

4.17 Mineral Resources

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This section describes existing mineral resources in the vicinity of the Monterey Peninsula Water Supply Project (MPWSP or proposed project) and analyzes the potential effects of the proposed project on these resources.

4.17.1 Setting

4.17.1.1 Mineral Resources

In accordance with California’s Surface Mining and Reclamation Act of 1975 (SMARA) (discussed in Section 4.17.2.2, below), the state geologist, through the California Department of Conservation, California Geological Survey (CGS; formerly known as the California Division of Mines and Geology [CDMG]), is responsible for identifying and mapping the non-fuel mineral resources of the state. Economically significant mineral deposits are classified based on the known and inferred mineral resource potential of the land using the California Mineral Land Classification System, which includes the following four mineral resource zones (MRZs).

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- **MRZ-3:** Areas containing mineral deposits, the significance of which cannot be evaluated.
- **MRZ-4:** Areas where available information is inadequate for assignment to any other zone.

The CGS’s classification of lands in the Monterey Bay Production–Consumption Region,¹ within which the proposed project is located, focuses on significant sand, gravel, or stone deposits that are suitable as sources of aggregate (CDMG, 1987). Construction-grade aggregate is used in construction to provide bulk and strength to concrete, plaster, and stucco, and is used in road construction and other building applications. The CGS estimates that the Monterey Bay Production–Consumption Region has 323 million tons of permitted aggregate reserves.² The estimated 50-year demand for aggregate in the region is 346 million tons (CGS, 2012).

¹ A production-consumption region consists of one or more aggregate-producing districts and the market area they serve.

² Permitted aggregate reserves are aggregate deposits that have been determined to be acceptable for commercial use, and that exist within properties owned or leased by aggregate-producing companies that have permits authorizing the mining of these aggregate materials.

A large portion of the project area, including the cities of Marina, Seaside, and Sand City, is classified as MRZ-2 due to the presence of significant sand and gravel deposits (CDMG, 1987; CGS, 2012). All project components north of Reservation Road would be located in this zone. South of Reservation Road, proposed project components located within an MRZ-2 include the Transmission Main, Transfer Pipeline, the proposed aquifer storage and recovery (ASR) facilities, the northern portion of the Monterey Pipeline, and the Ryan Ranch–Bishop interconnection improvements. The southern portion of the Monterey Pipeline would traverse an area classified as MRZ-3. The Main System–Hidden Hills interconnection improvements and the Valley Greens Pump Station (both site options) would not be located within an MRZ (CDMG, 1987).

4.17.1.2 Mining Operations

The only active mining operation in the project vicinity is the CEMEX sand mining facility located north of Reservation Road and west of Highway 1 in northern Marina, within the Marina Dune Complex (City of Marina, 1982). The northern portion of the Marina Dune Complex is undisturbed but the southern portion has been affected by ongoing sand mining activities at the CEMEX facility, which has been in operation since 1906. Sand deposits at the CEMEX sand mining facility, also known as the Lapis #110 Pit, the Lapis Sand Pit, and the Lapis Plant, include beach sands and eolian dunes (USGS, 2013; RMC Lonestar, 1989). Although both the eolian dunes and beach sands were mined in the past (PWA, 2008), CEMEX’s current sand mining operations are limited to the extraction of beach sands.

CEMEX operators use a floating suction dredge to extract beach sand from a dredging pond located in the foredunes on the western portion of the CEMEX facility. Although a beach berm provides some separation between the dredging pond and Monterey Bay, the pond receives surface flow from the Monterey Bay during incoming tides and storm events and is replenished by sand that washes over the berm (PWA, 2008). The dredging pond is continuously being filled with sand and this sand is continuously dredged by CEMEX facility operators. Mining operators pump the dredged sand through a feed-pipe to processing facilities located in the eastern portion of the CEMEX facility. CEMEX also operates several settling ponds located south of the dredging pond and north of the CEMEX access road. The CEMEX sand mining facility is permitted to mine and process between 250,000 and 1,000,000 cubic yards of sand each year (RMC Lonestar, 1989). As described in Chapter 3, Project Description, Section 3.4.1, Seawater Intake System and depicted in **Figure 3-3**, the proposed subsurface slant wells would be located in the CEMEX active mining area, approximately 400 feet south of the dredging pond and within 50 feet of the settling ponds.

4.17.1.3 Oil, Gas, and Geothermal Wells

According to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), there are three plugged oil or gas wells in the project vicinity. DOGGR shows the status of the three wells, which are located in the cities of Seaside, Sand City, and Del Rey Oak, as “plugged,” and the status of the well operators as “inactive” (DOGGR, 2014). These wells do not lie within the immediate project area.

4.17.2 Regulatory Framework

4.17.2.1 Federal Regulations

No federal regulations governing mineral and energy resources apply to the MPWSP.

4.17.2.2 State Regulations

California Department of Conservation

The California Department of Conservation (CDC) is the primary agency charged with mineral resource protection in California. Several divisions within the CDC (the CGS, the Office of Mine Reclamation, the Division of Land Resource Protection, and the Division of Oil, Gas, and Geothermal Resources) are responsible for managing the development, utilization, and conservation of mineral resources, and the reclamation of mined lands.

Surface Mining and Reclamation Act of 1975

The SMARA (California Public Resources Code, Chapter 9, Division 2, Section 2710 et seq.) requires the State Mining and Geology Board (SMGB) to adopt state policies for the reclamation of mined lands and the conservation of mineral resources. These policies are found in Title 24 of the California Code of Regulations, Division 2, Chapter 8, Subchapter 1.

In accordance with SMARA, the State of California established the Mineral Land Classification System to help identify and protect mineral resources in areas that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. Protected mineral resources include construction materials, industrial and chemical mineral materials, metallic and rare minerals, and non-fluid mineral fuels.

4.17.2.3 Applicable State, Regional and Local Land Use Plans and Policies Relevant to Mineral Resources

Table 4.17-1 describes the regional and local land use plans, policies, and regulations pertaining to mineral resources that are relevant to the MPWSP and that were adopted for the purpose of avoiding or mitigating an environmental effect. Also included in **Table 4.17-1** is an analysis of project consistency with such plans, policies, and regulations. Where the analysis concludes the proposed project would not conflict with the applicable plan, policy, or regulation, the finding is noted and no further discussion is provided. Where the analysis concludes the proposed project may conflict with the applicable plan, policy, or regulation, the reader is referred to Section 4.17.3, Impacts and Mitigation Measures, for additional discussion.

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**TABLE 4.17-1
APPLICABLE STATE, REGIONAL, AND LOCAL PLANS AND POLICIES RELEVANT TO MINERAL RESOURCES**

Project Planning Region	Applicable Planning Document	Plan Element/ Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone)	City of Marina General Plan	Community Design and Development	Subsurface Slant Wells, Source Water Pipeline, Desalinated Water Pipeline, Transmission Main	Policy 4.124: To conserve soil and mineral resources within the Marina Planning Area, the following policies and conditions shall be established: 4. The City recognizes the presence of designated mineral resources west of Highway 1, and shall continue to allow the existing sand-mining operation on RMC Lonestar property [now known as the CEMEX sand mining facility] west of Highway 1 in accordance with the provisions of Marina's local coastal plan (LCP) and the approved Reclamation Plan for that site. In accordance with the Marina LCP, new or expanded sand-mining operations shall be limited to the surf zone and already-disturbed areas, and shall be subject to completion and approval of the prerequisite environmental review, Reclamation Plan, and coastal permit process. A coastal permit for new or expanded mining operations may be granted only upon a finding, based upon conclusive evidence, that such an activity will not significantly accelerate shoreline erosion or have significant unavoidable adverse impacts upon the dune and coastal strand's biological resources.	This policy is intended to ensure that new or expanded mining operations are protective of coastal sediments and biological resources.	<u>Consistent:</u> The proposed project does not propose any new or expanded mining operations.
County of Monterey (coastal zone & inland area)	Monterey County Code	Chapter 16.04 - Surface Mining and Reclamation	MPWSP Desalination Plant, Source Water Pipeline, Desalinated Water Pipeline, Salinas Valley Return Pipeline, Brine Discharge Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Valley Greens Pump Station (site Options 1 and 2)	Chapter 16.04 - Surface Mining and Reclamation recognizes that mineral extraction is essential to the economic well-being of the county and that reclamation of the mined lands is necessary to prevent or minimize adverse effect on the environment and to protect public health and safety. The purpose of Chapter 16.04 is to ensure the continued availability of important mineral resources while regulating surface mining operations as required by SMARA.	This section is intended to provide for continued mining and mined lands reclamation, consistent with public health and safety needs.	<u>Consistent:</u> The proposed project would not substantially limit opportunities to extract mineral resources or preclude reclamation of mined lands within unincorporated areas of Monterey County.
County of Monterey (coastal zone & inland area)	Monterey County Code	Chapter 16.04 - Surface Mining and Reclamation	MPWSP Desalination Plant, Source Water Pipeline, Desalinated Water Pipeline, Salinas Valley Return Pipeline, Brine Discharge Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Valley Greens Pump Station (site Options 1 and 2)	Section 16.04.140 - Mineral Resource Protection protects mineral resource areas that have been classified by the CDMG or designated by the SMGB, as well as existing surface mining operations that remain in compliance with the provisions of Chapter 16.04, from intrusion by incompatible land uses that may impede or preclude mineral extraction or processing, to the extent possible while remaining consistent with the Monterey County General Plan.	This section is intended to protect lands identified as having high mineral resource potential, as well as existing mining operations from encroachment by incompatible land uses that may preclude mining activities.	<u>Consistent:</u> The proposed project does not propose any incompatible land uses that would preclude present or future mining of lands designated as having high mineral resource potential or existing mining operations within unincorporated Monterey County.
County of Monterey (coastal zone & inland area)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, Desalinated Water Pipeline, Salinas Valley Return Pipeline, Brine Discharge Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Valley Greens Pump Station (site Options 1 and 2)	Policy OS-2.1: Potentially significant mineral deposits and existing mining operations identified through the State Division of Mines and Geology, including idle and reserve properties, shall be protected from on-site and off-site land uses that would be incompatible with mineral extraction activities.	This section is intended to protect lands identified as having high mineral resource potential, as well as existing mining operations from encroachment by incompatible land uses that may preclude mining activities.	<u>Consistent:</u> The proposed project does not propose any incompatible land uses that would preclude present or future mining of lands designated as having high mineral resource potential or existing mining operations within unincorporated Monterey County.
County of Monterey (coastal zone & inland area)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, Desalinated Water Pipeline, Salinas Valley Return Pipeline, Brine Discharge Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Valley Greens Pump Station (site Options 1 and 2)	Policy OS-2.3: Efforts to conserve raw mineral resources through recycling shall be supported.	This policy is intended conserve raw mineral resources.	<u>Consistent:</u> As discussed in Section 4.13, Public Services and Utilities, Monterey County requires that 50 percent of inert solids and 100 percent of non-inert materials be diverted from landfills. The proposed project would also be required to comply with State regulations requiring waste diversion and recycling. Therefore the proposed project would be consistent with this policy.

**TABLE 4.17-1 (Continued)
 APPLICABLE STATE, REGIONAL, AND LOCAL PLANS AND POLICIES RELEVANT TO MINERAL RESOURCES**

Project Planning Region	Applicable Planning Document	Plan Element/Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
County of Monterey (coastal zone & inland area)	Monterey County General Plan	Conservation and Open Space	MPWSP Desalination Plant, Source Water Pipeline, Desalinated Water Pipeline, Salinas Valley Return Pipeline, Brine Discharge Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Valley Greens Pump Station (site Options 1 and 2)	Policy OS-2.5: The County shall inventory, assess, and characterize the location and condition of identified pre-SMARA abandoned gold, mercury and coal mines and implement such measures as may be necessary to ensure that such mines do not contribute to a significant risk to public health or safety or non-compliance with water quality standards and criteria.	This policy is intended to ensure that abandoned mines do not create a significant health risk to people or water quality.	<u>Consistent:</u> The proposed project would not be located with an abandoned mine or otherwise contribute to an abandoned mine's public health or safety risk, or violation of water quality standards.
Fort Ord Reuse Authority (Seaside)	Fort Ord Reuse Plan	Conservation	ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Settling Basin, ASR Pump Station, Terminal Reservoir	Soils and Geology Policy B-2: The City shall protect designated mineral resource protection areas from incompatible land uses.	This section is intended to protect lands identified as having high mineral resource potential from encroachment by incompatible land uses that may preclude mining activities.	<u>Consistent:</u> The proposed project does not propose any incompatible land uses that would preclude present or future mining of designated mineral resource protection areas within former Fort Ord lands.
Fort Ord Reuse Authority (Monterey County)	Fort Ord Reuse Plan	Conservation	Ryan Ranch-Bishop Interconnection Improvements	Soils and Geology Policy B-2: The County shall protect designated mineral resource protection areas from incompatible land uses.	This section is intended to protect lands identified as having high mineral resource potential from encroachment by incompatible land uses that may preclude mining activities.	<u>Consistent:</u> The proposed project does not propose any incompatible land uses that would preclude present or future mining of designated mineral resource protection areas within former Fort Ord lands.

SOURCE: City of Marina, 1982; City of Marina, 2000; FORA, 1997; Monterey County, 2010.

4.17.3 Impacts and Mitigation Measures

4.17.3.1 Significance Criteria

Appendix G of the CEQA Guidelines recommends the following significance criteria for the evaluation of mineral resources. Implementation of the proposed project would have a significant impact related to mineral resources if it would:

- 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
- 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.

4.17.3.2 Approach to Analysis

This impact analysis evaluates the potential for the proposed project to result in the loss of availability of locally or regionally important mineral resources based on mineral resource maps prepared by the CGS using the California Mineral Land Classification System, and mineral resource maps produced by Monterey County and the City of Marina. Impacts related to the loss of mineral resources would be considered significant if construction activities were to disrupt active mining activities and make known mineral resources temporarily unavailable, or if facility siting of new facilities were to preclude the future recovery of known mineral resources or adversely affect the availability of these resources for future recovery.

All potential impacts related to mineral resources are associated with project construction and/or facility siting; no impacts would result from project operations. Therefore, the evaluation presented below only considers impacts related to construction and facility siting.

4.17.3.3 Summary of Impacts

Table 4.17-2 summarizes the proposed project’s impacts and significance determinations related to mineral resources.

**TABLE 4.17-2
 SUMMARY OF IMPACTS – MINERAL RESOURCES**

Impacts	Significance Determinations
Impact 4.17-1: Loss of availability of known mineral resources or locally important mineral resource recovery sites.	LS
LS = Less than Significant impact, no mitigation required	

4.17.3.4 Impacts and Mitigation Measures

Impact 4.17-1: Loss of availability of known mineral resources or locally important mineral resource recovery sites. (*Less than Significant*)

All proposed project components north of Highway 68 would be located in areas designated as MRZ-2—that is, areas where adequate information indicates that significant mineral deposits (in this case, sand for use as aggregate) are either present or are likely to be present. In addition, the City of Marina recognizes the CEMEX sand mining facility and the Armstrong Ranch (located on either side of Del Monte Boulevard in northern Marina) as locally important mineral resource sites.

Subsurface Slant Wells and Source Water Pipeline

The subsurface slant wells for the Seawater Intake System are proposed within the CEMEX active mining area, approximately 400 feet south of the dredging pond and 50 feet south of the settling ponds. In addition, the proposed Source Water Pipeline would be aligned beneath the existing CEMEX access road, also within the CEMEX active mining area. Construction equipment, materials, and trucks would access the CEMEX active mining area via Lapis Road and the existing CEMEX access road. Increased truck traffic on the CEMEX access road from project-related construction vehicles and the temporary reduction in the width of the access road during installation of the Source Water Pipeline could delay the movement of mining vehicles through the CEMEX facility. Although mining operations could experience minor disruptions during project construction, mining operations would continue throughout project construction. Therefore, project implementation would not result in the temporary loss of known mineral resources and construction-related impacts would be less than significant.

Due to the presence of sensitive dune habitats and the associated federal and state regulations that protect the plant and animal species found in the coastal dunes (refer to Section 4.6, Terrestrial Biological Resources, for more information), it is unlikely that new surface mining permits will be granted at the CEMEX sand mining facility in the future. For this reason, this analysis assumes that the current methods of sand extraction would continue during future project operations. Upon completion of project construction activities, the CEMEX access road would be restored to its existing condition and purpose. The Source Water Pipeline would be located underground beneath the access road and would not interfere with the movement of mining vehicles or other sand mining activities. Further, since CEMEX facility operators mine sand from the dredging pond, which is continuously replenished by sand that is washed over the berm, the siting of the subsurface slant wells in the CEMEX active mining area would not interfere with sand mining activities or adversely affect the availability of mineral resources for future recovery. Therefore, this impact is less than significant.

MPWSP Desalination Plant

There is no active mining in the immediate vicinity of the MPWSP Desalination Plant. However, the 46-acre site is located in an area designated as MRZ-2. Constructing the MPWSP Desalination Plant on 25-acres of this site could limit the future recovery of mineral resources beneath the plant

footprint. The MPWSP Desalination Plant site was previously used for agriculture but is currently fallow. Parcels designated as important farmland surround the proposed site (CDC, 2010), thus limiting the mining potential of the adjacent parcels. Further, even if implementation of the proposed project were to preclude future recovery of mineral resources at the MPWSP Desalination Plant site, this impact would not be significant due to the small size of the site relative to the overall size of the mineral resource zone. Therefore, implementation of the MPWSP Desalination Plant would have a less than significant impact on mineral resources.

All Other Pipelines North of Reservation Road

Construction of the Desalinated Water Pipeline would occur within the Charles Benson Road rights-of-way and within the Monterey Peninsula Recreational Trail and/or the Transportation Agency for Monterey County (TAMC) rights-of-way. Construction of the Brine Discharge Pipeline and Salinas Valley Return Pipeline would generally occur within existing road rights-of-way but certain pipeline segments could be installed adjacent to the road shoulder in undeveloped portions of the MRZ-2 area. Installing these pipelines within or immediately adjacent to existing road rights-of-way would minimize disturbance to nearby MRZ-2 land and future mining operations. Because the proposed pipelines would have a limited footprint and would not be constructed across any active mining areas, they would not result in a significant reduction in the availability of mineral resources (primarily sand dunes). Therefore, the construction and operation of the proposed conveyance facilities would have a less than significant impact on mineral resources.

Improvements to Seaside Groundwater Basin ASR System

Construction of the ASR facilities is proposed in an undeveloped portion of the MRZ-2 area, surrounding other urban development. Because the ASR facilities would have a limited footprint (less than 9 acres total) and would not be constructed across any active mining areas, they would not result in a significant reduction in the availability of mineral resources (primarily sand dunes). Therefore, the construction and operation of the proposed ASR facilities would have a less than significant impact on mineral resources.

Pipelines and Other Conveyance Facilities South of Reservation Road

The impacts on mineral resources associated with project components located south of Reservation Road and north of Highway 68 would be similar to those of the conveyance facilities located north of Reservation Road. Because these facilities would generally be constructed within road rights-of-way and would have limited footprints, the potential impact on mineral resources would be less than significant.

Impact Conclusion

The proposed project would not significantly affect the availability of known mineral resources for future recovery or substantially interfere with active mining operations at the CEMEX sand mining facility. The impact would be less than significant.

Mitigation Measures

None required.

References – Mineral Resources

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