

## **4.10 MINERAL RESOURCES**

### **4.10.1 METHODOLOGY**

This section discusses mineral resources in the City of Arcadia based on a review of published reports regarding the local presence of oil, gas, geothermal, and aggregate (sand and gravel) resources within the City limits.

### **4.10.2 RELEVANT PROGRAMS AND REGULATIONS**

#### **State**

##### ***Surface Mining and Reclamation Act***

The Surface Mining and Reclamation Act of 1975 (SMARA), as codified in the *California Public Resources Code* (Section 2710 et seq.), provides a comprehensive surface mining and reclamation policy to minimize adverse environmental impacts and allow mined lands to be restored to a usable condition. SMARA also encourages the production, conservation, and protection of the State's mineral resources. Section 2207 of the *California Public Resources Code* provides annual reporting requirements for all mines in the State, and the State Mining and Geology Board (SMGB) is granted authority and obligations under this section.

SMARA also mandates the classification of lands with valuable mineral resources so that land use decisions that may affect mineral-bearing lands can be made with the knowledge of these resources. SMARA requires the State Geologist to classify areas with potential for significant mineral resources. It states that:

The primary objective of the mineral land classifications is to assure that mineral potential and its significance is recognized and considered before land use decisions that could preclude mining are made. The availability of mineral resources is vital to our society. Yet for most types of minerals, economic deposits are rare, isolated occurrences. Access to terrain for purposes of mineral exploration and mine development has become increasingly difficult because California is also faced with growing land use competition.

The SMGB has classified land in California based on the availability of mineral resources. Four mineral resources zone (MRZ) designations established for classifying sand, gravel, and crushed rock resources are defined below:

- **MRZ-1:** Adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2:** Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- **MRZ-3:** The significance of mineral deposits cannot be determined from the available data.
- **MRZ-4:** There is insufficient data to assign any other MRZ designation.

Under SMARA, aggregate materials are classified as reserves or resources. Reserves are defined as aggregate materials believed to be acceptable for commercial use that exist within property boundaries owned or leased by an aggregate-producing company, and for which permission allowing extraction and processing has been granted by the proper authorities.

Aggregate resources include reserves and similar potentially usable aggregate materials that may be economically mined in the future, but for which no use permit allowing extraction has been granted.

The mineral lands inventory is subject to local public review to identify mineral deposits of State or regional significance and protect their availability for future extraction. The State Geologist also prepares an annual mining report that includes information on the amount of land disturbed during the previous year, acreage reclaimed during the previous year, and amendments to the reclamation plan. SMARA further requires mining operations to have approved Mining/Reclamation Plans prior to the start of operations in order to allow for future reuse of the mine.

### **Local**

#### ***Arcadia Mining Permits and Reclamation Plans***

Article IX, Chapter 5 of the *Arcadia Municipal Code* contains regulations for mining and reclamation operations in the City. The City requires a permit along with approval of a reclamation plan prior to the start of mining operations. The permit is granted if (1) the proposal would not be detrimental to public health, welfare or safety, or injurious to the property or the surrounding area; (2) operations will encourage the production and conservation of minerals and give consideration to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; (3) adverse environmental effects are prevented or minimized; (4) the mined lands are reclaimed for alternative land uses; and (5) it is in compliance with the *Arcadia Municipal Code* and will not adversely affect the *Arcadia General Plan*.

#### **4.10.3 EXISTING CONDITIONS**

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; and geothermal, petroleum, and natural gas resources. Construction aggregate, another mineral resource, refers to sand and gravel (natural aggregates) and crushed stone (rock) that are used as Portland-cement-concrete (PCC) aggregate, asphaltic-concrete aggregate, road base, railroad ballast, riprap, fill, and the production of other construction materials.

Based on the California Department of Conservation maps, there are no oil, gas, or geothermal resources in the City of Arcadia or the surrounding area (DOGGR 2001). Regional wildcat maps (W1-2) showing oil wells in Los Angeles and Ventura Counties indicate the only well in Arcadia is a plugged and abandoned well (dry hole) owned by Vosburgh Oil Corporation and located northeast of the intersection of Duarte Road and Santa Anita Avenue. No pumping operations are ongoing at this well, and no underlying resources are present in the area (DOGGR 2004).

The City of Arcadia is located within the San Gabriel Valley Production-Consumption region, where more than 10 million tons of aggregate resources were produced in 2005. This compares to the State's total production of 235.3 million tons of sand, gravel, and crushed stone for the same year (CGS 2006). Mineral resources in the San Gabriel Valley Production-Consumption region are largely located along the San Gabriel River in the City of Irwindale. Smaller sectors are present on Eaton Wash, Arroyo Seco/Devil's Gate and near Morris Dam (SMGB 1984).

No mining operations are currently ongoing in the City of Arcadia. The Rodeffer Quarry operated at the southern end of the City from 1967 to 1990. The site for the quarry covers

85 acres of land north of Lower Azusa Road and northwest of the San Gabriel River. Approximately 10 million cubic yards of sand and gravel resources were extracted from this quarry to a depth of 150 to 165 feet during its operations. However, groundwater was encountered at the quarry in 1990, making mining operations infeasible. Slumping of the western slope also precluded continued mining operations. In 1994, the reclamation plan for the quarry was approved by the City, which allowed the import of inert materials to fill the quarry pit (Arcadia 1996).

Landfilling operations are regulated by the Regional Water Quality Control Board (RWQCB), CalRecycle (formerly California Integrated Waste Management Board), the California Department of Mines and Geology (CDMG), and other State and regional agencies, which prohibit the use of hazardous wastes, liquid wastes, non-hazardous solid wastes, toxic materials and asbestos, and which require groundwater monitoring and implementation of best management practices for storm water pollution prevention, among other things. To date, the Rodeffer Quarry is partly filled and landfilling operations are ongoing (CalRecycle 2010).

MRZ designations in the City are shown in Exhibit 4.10-1, Mineral Resources Zone (MRZ) Designations.. The areas along Sierra Madre Wash, Santa Anita Wash and the San Gabriel River, including the Peck Road Spreading Basins/Water Conservation Park and the Rodeffer Quarry site, are designated as MRZ-2, which means that adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled (Arcadia 1996).

The central section of the City is designated as MRZ-4, which means that there is insufficient data to assign any other MRZ designation. The rest of the City (northwestern and southern sections) is designated as MRZ-3, which means that the significance of mineral deposits cannot be determined from the available data (Arcadia 1996).

Within the MRZ-2 zones, four sites remain undeveloped:

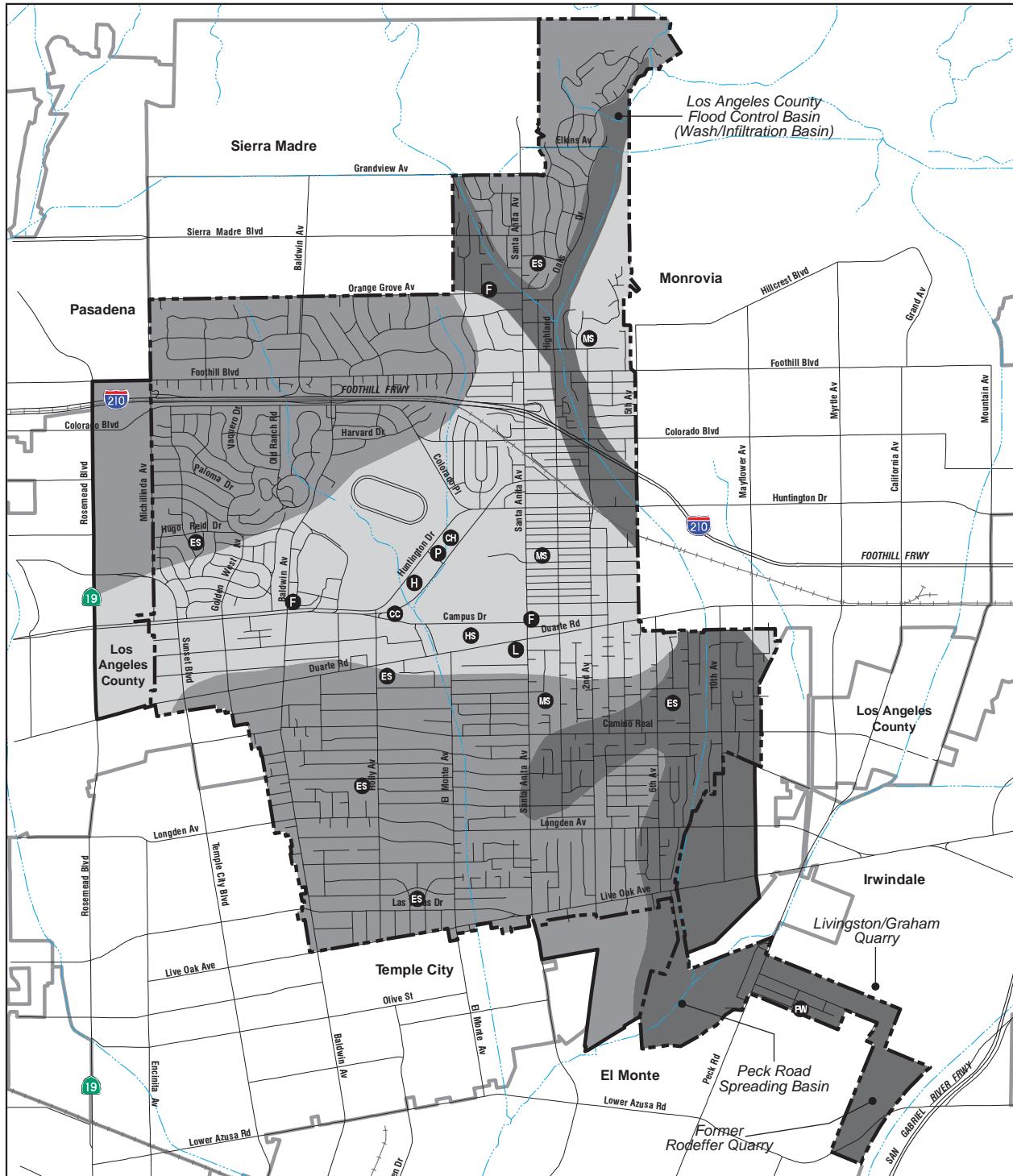
1. The Los Angeles County flood control wash and infiltration basin at the northern portion of the City (along Santa Anita Wash);
2. The former Rodeffer sand and gravel excavation site (quarry);
3. The Peck Road Spreading Basins/Water Conservation Park; and
4. The Livingston-Graham sand and gravel extraction site.

The flood control wash, infiltration basin, and the spreading basin are expected to remain indefinitely in their current open space use for flood control and groundwater recharge functions and the preservation of Wilderness Park for recreational uses and biological resource protection. The former quarry has been mined and no longer contains mineral resources that can be economically extracted. It is expected to be reused for future commercial/industrial uses. The Livingston-Graham site is primarily located within the City of Irwindale; however, the portion located in the City of Arcadia is available for potential mining activity (Hogle-Ireland 2010).

#### **4.10.4 THRESHOLDS OF SIGNIFICANCE**

The following significance criteria are derived from Appendix G of the State CEQA Guidelines. A project would result in a significant adverse impact on mineral resources if it would:

**Threshold 4.10a:** 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; or



## Mineral Resource Zones

- MRZ-2
- MRZ-3
- MRZ-4

## Critical Facilities

CC	Community Center	H	Hospital
CH	City Hall	L	Library
PW	Public Works Department	ES	Elementary School
P	Police Station	HS	High School
F	Fire Station	MS	Middle School

- - - City Boundary
- Sphere of Influence

Source: Hogle-Ireland, Inc. 2010

## Mineral Resource Zone (MRZ) Designations

Arcadia General Plan Update



## Exhibit 4.10-1

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**Threshold 4.10b:** 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.

#### 4.10.5 GENERAL PLAN GOALS, POLICIES, AND IMPLEMENTATION ACTIONS

A number of goals and policies in the proposed General Plan Update address the preservation of mineral resources in the City. Implementation of these goals and policies would reduce impacts on mineral resources from future development. These include:

**Policy LU-7.4:** *Require aggregate mining facilities to adequately buffer operations and facilities with appropriate landscaping and grading techniques.*

**Goal RS-7:** *Productive reuse of former mineral extraction sites in Arcadia, and support of adjacent jurisdictions' continued extraction operations.*

**Policy RS-7.1:** *Facilitate the reclamation of mined lands in Arcadia to a usable condition that is readily adaptable for long-term planned land uses.*

**Policy RS-7.2:** *Support the production of aggregate materials that benefit the region, provided such activities appropriately consider watershed, wildlife, range and forage, aesthetic enjoyment, and other environmental factors.*

**Policy RS-7.3:** *Work with adjacent jurisdictions to minimize any adverse environmental effects and potential public safety hazards associated with mining operations along Arcadia's borders.*

No implementation actions specifically related to mineral resources are included in the General Plan Update.

#### 4.10.6 STANDARD CONDITIONS

There are existing federal, State, and regional regulations that relate to the preservation of mineral resources. Compliance with these regulations, listed below, would be required for all mining operations in the City.

**SC 4.10-1:** Any future mining operations shall comply with the regulations and guidelines of SMARA regarding permits, annual reporting, and reclamation plans.

**SC 4.10-2:** Any future mining operations and ongoing mine reclamation shall comply with Article IX, Chapter 5 of the Arcadia Municipal Code regarding mining and reclamation operations in the City.

#### 4.10.7 ENVIRONMENTAL IMPACTS

Future development pursuant to the General Plan Update and public and infrastructure projects would require mineral resources for the construction of proposed structures and infrastructure.

**Threshold 4.10a:** **Would the proposed 2010 General Plan Update 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?**

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**Threshold 4.10b: Would the proposed 2010 General Plan 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?**

Future development pursuant to the General Plan Update would not occur in areas identified by the State to have aggregate resources, with the exception of the Rodeffer Quarry site. Mining operations at the Rodeffer Quarry site have been completed, all reasonably available mineral resources have been extracted, and reclamation of the Rodeffer quarry site is ongoing. The reclamation of the Rodeffer Quarry site is being conducted in accordance with existing regulations under SMARA (SC 4.10-1) and in the City's Municipal Code (SC 4.10-2) in order to allow for the future reuse of the site for commercial and industrial uses.

As previously described, no mining operations are expected in other areas identified to contain aggregate resources due to the existing flood control and groundwater recharge functions of the Santa Anita Wash and the Peck Road Spreading Basin. These facilities would not be developed with new land uses, but also would not be converted from their existing use into mineral resource reclamation areas. The portion of the Livingston-Graham site within the City is available for potential mining activity, which would require a conditional use permit (CUP) from the City. The proposed General Plan Update would not alter the existing land use designation for the Livingston-Graham site (Industrial) or otherwise change the policies or procedures (i.e. CUP) related to management of the City's portion of this site. Therefore, there would be a less than significant impact related to the loss of availability of a mineral resource as a result of the proposed General Plan Update.

Compliance with Goal RS-7 and Policies RS-7.1, 7.2, and 7.3 in the draft Resource Sustainability Element of the General Plan Update would also facilitate reclamation of mined lands, support aggregate production, and minimize impacts of mining operations on land uses in the City. Implementation of SCs 4.10-1 and 4.10-2; General Plan Goal RS-7; and Policies RS-7.1, 7.2, and 7.3 would prevent the loss of availability of regionally or locally significant aggregate resources. Impacts would be less than significant, and no mitigation is required.

#### **4.10.8 CUMULATIVE IMPACTS**

As discussed above, there would be less than significant impacts to existing areas of the City identified as containing aggregate resources. There are no ongoing mining operations in the City and there would be no changes to land use, policies or procedures that would affect the management of the portion of the Livingston-Graham site within the City of Arcadia. Therefore, implementation of the proposed General Plan Update would not result in cumulative impacts related to the loss of availability of regionally or locally important mineral resource.

#### **4.10.9 MITIGATION MEASURES**

No significant adverse impacts on mineral resources in the City have been identified with implementation of the relevant goals and policies in the General Plan Update and the standard conditions. Thus, no mitigation measures are required.

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#### 4.10.10 LEVEL OF SIGNIFICANCE AFTER MITIGATION

##### **Regional and Local Resources**

Less Than Significant Impact

##### **Cumulative Impacts**

No Impact