



Section 4.14

Mineral Resources

4.14.1 Introduction

Minerals are defined as any naturally occurring chemical elements or compounds formed from inorganic processes and organic substances. Movable minerals or “ore deposits” are defined as a concentration of ore or minerals having a value materially in excess of the cost of developing, mining and processing the mineral and reclaiming the area. Regulating this resource, the County of Riverside implements the State of California’s Surface Mining and Reclamation Act (SMARA) at the local level. This section assesses potential impacts associated with mineral resources that could occur as a result of future development accommodated by the proposed project, GPA No. 960.

4.14.2 Existing Environmental Setting - Mineral Resources

Mineral resources are an integral part of the development and economic well-being of the County of Riverside. The conservation, extraction and processing of mineral resources is essential to meeting the needs of Riverside County and supporting the continued growth of the region. Mineral resources serve various public, commercial, scientific and recreational purposes benefiting both the private and public sectors. In Riverside County, minerals are a foremost natural resource, important not only to the economic health of Riverside County, but to the many industries outside the county that depend on them as well. The non-renewable characteristic of mineral deposits necessitates careful and efficient management to prevent waste, careless exploitation and uncontrolled urbanization. Most of the economically valuable mineral deposits known to occur in Riverside County are located along Interstates 15, 215 and 10.

A. Economically Important Minerals in Riverside County

Riverside County has a rich history of over 175 years of mining, starting with the California Gold Rush. Over the years, diverse mineral resources, including extensive deposits of clay, limestone, iron, sand and aggregates have been influential in the development of the region and have served as an important component of Riverside County’s economy. Minerals commercially extracted from Riverside County in the past included a number of valuable minerals refined directly or used in industry, such as:

- Gold
- Lead, silver, zinc and arsenic
- Copper, iron and tin
- Rare earth elements (monazite, xenotime)

- Antimony
- Mica and gypsum
- Fluorite
- Coal
- Magnesite and tungsten
- Feldspar, quartz and silica
- Wollastonite and other asbestos-like minerals
- Gemstones (tourmaline, beryl, agate, etc.)

In the present century, the region’s most economically valuable mineral resources are those used as building materials and in their manufacture. Roughly 80% of California’s mineral production now consists of such “industrial” minerals. Industrial minerals occurring and extracted in Riverside County currently include:

- Clay (used to make brick, pipe, tiles and other building products)
- Limestone (used to make Portland cement and other cement products)
- Sand and gravel (collectively, “aggregates,” used as road base and in concrete)
- Specialty sands (such as those used for glass-making and foundry molds)
- Rock commodities (broken and crushed stone products, as well as stone slabs used for cemetery markers, building facings, countertops, etc.)

Rapid urbanization in Riverside County produces intense competition for land, as well as increases the need for industrial commodities. The long-term viability of mines producing industrial building commodities, such as aggregate, sand and clays, could easily become threatened by the urban communities that they enable to expand. Expanding urban areas typically force resource production away from its core. However, it is the urbanizing areas that most need an affordable source of mineral resources for continued growth. For example, the State of California estimates that on average, 229 tons of aggregate are used in the construction of a single house.

Some minerals can be marketed worldwide; however, the marketability of most industrial commodities is directly dependent on the distance of transport. When hauling sand and gravel, for instance, the cost of the commodity doubles for every 50 miles of truck transport. Additionally, when urban and suburban development encroaches on existing mining operations, new residents can come into conflict with the effects of mining operations, such as noise and vibration, dust and heavy truck traffic. For these reasons, Riverside County must continue to be active in balancing the delicate issues of conservation of these non-renewable resources and expansion of the communities they are mined to serve.

B. Mineral Resource Zones

High demand for mineral commodities perpetuates the need for access to mineral deposits for current and future extraction. To protect the resources that serve this demand, the State Geologist is tasked with classifying land according to the presence or absence of significant mineral deposits according to a priority list established by the State Mining and Geology Board (SMGB).

The SMGB uses “Mineral Resource Zones” (MRZs) to classify lands that contain valuable mineral deposits. Use of MRZs can help identify mineral deposits to be protected from encroaching urbanization and land uses incompatible with mining. The MRZ classifications reflect varying degrees of mineral significance, determined by

available knowledge of the presence or absence of mineral deposits, as well as the economic potential of the deposits. In this process, it is important to recognize that mineral-bearing lands classified by the State Geologist are not explicitly reserved for mining. Nor do they take into account existing land uses. Rather, the State of California only develops and presents the data to planning agencies, which must make decisions concerning mineral resources and mining at the local level. Accordingly, the SMGB uses the following MRZ classifications:

MRZ-1: Areas where available geologic information indicates no significant mineral deposits are present or that there is little likelihood for their presence.

MRZ-2a: Areas where available geologic information indicates that there are significant measured or indicated mineral deposits present. According to the SMGB, land included in this category is of “prime importance” because it contains known economic mineral deposits.

MRZ-2b: Areas where available geologic information indicates that significant inferred mineral resources are present. This includes discovered deposits that are inferred to occur in economically viable concentrations, as well as those currently occurring at sub-economic levels based on limited samples. More importantly, MRZ-2b areas are considered potentially suitable for upgrade to MRZ-2a status, should future conditions warrant.

MRZ-3a: Areas where the available geologic information indicates that mineral deposits exist, however, the significance of the deposit is undetermined. Additional exploratory work would be needed to determine specific categorization. MRZ-3a areas are considered to have moderate potential for the discovery of economic mineral resources (the discovery of which could lead to upgrading to MRZ-2, for example).

MRZ-3b: Areas where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined. This class denotes areas where presence of the mineral is inferred and/or not visible from the surface geology. Further exploration would be needed to ascertain full potential of the area.

MRZ-4: Areas where there is not enough information available to determine the presence or absence of mineral deposits. For land use purposes, it should be noted that MRZ-4 differs from MRZ-1 in that it denotes areas lacking enough *information* for a more specific classification to be made, rather than lacking the mineral deposits themselves.

After an area has been classified into MRZs, the SMGB then determines if the “classified” mineral resource deposit warrants “designation” as being of either “regional” (multi-community) or “statewide economic significance.” In contrast to classification, which inventories mineral deposits without regard to existing land use, the purpose of designation is to identify those areas that are of prime importance in meeting the future needs of the study region and that remain available from a land use perspective. Once completed, the SMGB transmits the information to the affected counties and cities for mandated incorporation into their land use planning processes.

Figure 4.14.1 (Mineral Resource Areas Map) identifies the areas within Riverside County with potential mineral resource deposits, according to State of California MRZ classifications. At present, Riverside County is classified into a total of roughly 83,267 acres of MRZ-1, 71,270 acres of MRZ-2 (including 22,114 acres MRZ-2a and 7,428 acres MRZ-2b), 1,336,723 acres of MRZ-3 and 1,751,892 acres of MRZ-4. Within the MRZ-2 class, approximately 11,853 acres have been designated “regionally significant” by the SMGB. (See Table 4.14-A (Changes Affecting State Mineral Resource Areas).) In addition, roughly 6,371 acres within the Palm Springs region have been approved by the SMGB for designation as being of regional significance and are currently awaiting rulemaking to codify the decision. There are no sites within Riverside County designated as “locally important mineral recovery sites.”

C. Aggregate Resources

California is the nation's leading producer of construction aggregate, with a total production of 235 million tons in 2005. This is roughly 6.5 tons of aggregate per person in the state in 2005. Over the next 50 years, it is estimated that California will need approximately 13.5 billion tons of aggregate. However, the industry is highly vulnerable to land use issues on two fronts. Aggregate resources located too close to urban or environmentally sensitive areas can limit or stop their development. Secondly, a mineral resource may be too far from a potential market to be economically viable.

Beyond geological viability, MRZ-2 areas are evaluated to determine if current land uses would preclude mining. Areas currently permitted for mining and areas the State of California finds to have land uses compatible with possible mining are identified as "Sectors." To protect construction aggregate resources, in addition to being classified MRZ-2a or MRZ-2b, lands known to contain "significant aggregate resources" are assigned to Sectors. The State of California uses these Sectors to estimate aggregate resources available for the next 50 years.

In defining economic viability, the State of California uses large, multi-county "Production-Consumption Regions" as their boundaries for study areas for aggregate production and their associated market areas. As part of the classification process, the State of California has calculated both the fifty-year aggregate demand forecast and the amount of aggregate resource available for the given area. The status of each aggregate resource area relevant to Riverside County is provided below.

Temescal Valley – Orange County Production-Consumption Region

This region is the largest within the greater Los Angeles metropolitan area. It spans Orange County from Seal Beach to San Onofre and stretches northeast into Riverside County along the Santa Ana River to encompass portions of Norco and Corona, and also runs south into upper Temescal Canyon. In addition to serving western Riverside County, it also provides Orange County and northern San Diego County with aggregate exports.

The TV-OC Region contains a number of resource Sectors State-designated as being of "regional significance," as well as "regionally significant construction aggregate resource areas" (ARAs) in portions of the Santa Ana River within the Prado Basin and also behind Mount Rubidoux. Significant aggregate resources also occur south of Corona within and along Temescal Wash and south towards Lake Elsinore. The SMGB established land designations for the region in 1984 (SMARA Designation Report No. 3), and the most recent SMGB classification occurred in 1991 (Special Report No. 165). Although two focused areas have been addressed in recent years, as per Special Report No. 200 and No. 212 (see discussion below), the State of California has not *systematically* updated either classifications or designations since 1991. Figure 4.14.2 (Riverside County Aggregate Resources of the Temescal Valley-Orange County and San Bernardino Production-Consumption Regions) shows current mapped mineral resource information for the area.

In 2007, the State of California reported that the active mines in Orange County are "nearly exhausted" and that the fast-growing county now "relies on Temescal Valley for much of its aggregate needs." As a result, the Temescal Valley Production District has become the largest sand and gravel production district in the United States, having produced about 12 million tons of aggregate in 2005. Per a 2007 report issued by the California Geological Survey, the region's 50-year aggregate demand is 1,122 million tons. As of 2007, a total of approximately 355 million tons were being supplied by permitted aggregate resources; 32% of the forecast demand. Data indicate that approximately 6,000 million tons of mineral resources are secured within the region.

New Location – Proposed Quarry Site: In 2007, the State Geologist investigated and subsequently reclassified a portion of Riverside County within the Temescal Valley-Orange County Production-Consumption Region at the petition of Granite Construction Company. Specifically, the State found that aggregate materials present on the site meet specifications for use in Portland cement concrete (PCC) and that the resource exceeds the minimum economic viability threshold value of \$16.41 million established by the SMGB. As a result, approximately 290 acres of the 310-acre Granite Construction Company “Liberty Quarry” site were reclassified by the SMGB from MRZ-3a to MRZ-2a for PCC-grade aggregate. This new State MRZ-2 designation is reflected in Figure 4.14.2. It should be noted that this classification is a State of California action that occurred without regard to any future Riverside County or City of Temecula actions.

New Location – Day Street Aggregate Site: In 2009, the State Geologist investigated and subsequently reclassified a portion of Riverside County within the Temescal Valley-Orange County Production-Consumption Region at the petition of First Industrial Realty Trust for a site off Day Street in the Perris/Cajalco Road area. Specifically, the State found that aggregate materials present on the site meet specifications for use in Portland cement concrete (PCC) and that the resource exceeds the minimum economic viability threshold value established by the SMGB. As a result, the 500-acre site was reclassified by the SMGB from MRZ-3 to MRZ-2 for PCC-grade aggregate. This new State MRZ-2 designation is reflected in Figure 4.14.2 (and also Figure 4.14.1). Again, this classification change is a State of California action taken without regard to any future Riverside County actions.

San Bernardino Production-Consumption Region

This region includes much of southwestern San Bernardino County, plus portions of western Riverside County not in the Temescal Valley P-C Region. In Riverside County, this specifically includes significant aggregate resources along the San Gorgonio River in the Cabazon area, several localities in Lake Elsinore, portions of Day Creek in the northwest corner of the county and areas along the Santa Ana River between the cities of Colton and Riverside.

Classification of the region occurred in 1984 (Special Report No.143, Part VII) and the SMGB designated lands within the region as being of “regional significance” in 1987 (SMARA Designation Report No. 5). The classification was updated in 2008 (Special Report No. 206), as described later in this section. No designation changes have occurred for this region since the 1987 report. Figure 4.14.2 shows current mapped mineral resource information for the area, including data updated since the 2003 adoption of General Plan Figure OS-5.

Within this region, Sector E-24, located in the Santa Ana River channel north of Mount Rubidoux and the City of Riverside, encompassed approximately 114 acres as of 2008. This is down from the 1987 report indicating 208 acres were available, reflecting the general cessation of mining as urban development engulfs the region. As of 2008, the Sector was estimated to possess approximately 16.7 million tons of available aggregate resources.

According to the 2008 report, since 1987 approximately 18% of the San Bernardino Production-Consumption Region’s designated lands have been lost to incompatible land uses; a loss of approximately 959 million tons of aggregate resources. The 50-year consumption demand for the region, however, was estimated at 1,131 million tons of which 735 million tons must be Portland cement concrete-grade (PCC) aggregate. This is more than double the previous State forecast. In addition to supplying both San Bernardino County and western Riverside County, materials are also exported to northern San Diego County.

Palm Springs Production-Consumption (P-C) Region

This region generally includes the eastern portion of Riverside County running from Cabazon through Coachella Valley and into the Thermal area. It encompasses roughly a dozen aggregate resource areas, including the eastern end of the San Geronio River and part of Whitewater River, small areas in Little Morongo Canyon and the Thousand Palms area, alluvial fans in the Thermal area, Thermal Canyon, Fargo Canyon, Berdoo Canyon and, lastly, a wide stretch of the North Indio Hills generally above Dillon Road. In addition to supplying both Riverside County and portions of San Bernardino County, the region also exports sand by rail to the Los Angeles metropolitan area. Figure 4.14.3 (Aggregate Resources of the Palm Springs Production-Consumption Region) shows current mapped mineral resource information for the region, including data updated since the 2003 adoption of General Plan Figure OS-5.

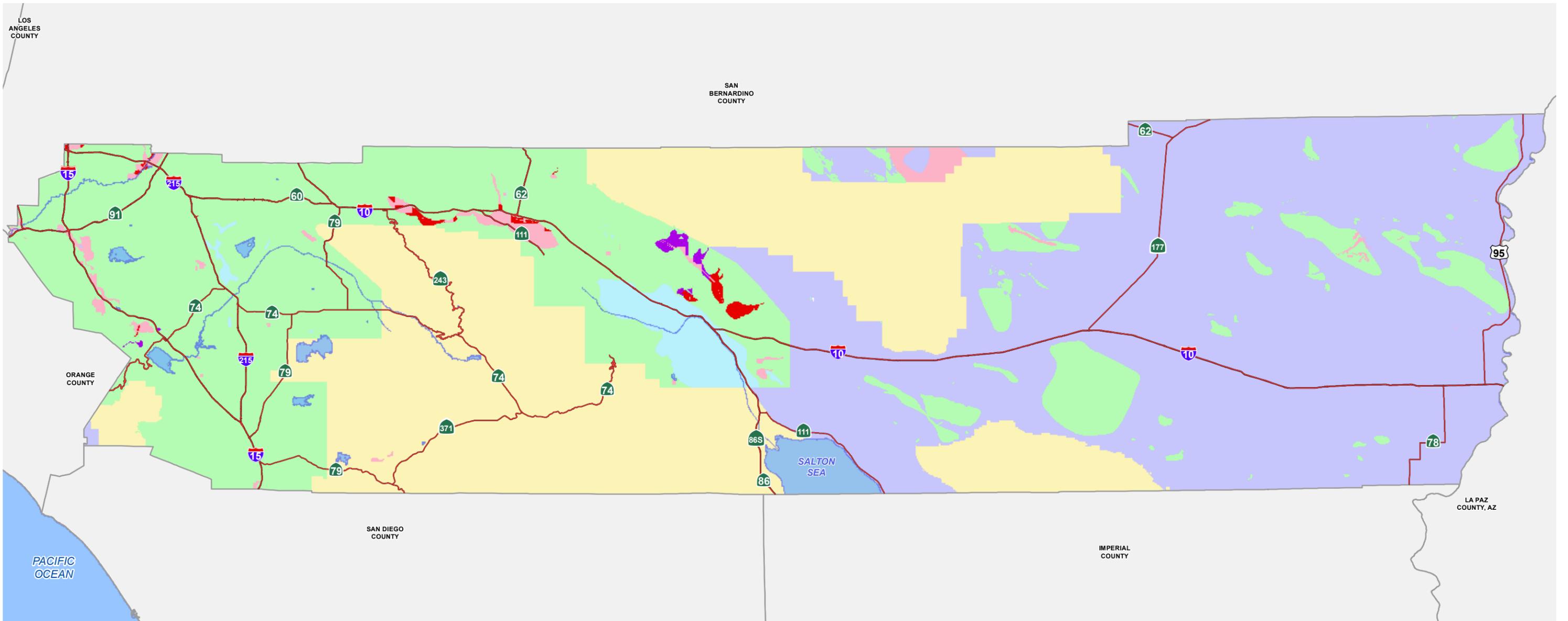
Since 1985, permitted Portland cement concrete-grade (PCC) aggregate reserves (lands subject to mining permits) have increased from 67 million tons to 167 million tons, extending the P-C region's projected depletion date from 2012 to 2038. The anticipated 50-year consumption demand for the region was estimated by the State at 307 million tons, of which 138 million tons must be PCC aggregate; nearly double the previous (1988) State forecast. As of 2007, the State of California estimates that the region contains roughly 1,300 million tons of available aggregate resources. Included in this total is Sector J-1, encompassing 2,633 acres in the North Indio Hills area, which is estimated to have 191 million tons of aggregate resources.

Classification of the region occurred in 1988 (Special Report No. 159) and the SMGB designated lands within the P-C region as being of "regional significance" in 1989 (SMARA Designation Report No. 10). The classification was updated in 2007 (Special Report No. 198), as described later in this section. In October 2010, the SMGB approved these areas for designation and they are currently awaiting rulemaking to adopt the designation of mineral lands of regional significance within the Palm Springs Production-Consumption Region. Accordingly, since such a designation is assumed to be reasonably foreseeable, pending only formal rulemaking, this EIR treats lands mapped as "proposed for regional significance designation" the same as those with an adopted designation.

D. Baseline Changes - Resource Mapping Updates

Pursuant to PRC Section 2762, the Surface Mining and Reclamation Act (SMARA) provides that a city or county, upon receipt of a mineral land Classification Report prepared by the State Geologist or a mineral land Designation Report from the SMGB, must prepare and incorporate into its general plan the new information, as well as a set of "Mineral Resource Management Policies" (MRMPs). These MRMPs must be submitted to and reviewed by the SMGB for comment prior to adoption by the city or county. GPA No. 960 and this EIR are intended to fulfill these requirements.

Since the preparation of the 1999 Existing Settings Report and EIR No. 441 for the 2003 General Plan, additional information on environmental conditions related to mineral resources has been released. The California Geological Survey has issued several reports between 2003 and 2009 relevant to Riverside County, as described below. The following State of California reports affect Riverside County's known mineral resources and are reflected in both the revised baseline conditions for this EIR (Figures 4.14.2 and 4.14.3) and the resultant updated General Plan Figure OS-5 (which is based on Figure 4.14.1 herein):



Data Source: California Geological Survey (2009)

Mineral Resource Zones

- MRZ-1 (No significant mineral deposits)
- MRZ-2 (Known or inferred significant mineral resources)
- MRZ-3 (Significance of mineral deposits undetermined)
- MRZ-4 (Presence and significance of mineral deposits undetermined)
- Unstudied (No MRZ designation issued)

State Designated Sectors

- Significant
- Proposed as Significant
- Highways
- Waterbodies

Figure 4.14.1



December 16, 2013

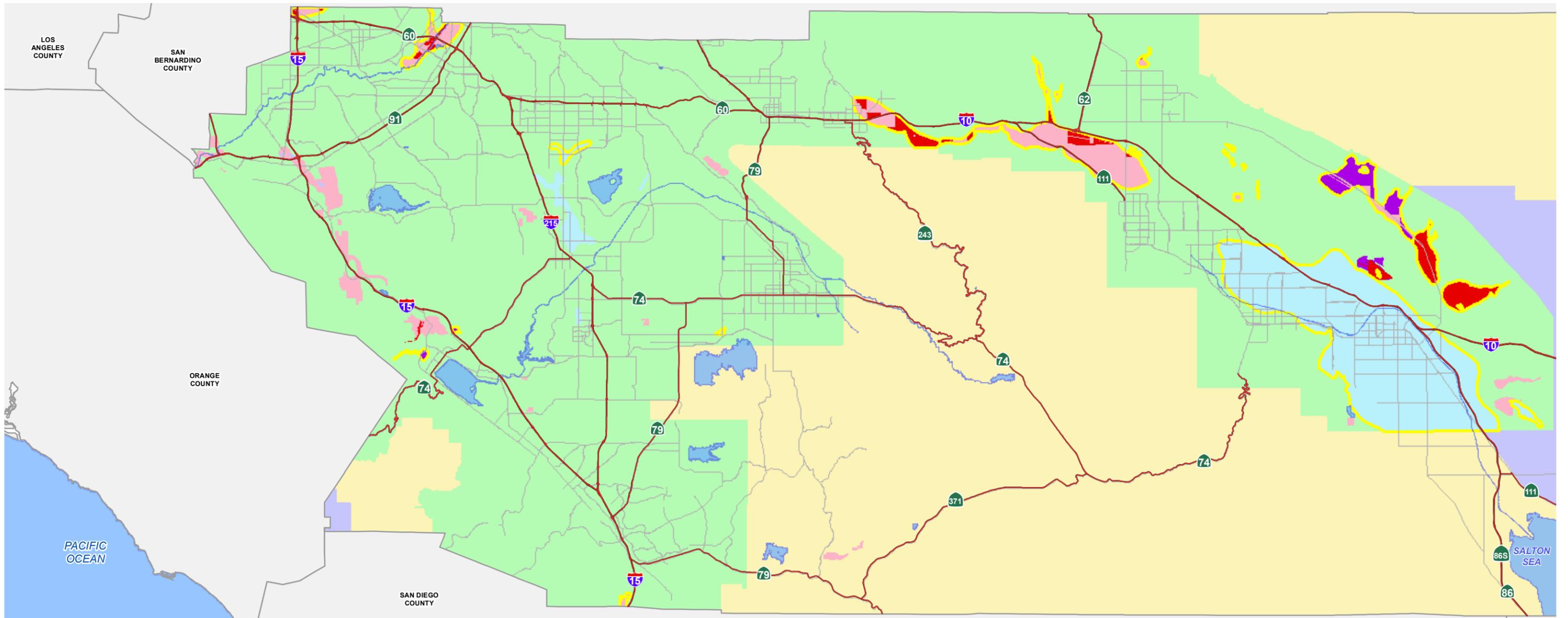
0 10 20 Miles

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MINERAL RESOURCE ZONES

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Data Source: California Geological Survey (2009)

Mineral Resource Zones

- MRZ-1 (No significant mineral deposits)
- MRZ-2 (Known or inferred significant mineral resources)
- MRZ-3 (Significance of mineral deposits undetermined)
- MRZ-4 (Presence and significance of mineral deposits undetermined)
- Unstudied (No MRZ designation issued)

State Designated Sectors

- Significant
- Proposed as Significant
- New MRZ and Sectors
- Highways
- Waterbodies

Figure 4.14.2

December 16, 2013

0 5 10 Miles

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MINERAL RESOURCE ZONES - TEMESCAL VALLEY AND SAN BERNARDINO PRODUCTION-CONSUMPTION REGIONS

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Special Report No. 198: This 2007 report updated the 1988 mineral land classification for Portland cement-grade aggregate in the Palm Springs Production-Consumption Region. In the update, 22,011 acres previously classified as MRZ-2 were reclassified as MRZ-2a, and 7,487 acres previously classified as MRZ-3 were reclassified as MRZ-2b. Extensive areas containing aggregate deposits, “the significance of which cannot be evaluated from available data,” were classed MRZ-3. And, a number of areas were classed MRZ-1. In total, this report addressed 15,692 acres of PCC-grade aggregate resources in Sectors, including the addition of 6,638 acres in new Sectors and the loss of 911 acres to infrastructure development deemed incompatible with mining activities. See Figure 4.14.3 for changes.

Special Report No. 206: This 2008 report updated the 1984 mineral land classification for Portland cement-grade aggregate in the San Bernardino Production-Consumption Region. The only change in this report affecting Riverside County was the reclassification of a 90-acre crushed-stone deposit (Sector K) within the Gavilan Hills north of the City of Lake Elsinore that was reclassified from MRZ-3 to MRZ-2. See Figure 4.14.2 for changes.

Special Report No. 200: This new classification report for the Granite Construction Company Liberty Quarry site was released in 2007. In it, the State Geologist investigated (independent from the County of Riverside) and subsequently reclassified a portion of Riverside County at the petition of the Granite Construction Company. As a result, approximately 290 acres of the 310-acre “Liberty Quarry” site was reclassified from MRZ-3a to MRZ-2a for PCC-grade aggregate. See Figure 4.14.2 for changes.

Special Report No. 212: This 2009 report from the State Geologist evaluated the aggregate potential of the 500-acre First Industrial Realty Trust Day Street site based on geologic and materials testing data provided by the petitioner. In response, the State Geologist reclassified the site, a 500-acre portion of Steele Peak 7.5-minute Quadrangle in the Perris region of Riverside County, from MRZ-3 to MRZ-2 for PCC-grade aggregate. See Figure 4.14.2 for changes.

State “Regional Significance” Designations: Per Special Report No. 198, in late 2007 the SMGB directed its Minerals and Geologic Resources Committee to commence formal designation consideration for the roughly 5,950 acres newly identified as Sectors of “regionally significant construction aggregate resources” within the Palm Springs Production-Consumption Region. In 2010, the SMGB moved to adopt this designation for the area and, as of May 2011, California State rulemaking is pending to codify the change. Since it is reasonably foreseeable that the SMGB will eventually complete the designation process for these areas, this EIR’s analyses treat these sites as if already designated.

4.14.3 Policies and Regulations Addressing Mineral Resources

A. State and Federal Regulations

1. Surface Mining and Reclamation Act of 1975

The State of California has recognized that mineral resources are essential to the needs of society and the economic well-being of the state. In 1975, the State Legislature passed the Surface Mining and Reclamation Act (SMARA), Public Resources Code (PRC) Section 2710, *et seq.* The intent of SMARA is to promote production and conservation of mineral resources, minimize the environmental effects of mining and ensure mined lands are reclaimed to conditions suitable for alternative uses. Reclaiming land for other uses once mining operations are completed is important for the general health, safety and welfare of the community. Under SMARA, permits are

required for all mining activities commencing operation on or after January 1, 1976. In addition, all new and existing mining operations are required to file a reclamation plan with the appropriate jurisdiction (such as the County of Riverside) to address how the land would be brought back to a productive status once mining operations cease. The County of Riverside has been given the authority to permit or restrict mining operations within the county, adhering to the SMARA legislation. Under this authority, Riverside County has set forth regulations for mineral extraction and reclamation within unincorporated Riverside County via Ordinance No. 555 (Implementing SMARA in Riverside County).

SMARA also requires every lead agency, such as the County of Riverside, within which a mineral resource's economic value has been classified by the State Geologist or has been designated as having regional economic significance by the SMGB, to establish Mineral Resource Management Policies (MRMPs) for the mineral resource in its General Plan. Riverside County's General Plan policies, described below, fulfill this regulatory requirement.

Under current SMARA statutes (PRC Section 2763), prior to permitting a use that would threaten the potential to extract minerals in an area designated by the SMGB as having mineral resources of regional or statewide significance, the County of Riverside must prepare a statement specifying its reasons for permitting the proposed use. In it, the County of Riverside must consider its MRMPs, balance the mineral values against alternative land uses and consider the importance of the minerals to their market region as a whole and not just their importance to the county area. This process is designed to ensure that decision-makers weigh the economic and environmental value of non-renewable mineral resources when determining whether or not to protect existing mineral resources.

B. Riverside County Regulations

The following policies are intended to ensure the conservation of mineral resources in Riverside County:

Ordinance No. 555 – Implementing SMARA: This ordinance addresses the importance of mineral extraction to the economic well-being of Riverside County. It regulates all surface mining operations in the unincorporated portions of Riverside County, as authorized by SMARA, to ensure that:

- The production and conservation of minerals is encouraged while considering and balancing values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment. And, at the same time, eliminating or minimizing the residual hazards to public health and safety.
- The adverse effects of surface mining operations are prevented or minimized and that mined lands are reclaimed to a useable condition readily adaptable for alternative land use.
- The reclamation of mined lands is carried out in a way that permits the continued mining of minerals.

C. Existing Riverside County General Plan Policies

The following existing General Plan policies address effects related to mineral resources:

1. Land Use (LU) Element

Policy LU 27.1 (Previously 21.1): Require that surface mining activities and lands containing mineral deposits of statewide or of regional significance comply with Riverside County ordinances and SMARA.

Policy LU 27.2 (Previously 21.2): Protect lands designated as Open Space-Mineral Resource from encroachment of incompatible land uses through buffer zones or visual screening.

Policy LU 27.3 (Previously 21.3): Protect road access to mining activities and prevent or mitigate traffic conflicts with surrounding properties.

Policy LU 27.4 (Previously 21.4): Require the recycling of mineral extraction sites to open space, recreational or other uses that are compatible with the surrounding land uses.

Policy LU 27.5 (Previously 21.5): Require an approved reuse plan prior to the issuing of a permit to operate an extraction operation.

2. Multipurpose Open Space (OS) Element

Policy OS 14.1: Require that the operation and reclamation of surface mines be consistent with the State Surface Mining and Reclamation Act (SMARA) and County Development Code provisions.

Policy OS 14.2: Restrict incompatible land uses within the impact area of existing or potential surface mining areas.

Policy OS 14.6: Accept California Land Conservation (Williamson Act) contracts on land identified by the State as containing significant mineral deposits subject to the use and acreage limitations established by the County.

D. Proposed New or Revised County General Plan Policies

GPA No. 960 includes the following proposed new and revised policies related to mineral resources:

1. Land Use (LU) Element

***NEW Policy LU 9.6:** If any area is classified by the State Geologist as an area that contains mineral deposits and is of regional or statewide significance, and the County either has designated that area in its general plan as having important minerals to be protected pursuant to subdivision (a) of section 2761 of the Surface Mining and Reclamation Act, or has otherwise not yet acted pursuant to subdivision (a), then prior to permitting a use which would threaten the potential to extract minerals in that area, the County shall prepare, in conjunction with its project CEQA documentation, a statement specifying its reason for permitting the proposed use, and shall forward a copy to the State Geologist and the State Mining and Geology Board for review.*

***NEW Policy LU 9.7:** Protect lands designated by the State Mining and Geology Board as being of regional or statewide significance from encroachment of incompatible land uses, such as high-density residential, low-density residential with high values, sensitive public facilities, institutions (e.g., schools, hospitals), etc., by requiring incorporation of buffer zones or visual screening into the incompatible land use.*

2. Multipurpose Open Space (OS) Element

Policy OS 14.3: *Prohibit* ~~Restrict~~ land uses incompatible with mineral resource recovery within areas designated Open Space-Mineral Resources *and within areas designated by the State Mining and Geology Board as being of regional or statewide significance.*

Policy OS 14.4: *The County Geologist shall* impose conditions as necessary on *proposed* mining operations *projects* to minimize or eliminate the potential adverse impact of mining operations on surrounding properties and environmental resources.

Policy OS 14.5: Require that new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations. The buffer distance shall be based on an evaluation of noise, aesthetics, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours and air quality. *The same standards shall apply to non-mining land uses within or adjacent to areas classified by the State Geologist as MRZ-2a.*

4.14.4 Thresholds of Significance for Mineral Resources

The project would result in a significant impact on mineral resources if it would cause:

- A. Loss of the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.
- B. Loss of availability of a known mineral resource that would be of value to the region and the residents of the State of California.

4.14.5 Effect of GPA No. 960 on the General Plan and on Mineral Resources

GPA No. 960 includes revision of General Plan Figure OS-5 (Mineral Resources) to ensure that the General Plan reflects the current level of information regarding mineral resources issued by the State Geologist and SMGB. This proposed figure (equivalent to Figure 4.14.1, herein) encompasses the changes indicated in Figures 4.14.2 and 4.14.3. The relationship of this change to the project's environmental baseline is discussed in Section 4.14.2.

As indicated in the table below, GPA No. 960 has the potential to adversely affect up to 23 acres of lands designated as regionally significant by the SMGB. In total, up to 340 acres of lands classified by the State Geologist as MRZ-2 (presence of significant mineral resources known or inferred) may also be adversely affected. The proposed changes would also include up to roughly 12,000 acres of lands for which the significance of known mineral resources is undetermined (MRZ-3) and 3,800 acres for which the presence of important mineral resources has not been determined (MRZ-4 and "unstudied" areas). Where no information is available (i.e., MRZ-3 and MRZ-4 areas), no impacts to "known mineral resources" would occur. Additional study would be necessary to determine if any significant mineral resources exist in such areas at the time implementing project is proposed. Such additional study is typically required when the Riverside County Geologist determines it is needed on a case-by-case basis.

The 23-acre area of adopted "Regional Significance" lies within the Santa Ana River, north of Mount Rubidoux, and is proposed for land use designation change from Estate Density Residential (EDR) to Public Facilities (PF). This area is located within Sector E-24, which encompasses approximately 114 acres designated by the State of California as being regionally significant aggregate resources. The vacant site is proposed for PF because it is Riverside County-owned land adjacent to Flabob Airport, and the designation is necessary to ensure airport safety. No specific uses are proposed for the land, and the mineral resources onsite would not be precluded.

Additionally, the site is surrounded to the northeast, north and west by extensive urban and suburban development, mainly medium-high and high-density residential. These existing residential uses greatly reduce the site's potential for future mineral extraction.

The 67 acres of MRZ-2b affected by the project are located in an area newly classified within the Palm Springs Production-Consumption Region in the North Indio Hills, north of Dillon Road. In this area, a number of parcels (Area C2-24) are proposed to change from OS-CH to Rural Residential because they have been or will be sold off by the federal Bureau of Land Management. Presently this area is sparsely developed with single-family residences on large lots, generally of 5 acres or larger. There are no active mines in the immediate vicinity. Designating these 67 acres as Rural Residential would serve to preclude any future mineral extraction from the sites, as commercial extraction of mineral resources is not allowed under the Rural Residential designation. However, the area is not necessary for mineral extractions. Also, the large lot size (5-acre minimum) standard would enable onsite buffering from any future mining activities in the vicinity, thus limiting potential encroachment effects.

Table 4.14-A: Changes Affecting State Mineral Resource Areas

State Mineral Resource Classification / Designation	Total Within Riverside County ¹	Areas Affected by Proposed GPA No. 960
Classification Category	ACRES	ACRES
MRZ-1 ("Little or no mineral deposits")	83,270	<1
MRZ-2 ² ("Known or Inferred Significant" mineral deposits)	41,730	250
MRZ-2a ³ (Mineral deposits of "Prime Importance")	22,110	0
MRZ-2b (Mineral deposits "Potentially Suitable" for MRZ-2a listing)	7,430	67
MRZ-3 ("Significance Undetermined," requires further evaluation)	1,336,720	12,040
MRZ-4 ("Unstudied" or not enough information to determine)	1,751,890	3,810
Sectors of "Regional Significance" (Designations by State)³		
SMGB Adopted Designation	11,850	23
SMGB Proposed for Designation ⁴	6,370	0
TOTAL	3,261,380	16,1880

Footnotes:

1. Totals over 100 acres rounded to nearest 10 after aggregation.
2. This category of MRZ-2 encompasses all areas not categorized as MRZ-2a, MRZ-2b or Regionally Significant.
3. Though technically a sub-set of MRZ-2a, Sectors are listed separately under "SMGB Adopted" and "SMGB Proposed."
4. New Sectors within the Palm Springs Production-Consumption Region were approved by the SMGB in October 2010 for official designation as "regionally significant" and, as of May 2011, are pending rulemaking to codify the change.

Source: Riverside County GIS Dept., spatial analysis of project data, 2010. California Geological Survey Special Report (see text). State Mining & Geology Board SMARA Designation Reports (see text).

Lastly, of the roughly 250 acres of MRZ-2 lands proposed for changes under GPA No. 960, none would affect any areas adjacent to existing mineral resource extraction activities. In three instances, small areas of MRZ-2 proposed for Open Space-Conservation Habitat (OS-CH) land use designation for lands acquired are on biological conservation. Although extant mineral resources would be conserved in place on such sites, the OS-CH designation is generally not compatible with mineral extraction. For the affected MRZ-2 along the Santa Ana River, proposed changes (associated with Flabob ALUP-triggered revisions) reflect the urbanizing nature of the area and no active mining sites would be affected. Also in that area, a roughly 20-acre site (Area C3-2) is proposed to become Medium-High Density Residential (MHDR) with a closed landfill overlay. However, the prior use of the site as a sanitary landfill makes it unsuitable for mineral extraction. Thus, no adverse impact would occur.

4.14.6 Mineral Resources - Impacts and Mitigation

A. *Would the project result in loss of the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

Impact 4.14.A – Result in the Loss of Availability of Delineated Locally Important Minerals: No. As shown in Figure 4.14.1, the Riverside County General Plan does not contain any “locally important mineral resource recovery sites.” GPA No. 960 does not propose to change this. Therefore, the proposed project would not have an effect on this type of resource.

B. *Would the project result in loss of availability of a known mineral resource that would be of value to the region and the residents of the State of California?*

Impact 4.14.B – Result in the Loss of Availability of Known Mineral Resources: Future development consistent with the land use and policy changes proposed by GPA No. 960 has the potential to result in the loss of availability of known mineral resources that would be of value to the region and the residents of the State of California. Compliance with existing laws, regulatory programs and General Plan policies, as well as proposed new or revised General Plan policies, would be sufficient to ensure that this impact is less than significant.

1. Analysis of Impact 4.14.B

The land use and related policy changes proposed by GPA No. 960 would alter the potential range of development and intensity ultimately allowed on specific parcels, as described in Section 4.14.5 and Table 4.14-A, where foreseeable. Likewise, where land use changes are proposed on or adjacent to areas of known or inferred significance (MRZ-2 areas), the assignment of incompatible or potentially incompatible land uses could also result in encroachment or preclusion of potentially important mineral resources.

GPA No. 960 changes would result in potential direct future loss of 23 acres of land designated as “regionally significant” by the SMGB. As explained in Section 4.14.5, however, this acreage is not suitable for future mining activities due to its location amidst dense residential development. Thus, the site may be characterized as no longer meeting California State’s definition as “regionally significant.” For this reason, the loss does not represent a significant adverse impact on the availability of regionally important mineral resources. The future development accommodated by the project would also result in the preclusion of future mining potential on approximately 320 acres of MRZ-2 land as a result of the generally incompatible new land use designations proposed. Measures that minimize the effects of this loss are described below.

Although not representing known mineral resources, the project would also have the potential to affect mineral availability on previously unstudied lands, such as MRZ-3 or MRZ-4, for which the potential for economically viable mineral resources might exist. Analysis presented in Section 4.14.5 indicates that up to 15,844 acres of MRZ-3 and MRZ-4 lands could be affected by future development accommodated by the proposed project. Since the presence and extent of important mineral resources has not been established for these areas, these effects do not represent impacts to any “known mineral resources.” Additional study would be necessary to determine if any significant mineral resources exist in such areas at the time implementing project is proposed. Such additional study is typically required when the Riverside County Geologist determines it is needed on a case-by-case basis.

The project area also includes a number of areas in which significant mineral resources are unlikely to be affected. Specifically, areas of infill within existing urban areas (totaling roughly 1,100 acres) would, by definition, not qualify for MRZ-2 status. In addition, SMGB standards for mineral resource designation (as discussed in Special Report No. 198) state that deposits of less than one million tons are below the current threshold value criteria for construction aggregate. Due to widespread urbanization of western Riverside County, it is also less likely suitable mineral resources would be available in areas of sufficient size and remoteness to be economically viable for mineral extraction.

Within the easternmost third of Riverside County, there are many areas which, even if they were found to qualify as MRZ-2, could be developed without adversely affecting the total availability of economically viable mineral resources in the region since such resources (particularly sand and gravel) occur in large volumes in Riverside County's eastern desert region. In Special Report No. 198 (2007) for the Palm Springs Production-Consumption Region, the California Geological Survey indicated that alternative aggregate sources do exist outside of the Palm Springs P-C Region within the desert to the east, San Geronio River to the west, the Twenty-nine Palms area to the north and Imperial Valley to the south. Based on these factors, proposed future development accommodated by GPA No. 960 in eastern Riverside County would not result in significant mineral resource losses.

Overall, because of the urbanizing nature of most of western Riverside County and the wide-spread availability of potential aggregate resources in eastern Riverside County, project-related impacts to MRZ-3 lands would be less than significant. Nevertheless, measures designed to determine potential suitability of these areas for economically viable future mineral resource extraction would be necessary prior to approval of any land-disturbing or encroaching uses. Policies to avoid or minimize these impacts are included in part of GPA No. 960, as described below.

Indirect impacts could also occur where MRZ-2 lands are encroached upon by incompatible uses, particularly residences and other sensitive uses, and where development lies adjacent to MRZ-2 sites otherwise suitable for mining. To avoid or minimize this impact, this EIR includes several measures to ensure that no future development arising from the changes in GPA No. 960 causes encroachment on significant mineral resources. See proposed General Plan Policies LU 9.6 and 9.7, in particular.

Lastly, the project would have a significant adverse impact on availability of important mineral resources if it contributes incrementally to a cumulative loss of lands with mineral resources necessary to meet the region's projected demand. As shown in Table 4.14-A, however, the MRZ-2 lands affected by GPA No. 960 land use changes would occur incrementally over 50-plus years and are insignificant compared to the total resources available. As such, their loss would not rise to the level of cumulatively significant. In addition, the policies described below would ensure conservation of the mineral resources necessary to meet future demand.

2. Regulatory Compliance for Impact 4.14.B

As detailed and explained below, compliance with the following existing laws, regulatory programs, as well as existing and proposed General Plan policies, would lessen significant impacts to known mineral resources as a result of GPA No. 960.

a. Compliance with Federal, State and County Regulations

All future development of mineral resources within unincorporated Riverside County must conform to the requirements and standards of a Surface Mining Permit issued by the County of Riverside pursuant to SMARA and Ordinance No. 555 prior to start of operations. This permit process ensures that measures necessary to avoid

or minimize significant environmental effects are implemented for all phases of an approved project, including construction and development, operations and reclamation. They also serve to help protect any adjacent uses in the vicinity from adverse incompatibility effects.

b. Compliance with Existing General Plan Policies

The General Plan contains the following policies that address potential impacts to mineral resources, as well as compatibility issues between uses. See Section 4.14.3.C for full text of each of these policies.

Policies LU 27.1, 27.4, 27.5 and OS 14.1: These policies ensure that existing mines and future mineral extraction activities are carried out in a manner that does not harm the environment or adjacent sensitive uses and resources.

Policies LU 27.2, 27.3 and OS 14.2: These policies prevent loss of potential mineral resources by protecting them from encroachment or preclusion by incompatible uses.

c. Compliance with Proposed New or Revised General Plan Policies

The following proposed new or revised policies of the Riverside County General Plan would address potential impacts to mineral resources. See Section 4.14.3.C for full text of each of these policies.

Policies LU 9.6 and 9.7: These policies ensure mineral resource conservation through various means, including requiring determination of an area's mineral resource potential prior to permitting development to ensure previously unknown resources are not lost; requiring consideration of the site's mineral resource value against its development value as a non-mining use; and restricting land uses incompatible with mineral recovery in certain areas.

Policies OS 14.3, 14.4 and 14.5: These policies prevent loss of potential mineral resources by protecting them from encroachment or preclusion by incompatible uses through requirements for buffer zones, screening, etc. They also ensure that existing mines and future mineral extraction activities are carried out in a manner that does not harm the environment or adjacent sensitive uses and resources.

3. Significance of Impact 4.14.B After Mitigation

With the implementation of the above-listed existing regulations, existing and proposed General Plan policies, GPA No. 960 would have a less than significant impact on known mineral resources, including mineral resource availability.

4.14.7 Mineral Resources - Level of Significance After Mitigation

Implementation of and compliance with the above regulations and Riverside County General Plan policies would ensure that significant impacts to known mineral resources of regional or statewide significance are either avoided or minimized to less than significant. The revision of General Plan Figure OS-5 and the proposed associated policies ensure that County of Riverside decisions comply with SMARA and are based on appropriate current information. Compliance with existing laws and policies, as well as the proposed new and revised General Plan policies discussed herein, would ensure that significant mineral resources are appropriately identified and pro-

tected. Lastly, these General Plan policies ensure that environmental impacts of existing and future mining activities are minimized and that conflicts between mining and non-mining land uses are also minimized or avoided. Together they ensure that any significant adverse impacts to mineral resources resulting from future implementation of GPA No. 960 would be mitigated to below the level of significance.

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