unit (ADU) Components for 352i or 350i Flex Controller Cabinets $566.80
M52495 Red Flash Program Block Components for 352i or 350i Flex Controller Cabinets $3.59
M52497 Yellow Flash Program Block Components for 352i or 350i Flex Controller Cabinets $3.59
M52496 White Flash Program Block Components for 352i or 350i Flex Controller Cabinets $3.53
M58625 Cabinet Suppressor-Filter Components for 352i or 350i Flex Controller Cabinets $130.00
M73486 High Density Switch Pack (HDSP) Suppressor Components for 352i or 350i Flex Controller Cabinets $15.58
35XLAMPKIT LED Lamp Kit, 1 light, 2 switches, for 352i or 350i Components for 352i or 350i Flex Controller Cabinets $250.00
M42725 Drawer/Shelf for 352i or 350i Components for 352i or 350i Flex Controller Cabinets $101.00
RM-DET-PANEL-ATC Rack mount detector input panel for 352i or 350i Components for 352i or 350i Flex Controller Cabinets $224.00
E17515 Intersection sketch/cabinet print Components for 352i or 350i Flex Controller Cabinets $74.00
E24876 Certificate of Compliance Components for 352i or 350i Flex Controller Cabinets $50.00
M54372 + S-OMNI 2070LX ATC/w Omni software (latest). Additional Equipment (ATC Individual Cabinet Spare Parts) $3,175.50
M73101RWA + S-OMNI Rack-mount FLeX Controller /w Omni software (latest). Additional Equipment (ATC Individual Cabinet Spare Parts) $3,175.50
M73101SWA + S-OMNI Shelf-mount FLeX Controller /w Omni software (latest). Additional Equipment (ATC Individual Cabinet Spare Parts) $3,175.50
M36256 2202-HV-MC HDSP/FLASHER UNIT (M36256). Additional Equipment (ATC Individual Cabinet Spare Parts) $266.96
M36258 2218-SIU-MC Serial Interface Unit, ATC (M36258). Additional Equipment (ATC Individual Cabinet Spare Parts) $295.00
M36259 2212-HV-MC (ip), 32-CH w/Ethernet Port, ATC (M36259). Additional Equipment (ATC Individual Cabinet Spare Parts) $825.00
M36255 ADU 2220 (M36255). Additional Equipment (ATC Individual Cabinet Spare Parts) $566.80
M52476 HDTFR-Flash Transfer Relay (M52476). Additional Equipment (ATC Individual Cabinet Spare Parts) $33.58
M52475 Struthers & Dunn 428 AXXL 60 Amp 120/48V Solid State Relay (M52475). Additional Equipment (ATC Individual Cabinet Spare Parts) $54.00
M36261 Model 2216-24-HV Power Supply ATC (M36261). Additional Equipment (ATC Individual Cabinet Spare Parts) $527.85
M91177 ATCC-Service Assembly Complete for 16-Ch (M91177). Additional Equipment (ATC Individual Cabinet Spare Parts) $704.97
M91179 ATCC-Service Assembly Complete for 32-Ch (M91179) Additional Equipment (ATC Individual Cabinet Spare Parts) $867.45
M58625 ATC Cabinet Clean Power Filter (M58625). Additional Equipment (ATC Individual Cabinet Spare Parts) $130.00
M74151 ATC Cabinet Input Assembly Panel (M58625). Additional Equipment (ATC Individual Cabinet Spare Parts) $484.44
M44342 GPS Stand Alone Module (M44342). Additional Equipment (ATC Individual Cabinet Spare Parts) $625.14
M44342 GPS Stand Alone Module (M44342). FleX compatible. Additional Equipment (ATC Individual Cabinet Spare Parts) $625.14
M59207 GPS Stand Cable (M59207). FleX compatible. Additional Equipment (ATC Individual Cabinet Spare Parts) $35.15
M59207 GPS Receiver 2070A Cable Assembly (M59207). Additional Equipment (ATC Individual Cabinet Spare Parts) $35.15

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Authorized Signature

Monica Rossow

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Tax Exempt? N Tax Exempt ID:

M73668 ATC Cabinet RRIP Railroad Interface Assembly-Complete (M73668). Additional Equipment (ATC Individual Cabinet Spare Parts) $842.00
M11346 + M32505A + S-233RV 170E controller/412F Prom w/.233RV2 (latest). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $3,300.00
M44004 + S-2033RV 2070E Controller/w 2033 software (latest). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $3,126.47
M15049 170 E Power Supply Plug-In (M15049) Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $316.73
M77873 2070E Power Supply Plug0In (M77873). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $325.00
M52805 CPU to convert 2070E to 2070LX (M52805). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $842.50
M68156 332L Cabinet Clean Power Filter (M68156). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $149.50
M68763 2010ECLip Conflict Monitor (M68763). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $950.00
M35579 206L Power Supply (M35579). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $207.32
M15545 Red Monitor Board Assembly w/ ribbon cable (M15545). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $75.00
M68373 DET, 222, EDI, LMD-222 (M68373). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $135.00
M45581 Module GPS, 2070-7G, Kit (M45581). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $625.14
M36633 LED Lamp Kit (M36633). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $266.55
M11377 204 Flasher, PDC, SSF-87-WP-I/O (M11377). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $42.50
M11371 LS 200, M, I/O PDC SSS-87-I/O (M11371). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $39.97
M54419A Railroad Interface Panel (M54419A). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $600.00
M68672 Railroad Interface Panel Power Supply (M68672). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $115.00
M54451 Railroad Interface Communications Harness (M54451). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $151.00
M16091 IC 70PC1 ST Micro 28 DIP IC Chip (M16091). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $15.00
M11741 Washer #4 Shoulder Nylon (M11741). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $0.05
M30056 Insulator SI Adhesive Back w/hole (M30056). Additional Equipment (332, 332L, 333L individual Cabinet Spare Parts) $0.55
TRANSPARITY Individual license Transparity Additional Misc. Equipment (Individual Spare Equipment Parts) $1,600.00
TRANS-INTER-GRAPHICS Individual intersection graphics for Transparity Additional Misc. Equipment (Individual Spare Equipment Parts) $500.00
M53111 56"H x 26" W x 12"D Side mount BBS cabinet Additional Misc. Equipment (Individual Spare Equipment Parts) $1,489.00
M36319 Generator receptacle for BBS Additional Misc. Equipment (Individual Spare Equipment Parts) $225.00
MARATHON-BYPASS Bypass switch for BBS Additional Misc. Equipment (Individual Spare Equipment Parts) $333.00
SW-RV50X Sierra Wireless Airlink RV50X Router w/ Sierra Wireless PN# 2000579 AC power supply. Additional Misc. Equipment (Individual Spare Equipment Parts) $1,200.00
MOXA-EDR-810-VPN2GSFP-T + DR-4524 MOXA model EDR-810-VPN2GSFP-T Router/Switch and MOXA PN# DR-4524 VDC power supply. Additional Misc. Equipment (Individual Spare Equipment Parts) $1,950.00
M57425 T-12 6' LED IISNS Lamp Additional Misc. Equipment (Individual Spare Equipment Parts) $263.00
M56958 T-12 8' LED IISNS Lamp Additional Misc. Equipment (Individual Spare Equipment Parts) $300.00

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Monica Rossow