4.11 MINERAL RESOURCES

This section discusses mineral resources in the City of Rancho Cucamonga 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.

4.11.1 RELEVANT POLICIES 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 for the regulation of surface mining operations to ensure that adverse environmental impacts are minimized and mined lands are 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 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. The SMARA requires the State Geologist to classify areas with potential for significant mineral resources. It states:

> 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 State Mining and Geology Board has classified land in California based on the availability of mineral resources. Four mineral resources zone (MRZ) designations have been established for classifying sand, gravel, and crushed rock resources:

- ***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 ensure that mineral deposits of State or regional significance are identified and protected 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, to allow for future reuse of the mine.

4.11.2 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, 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.

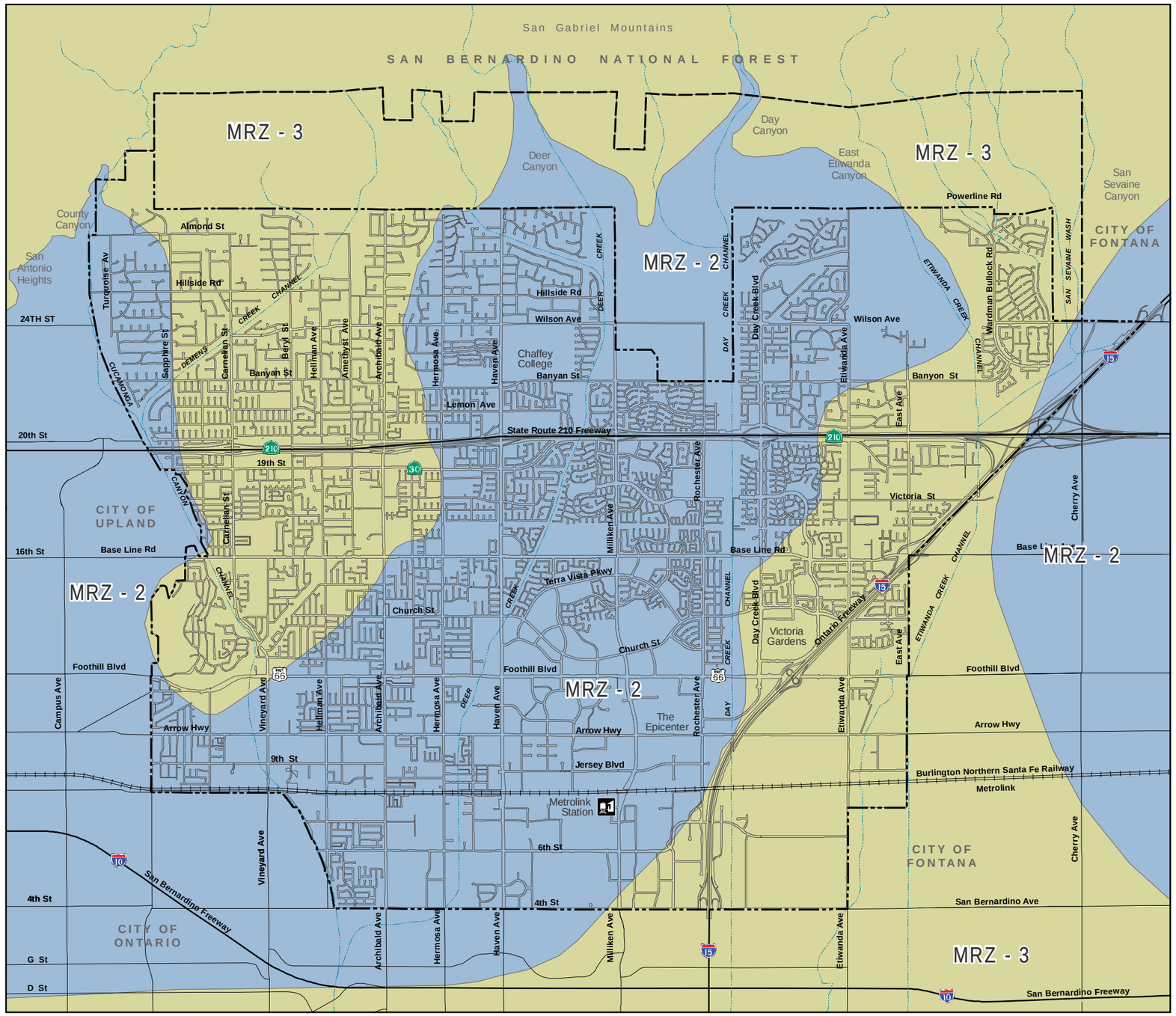
Based on the California Department of Conservation maps, there are no oil, gas, or geothermal resources in the City of Rancho Cucamonga or the surrounding area (DOGGR 2001). There is one plugged and abandoned dry hole near the intersection of Church Street and Hermosa Avenue. No other exploratory oil wells are present in or near the City (DOGGR 2007).

Significant local sand and gravel resources in the City are found in alluvial fans in and near the City, including the Lytle Creek (San Sevaine Wash and Etiwanda Creek), San Antonio Creek, Cucamonga Creek, Deer Creek, and Day Creek. These alluvial fans generally start at the canyons at the base of the San Gabriel Mountains, north of the City. While the northern ends of these fans remain undeveloped, the creeks have been channelized in and near the City of Rancho Cucamonga and in developed areas along the creek (SMGB 1988).

As of 2008, mining operations were occurring along San Antonio Creek, Day Creek, and Cucamonga Creek, but none were located within the City of Rancho Cucamonga. The Holliday Rock Campus Plant operates along Cucamonga Creek, just west of the City limits. Inland Rock has a sand and gravel extraction operation along Day Creek, north of the City and within its SOI. The Foothill Quarry operates on San Antonio Creek, west of the City. These operations produce construction aggregates (sand and gravel) (OMR 2009).

Based on the Mineral Land Classification prepared by the California Department of Conservation, the City is mainly located within the Claremont-Upland Production-Consumption region, where regionally significant mineral resources have been identified along Day Creek, Deer Creek, Cucamonga Creek, and San Antonio Wash. The northeastern edge of the City is located in the San Bernardino Production-Consumption region, where regionally significant mineral resources have been identified along Lytle Creek and the San Sevaine Wash near the City. Exhibit 4.11-1, Mineral Land Classification, shows mineral resource areas in and near the City, as classified by the California Department of Conservation (SMGB 1988).

The Mineral Land Classification for the area shows that the areas along the washes and creeks are designated as MRZ-2, where significant mineral deposits are present, with the rest of the City designated as MRZ-3, which means that aggregate resources are present but their



Mineral Land Classification

Exhibit 4.11-1

Rancho Cucamonga General Plan Update

Source: California State Department of Conservation, California Geological Survey, Mineral Land Classification of the Greater Los Angeles Area, 1987

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significance cannot be evaluated with present data. This designation could be largely due to the presence of boulders and gravelly soils in the City (SMGB 1988).

The Claremont-Upland Production-Consumption Region includes the cities of Claremont, Upland, La Verne, Montclair, Rancho Cucamonga, Pomona, San Dimas, and portions of the cities of Ontario, Diamond Bar, Walnut, La Puente, and Covina. Aggregate production in the Claremont-Upland Production-Consumption Region was approximately two to five million tons per year in 2005 (CGS 2006b). This is less than 3 percent of the State's total aggregate production (CGS 2007a).

The northeastern edge of the City is located within the San Bernardino Production-Consumption Region, which includes urbanized areas of San Bernardino and Riverside counties, south of the San Bernardino Mountains, and east of the Santa Ana Mountains to San Gorgonio Creek. Aggregate production in the Lytle Creek area of the San Bernardino Production-Consumption Region was approximately five to ten million tons per year in 2005 (CGS 2006b). This is less than 5 percent of the State's total production of 235.3 million tons of sand, gravel, and crushed stone (CGS 2007a).

Within the City of Rancho Cucamonga, approximately 1,119 acres are classified as containing aggregate resources, and 1,411 acres containing aggregate resources are located in the SOI. Additionally, there are 262 acres containing aggregate resources that are located proximate to but outside the boundaries of the City and SOI. An estimate of regionally significant aggregate resources in the City and SOI by sector is provided in Table 4.11-1, and sector locations are shown in Exhibit 4.11-2, Regionally Significant Aggregate Resources. The existing land use and the proposed land use designations are also shown in the table.

Current aggregate resources in the sectors of the Claremont-Upland and San Bernardino Production-Consumption regions, which are located in or near the City of Rancho Cucamonga (including property owned or leased for which permission for extraction has been granted) is estimated at approximately 537.9 million tons.

In 2009, State Geologist processed the termination of mineral resource designation for 18 areas in 11 sectors due to the presence of adjacent incompatible land use developments, such as housing, a new freeway, and a flood-control channel; therefore, these areas are no longer considered to be mineral resource areas. Among these are C-2 on the Upper Cucamonga Fan and portions of D-3 on the Deer Creek Fan. While 2 new sectors were proposed for designation in the San Bernardino Production-Consumption region, another 57 areas in 8 sectors were processed for termination. This included portions of A-4 and A-7 along the San Sevaine Wash (SMGB 2009a and 2009b). Areas where the SMARA designation has been terminated are shown as "Sector built over by Development" in Exhibit 4.11-2.

TABLE 4.11-1
REGIONALLY SIGNIFICANT AGGREGATE RESOURCES

Sector Number	Sector Name	Acres (Approximate)		Estimated Potential Aggregate Reserves (short tons)	Existing Land Use (2009)	General Plan Land Use Designations
		City	SOI			
A-4	**Lytle Creek Fan**	352	0	167,300,000	Predominantly flood control and water recharge area; residences and park	Flood Control/Utility Corridor, General Commercial, and Low Density Residential
A-7	**Lytle Creek Fan**	124	0	210,800,000	Predominantly flood control; developed residences, high school, and vacant lands	Low Density Residential, Flood Control, School, Medium Density Residential
C-1	**Upper Cucamonga Fan**	88	0	19,600,000	Flood control; open space; and a small area developed as residential	Open Space, Hillside Residential, Flood Control
C-2	**Upper Cucamonga Fan**	44	0	14,100,000	Flood control; residential development	Flood Control, small portion of Very Low Density Residential
D-1	**Deer Creek Fan**	0	325	61,800,000	Flood control; open space; and some residential-designated vacant lands	Flood Control, Open Space, and small portion designated Hillside Residential
D-3	**Deer Creek Fan**	511	880	86,400,000	Predominantly flood control and active sand and gravel mining; residential areas mostly existing with very small portions vacant; Los Osos High School	Predominately Flood Control and Conservation, with small areas designated as Very Low, Low Medium, and Medium High Residential; School
D-16	**Deer Creek Fan**	0	206	13,900,000	Flood control, water recharge area; open space and conservation areas	Flood Control, Open Space, Conservation, and Hillside Residential
	Total	**1,119**	**1,411**	**537,900,000**		

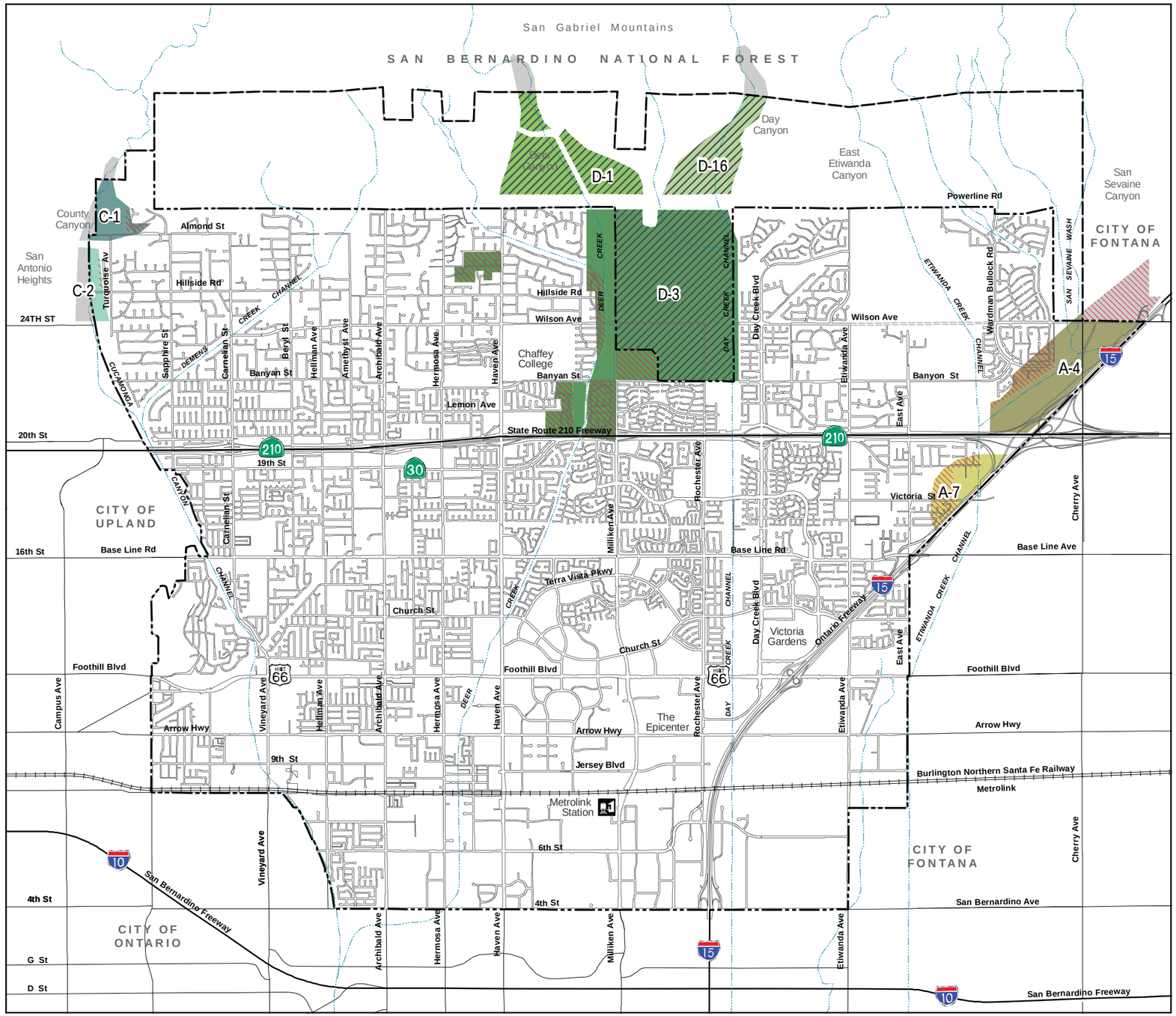
Source: Rancho Cucamonga 2009b.

4.11.3 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 4.11a: 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; and/or

Threshold 4.11b: 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.



Aggregate Resource Sectors

- A-4: Lytle Creek Fan
- A-7: Lytle Creek Fan
- C-1: Upper Cucamonga Fan
- C-2: Upper Cucamonga Fan
- D-1: Deer Creek Fan
- D-3: Deer and Day Creek Fans
- D-16: Day Creek Fan

Location

- In Sphere of Influence
- Outside Planning Area

Built Over

- Sector Built Over By Development

Note: Refer to Table RC-1 for Resource Sector Information.

Base Features

- Rancho Cucamonga City Boundary
- Sphere of Influence
- Waterways

Source: California State Department of Conservation, California Geological Survey.

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Regionally Significant Aggregate Resources

Exhibit 4.11-2

Rancho Cucamonga General Plan Update

Source: California State Department of Conservation, California Geological Survey

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4.11.4 GENERAL PLAN GOALS AND POLICIES

The proposed 2010 General Plan Update recognizes the importance of conserving mineral resources of regional significance. At the same time, it is sensitive to the potential land use conflicts of extraction activities with adjacent land uses. The draft Resource Conservation Chapter includes the following goal and policies:

GOAL RC-7: Protect aggregate mining resources that are sustainably mined and managed, and that minimize impacts to surrounding areas.

> *Policy RC-7.1: Consider the community value and benefit of designated regionally significant aggregate resources prior to approving any such designated lands for other types of development.*
>
> ***Implementation Action:*** *Continue to balance the projected need for resources with community priorities.*
>
> *Policy RC-7.2: Minimize direct and indirect negative impacts of mineral extraction activity onsensitive and adjacent land uses.*
>
> ***Implementation Action:*** *Enforce current conditions on approved extraction activities. Carefully review and condition any proposed expansion of existing extraction operations or establishment of any new such activities.*
>
> *Policy RC-7.3: Ensure effective restoration of expended mining sites in a manner that is aesthetically attractive.*
>
> ***Implementation Action:*** *Continue to protect the integrity and quality of life enjoyed by existing residences and businesses through the imposition of special development standards, such as setbacks and screening/buffering measures to minimize potential land use conflicts while permitting extraction of valuable mineral resources in areas determined suitable for such operations. Enforce current conditions on approved extraction activities. Carefully review and condition any proposed expansion of existing extraction operations or establishment of any new such activities.*
>
> *Policy RC-7.4: Where the City has determined that urban use is a priority over the preservation of potential sites for aggregate recovery, the City shall seek the removal of such areas from SMARA maps.*
>
> ***Implementation Action:*** *Continue to petition the State for removal of affected lands from SMARA maps in areas where significant conflicts could be anticipated to occur with either existing or planned use.*
>
> *Policy RC-7.5: In areas that the State of California has designated as regionally significant aggregate resources, the City will require property titles to include notice of the presence of such resources, in accordance with SMARA.*
>
> ***Implementation Action:*** *Require the recordation of a notice of the presence of aggregate resources with all property titles within designated sectors to assist in the conservation of appropriately located areas within Rancho Cucamonga.*

4.11.5 STANDARD CONDITIONS OF APPROVAL

There are no existing regulations that the City or future development and redevelopment in the City are required to implement with regards to mineral resources.

4.11.6 ENVIRONMENTAL IMPACTS

Future development and redevelopment in the City under the 2010 General Plan Update would occur in areas identified to contain mineral resources.

Regionally Important Mineral Resources

Threshold 4.11a: Would the proposed 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?

Sand and gravel are necessary ingredients for urban construction, and builders often rely on local sources for these materials to control construction costs. However, the extraction of aggregate impacts the surrounding environment and can adversely impact adjacent planned land uses in terms of noise, dust, traffic, and aesthetics. Consequently, land uses near ongoing or planned resource extraction areas must be carefully considered to minimize potential conflicts.

The designated aggregate resource sectors are located at the northern end of the City and in the SOI, where limited urban development is present and proposed. The majority of these areas are planned for Open Space, Conservation, Flood Control/Utility Corridor, or Hillside Residential uses, which allow low density developments. As of 2009, approximately 437 acres (17 percent) of the aggregate resource sectors in the City and SOI have been developed with residential uses and high schools.

According to the proposed Land Use Plan, the northwestern corner of the City along Cucamonga Creek (Sector C-1) is planned for Hillside Residential and Open Space. While the Open Space use would not result in the loss of availability of mineral resources, future residential uses near Open Space uses would preclude mining operations on the residential site and adjacent areas.

The resource area along San Sevaine Wash (Sectors A-4 and A-7) is designated as Flood Control/Utility Corridor and will continue to provide future access to underlying aggregate resources.

Outside the City but located within the SOI, the resource area along Deer Canyon and Deer Creek (Sectors D-1 and D-3) is designated as Flood Control/Utility Corridor and will continue to provide future access to underlying aggregate resources. Another resource area along Day Creek is designated as Open Space and Flood Control/Utility Corridor, with a small area as Hillside Residential. Again, while the Open Space use and Flood Control/Utility Corridor designations would retain access to underlying mineral resources, future residential uses would preclude mining operations on the residential site and adjacent areas.

The Hillside Residential areas planned for aggregate resource areas are limited in size and are not expected to preclude all mining activities within the sector. Additionally, the draft Resource Conservation Element also contains a goal (Goal RC-7) for the protection of aggregate mining resources, supported by policies to consider the value of the resources prior to approval of development (Policy RC-7.1), to minimize impacts on adjacent sensitive uses (Policy RC-7.2),

to allow for future restoration of mined lands (Policy RC-7.3), to terminate designation of areas suitable for urban uses (Policy RC-7.4), and to include the presence of aggregate resources into property titles (Policy RC-7.5).

In implementing these goal and policies, the City will also work with the County of San Bernardino in the review of any potential aggregate mining operations in the SOI to assure that they are compatible with planned land uses and sensitive habitat areas (Policy RC-7.2). At the same time, the City is expected to balance the need for local mineral resources with building over these resource areas because, once an area is developed, the underlying resources are no longer accessible (Policy RC-7.1). Areas suitable for urban uses would be petitioned to have their designations removed through a termination process with the State Mining and Geology Board (Policy RC-7.4). At the same time, the recordation of the presence of regionally significant aggregate resources on individual property titles would increase awareness and promote conservation (Policy RC-7.5).

Thus, mining operations may occur within the City and SOI until such time that the sites are restored and developed with Hillside Residential uses. Despite implementation of General Plan policies, the potential loss of these resources would be significant and unavoidable.

Impact 4.11a: Future development under the proposed General Plan Update would preclude mining operations, resulting in the loss of availability of a known mineral resource in areas planned for Hillside Residential development. Compliance with goals and policies in the 2010 General Plan Update would limit the loss of these resources; however, impacts would be significant and unavoidable.

Locally Important Mineral Resources

Threshold 4.11b: Would the proposed 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?

The draft Resource Conservation Chapter of the 2010 General Plan Update acknowledges the presence of regionally significant resources in the City and its SOI. While the City does not propose the direct preservation of these areas, the goal and policies in the draft Resources Conservation Chapter call for the management of these resources in consideration of their value, development pressures, and adjacency effects. Impacts associated with the future development and redevelopment under the 2010 General Plan Update on designated aggregate resource sectors are discussed above under Thresholds 4.11a.

Construction of future development and redevelopment in the City would require sand and gravel resources for roadways, infrastructure, and building construction. These resources would be derived from local sources in the SOI or other nearby areas, but the demand for sand and gravel resources is not considered significant when compared to available resources or to construction activity in the region. Thus, the potential loss of availability of these local resources due to future development would result in a less than significant impact, and adherence to Goal RC-7 and associated policies would further reduce the potential for impacts; no mitigation is required.

Impact 4.11b: Future development under the 2010 General Plan Update would preclude mining operations in a few areas planned for Hillside Residential development. Impacts related to the loss of locally important resources, such as sand and gravel, are expected to be less than significant with

adherence to Goal RC-7 and associated policies; no mitigation is required.

4.11.7 CUMULATIVE IMPACTS

The cumulative impacts on mineral resources are evaluated based on the potential impacts of future development and development in the City of Rancho Cucamonga, the SOI, and the Claremont-Upland and San Bernardino Production-Consumption Regions.

The State Mining and Geology Board recognizes that urban development has precluded access to the majority of known resources through development (including construction of roadways and infrastructure) on or adjacent to the resource areas. The recent termination of resource designations in sectors within the Claremont-Upland Production-Consumption Region, discussed previously, is evidence of continuing urban encroachment into designated mineral resource areas.

While this has occurred in the sectors near the City and in its SOI, the 2010 General Plan Update proposes to protect mining operations and mineral resources through adherence to Goal RC-7 and the associated policies (Policies RC 7.1 through RC 7.5), as stated previously. This would discourage incompatible development on or near existing resource areas.

Future development and redevelopment under the 2010 General Plan Update would contribute to cumulative demand for construction aggregates in the region. Most of the production-consumption regions in the State do not have sufficient supplies to meet their projected 50-year demand. The California Geological Survey estimates that the Claremont-Upland Production-Consumption Region has a 50-year demand for aggregate resources in the amount of 300 million tons.[1] However, only 147 million tons of permitted aggregate resources are available. For the San Bernardino Production-Consumption Region, the 50-year demand for aggregate resources is 1,074 million tons, with only 262 million tons of permitted resources. Thus, existing permitted resources cannot meet anticipated demands to the year 2056 in both regions (CGS 2006b). Therefore, the loss of additional mineral resources due to buildout of the 2010 General Plan Update Study Area, although not locally significant, would contribute to a cumulatively significant impact related to the loss of known mineral resources. This impact would be significant and unavoidable.

4.11.8 MITIGATION MEASURES

No mitigation measures have been identified.

4.11.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Regionally Important Mineral Resources

Significant and Unavoidable.

Locally Important Mineral Resources

Less Than Significant.

[1] This 50-year period began in 2006.

Cumulative Impacts

Significant and Unavoidable.