3.8 Mineral Resources

This section provides a summary of the potential mineral resources impacts caused by implementation of the Project. An NOP for the Project was released for public review on September 1, 2022 and an EIR Scoping Meeting was held on September 20, 2022. No comment letters regarding mineral resources were received.

3.8.1 Existing Conditions

3.8.1.1 General Geologic Setting

The Project site is situated within the western portion of the Peninsular Ranges Geomorphic Province. The Peninsular Ranges province occupies the southwestern portion of California, extending southward from the Transverse Ranges and Los Angeles Basin to the southern tip of Baja California. In general, the province consists of young, steeply sloped, northwest trending mountain ranges underlain by Late Jurassic to Early Cretaceous-age metavolcanic and metasedimentary rock and Cretaceous-age igneous plutonic rock of the Peninsular Ranges Batholith. The westernmost portion of the province is predominantly underlain by younger marine and non-marine sedimentary rocks. The Peninsular Ranges' dominant structural feature is northwest-southeast trending crustal blocks bounded by active faults of the San Andreas transform system.

Published regional geologic maps indicate the site is underlain by metamorphic Santiago Peak Volcanics. Based on information gathered during subsurface explorations, the site is underlain by metamorphic Santiago Peak Volcanics and a sedimentary unit likely associated with the Santiago Formation. These units are mantled by relatively thin veneers of surficial soils including undocumented artificial fill, colluvium and residual soil. The following section contains a summary of the soil and bedrock units encountered onsite. Description of these geologic units, as observed during AGS's investigation, are presented below. Test pit logs are presented in Appendix B of Appendix F1.

The geotechnical investigations identified the following surficial units and geologic formations on the Project site:

- Artificial Fill-undocumented (afu)
  Undocumented artificial fill soils were locally encountered in test pit TP-6 to a depth of eight feet. As encountered these materials can generally be described as brown to gray, silty clay in a dry to moist and loose/soft to stiff condition. Based on a review of historical satellite imagery of the Project site, it appears that minor grading/mining operations were conducted during the mid-1990's in the lower, central and southeasterly portions of the site.

- Alluvium
  Alluvium was encountered in several test pits at the southeasterly boundary of the site. As encountered, these materials can generally be described as brown, silty to clayey sand with gravel in a moist and loose condition. The alluvium ranged from 3 to 9 feet in thickness.

Alluvium is also anticipated to exist within the northwesterly drainage on-site. Subsurface exploration within this area was precluded due to environmental constraints.

- Colluvium (Qcol)
  A relatively thin veneer colluvium mantles a majority of the Project site and was encountered the majority of the test pits. The colluvium can generally be described as grayish brown/brown to reddish brown, silty to sandy clay in a dry to moist and loose to stiff condition. The colluvium ranged from 3 to 8 feet in thickness.

- Santiago Formation (Map Symbol Tsa)
  Sedimentary bedrock materials which appear to be related to the Tertiary-aged Santiago Formation were encountered across the site below the surficial units and were observed to non-conformably overlie the Santiago Peak Volcanics. These materials ranged from three to 23 feet in thickness. As encountered, these materials can generally be described as gray to greenish gray to light brown, soft to hard, clayey sandstone and claystone.

- Santiago Peak Volcanics (Map Symbol Jsp)
  Santiago Peak Volcanics were encountered at depth in many of the test pits across the site and are anticipated to underlie the remaining portions of the site beneath the Santiago Formation. The Santiago Peak Volcanics are generally comprised of metavolcaniclastic and metasedimentary bedrock. As encountered, these materials are completely to slightly weathered and moderately hard to very hard, generally reducing to 8-inch minus rock fragments in the highly weathered zones and 12-inch minus in the moderately weathered zones. Some rock fragments greater than 12-inches were encountered. A residual soil horizon on the order of two (2) feet thick locally mantled the intact bedrock in several test pits. Jointing observed within the unit typically ranged from tight to blocky and widened with depth. The excavator encountered refusal in the Santiago Peak Volcanics at depths between 6.5 feet and 19 feet during the due diligence investigation.

For a more detailed description and analysis of the on-site geology, refer to EIR Section 3.5, *Geology and Soils*.

3.8.1.2 Regional and Local Mineral Resources

According to information for the California Department of Conservation, the closest mine to the Project site is the San Pasqual Quarry, located approximately 10 miles east of the Project site.

3.8.1.3 On-Site Mineral Resources

Based on site reconnaissance and research performed by AGS, Inc., there is no information or reason to believe that any commercially viable mining resources currently exist on the Project site. There is evidence that minor mining operations were conducted during the mid-1990's in the lower, central and southeasterly portions of the Project site. (AGS, Inc., 2016, p. 8) There may be minor opportunities to obtain rock and aggregate materials during grading of the site; however, the quantities of these

materials are expected to be limited. Furthermore, any potential mining opportunities on the Project site would be well below the limiting threshold criteria for regionally significant mineral deposits, as described below.

3.8.1.4 Regulatory Setting

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) mandated the initiation of a mineral land classification and designation process to help identify and protect mineral resources in the State that are subject to urban expansion and other irreversible land uses that would preclude mineral extraction. Classification is the process of identifying lands containing significant mineral deposits. Designation is the formal recognition by the State Mining and Geology Board of areas containing mineral deposits of regional or statewide importance. CDMG established Guidelines for Classification and Designation of Mineral Lands to guide the classification and designation of mineral resources. Based on the Guidelines, to be considered significant for purposes of classification of mineral resources, a mineral deposit must meet the following criteria:

- Marketability – the mineral deposit must be minable, processable, and marketable under the technologic and economic conditions that exist at present or are expected to exist in the next 50 years.
- Threshold Value – for deposits that meet the marketability criteria, the deposit must meet a minimum threshold value. The threshold amount depends on the type of mineral material, as follows:
  - construction materials – minimum threshold value of $12,500,000
  - industrial and chemical mineral material – minimum threshold value of $2,500,000
  - metallic and rare minerals – minimum threshold value of $1,250,000

Mineral deposits that are considered significant based on the above criteria are further classified based on a determination of the Mineral Resource Zone (MRZ) in which the deposits are located. The State has established criteria with respect to MRZ classification that are based on a geologic appraisal of the mineral resource potential of the land. This appraisal includes research of geologic and mining-related literature, compilation of geologic maps, site investigations, sampling, surveys, and mapping, as appropriate. The following MRZ categories are used by the State Geologist in classifying California's lands:

- MRZ-1 are areas where available geologic information indicates that no significant mineral deposits are present or where little likelihood exists for their presence.
- MRZ-2 are areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. A typical MRZ-2 area would include an operating mine or an area where extensive sampling has indicated the presence of a significant mineral deposit.

- MRZ-3 are areas that contain known mineral deposits that may qualify as significant mineral resources, pending further exploration and evaluation. Further exploration within these areas could result in the reclassification of specific areas into the MRZ-2 category.
- MRZ-4 are areas where geologic information does not rule out either the presence or absence of mineral resources and further exploration and evaluation is required. Further exploration could result in the reclassification of MRZ-4 lands into the MRZ-1 or MRZ-2 categories.

3.8.2 Analysis of Project Effects and Determinations as to Significance

3.8.2.1 Loss of a Known Mineral Resource

Guidelines for the Determination of Significance

A project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on mineral resources, absent specific evidence of such an effect.

- On or within the vicinity (generally up to 1,300 feet from the site) of an area classified as MRZ-2; or
- On land classified as MRZ-3; or
- Underlain by Quaternary alluvium; or
- On a known sand and gravel mine, quarry, or gemstone deposit; and

- The project will result in the permanent loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and

- The deposit is minable, processable, and marketable under the technologic and economic conditions that exist at present or which can be estimated to exist in the next 50 years and meets or exceeds one or more of the following minimum values (in 1998 equivalent dollars):

Construction materials (sand and gravel, crushed rock)	$12,500,000
Industrial and chemical mineral materials (limestone, dolomite, and marble [except where used as construction aggregate]; specialty sands, clays, phosphate, borates and gypsum, feldspar, talc, building stone, and dimension stone)	$2,500,000
Metallic and rare minerals (precious metals [gold, silver, platinum], iron and other ferroalloy metals, copper, lead, zinc, uranium, rare earths, gemstones and semi-precious materials, and optical-grade calcite)	$1,250,000

Guidelines Source

The Significance Guideline for loss of a known mineral resource is from the County of San Diego Guidelines for Determining Significance – Minerals (County of San Diego, July 30, 2008), which addresses question (a) of Section X in Appendix G of the CEQA Guidelines. A significant impact would occur if the Project contains areas designated as MRZ-2 or MRZ-3 and the mineral resources present have been determined to be minable, process-able, and marketable under the technologic and economic conditions that exist at present or that can be estimated to exist in the next 50 years and meets or exceeds the State Geologist minimum dollar values for mineral resources.

Analysis

The Project site is located within an area Designated MRZ-3 defined by the MRZ map of the County's Production-Consumption Region Boundary as designated by California Division of Mines and Geology (CDMG). According to the California Department of Conservation (CDC), the Project site occurs within an area that has not been studied for mineral resources (CDC, 2021b). Therefore, the Project site does not contain any known mineral resources that would be of value to the region or the residents of the State. No lands in the Project site's vicinity are classified or designated by the State as containing mineral resource deposits, and the nearest known surface mine is located approximately 10 miles east of the Project site. Accordingly, with implementation of the Project there would be no impact to known mineral resources.

3.8.2.2 Delineated Mineral Resource Recovery Sites

Guideline for the Determination of Significance

A significant impact to mineral resources would occur due to the following:

- The Project would 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.

Guidelines Source

The Significance Guideline for impacts to delineated mineral resource recovery sites is from the County of San Diego Guidelines for Determining Significance – Minerals. It addresses question (b) of Section X in Appendix G of the CEQA Guidelines, and requires identification of projects that would result in the loss of availability of mineral resources on lands zoned as S82 Extractive Use Zone.

Analysis

The General Plan designates the Project site as "Semi-Rural Residential" land uses and does not propose or plan for operation of mineral resource extraction on the Project site. Therefore, any mining operation or mining activity would be inconsistent with the land uses planned for the Project site.

Per the San Diego County Zoning Ordinance, mining and extractive uses are allowed within the S82 (Extractive Use) zone. The entire Project site is zoned for "Rural Residential" and "Open Space" and does not include any area zoned S82 (Extractive Use). Therefore, implementation of the Project would not result in the permanent loss of availability of a locally important mineral resource recovery site. Therefore, mining activities on the Project site would be inconsistent with the planned land uses and the impact related to a delineated mineral resource recovery site is considered less than significant.

3.8.3 Cumulative Impact Analysis

Mineral resources, particularly sand, gravel, and rock are a regional resource and are generally defined by the MRZ map of the County's Production-Consumption Region Boundary as designated by CDMG. As described above in Section 3.8.1.4, MRZ-3 zones are areas that contain known mineral deposits that may qualify as significant mineral resources, pending further exploration and evaluation. Implementation of the Project would not result in significant direct impacts to known mineral resources because the Project site does not contain any known mineral resources that would be of value to the region or the residents of the State or the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

As discussed above, implementation of the Project would not impact mineral resources designated by the CDMG. Therefore, the Project would not contribute to any significant cumulative mineral resource impacts that may accrue from other projects in the region.

3.8.4 Significance of Impacts Prior to Mitigation

Based on the above analyses, implementation of the Project would not result in any significant direct, indirect, or cumulative impacts to mineral resources.

3.8.5 Mitigation

As discussed above, implementation of the Project would not result in any significant impacts to the availability of mineral resources. Therefore, no mitigation is required.

3.8.6 Conclusion

As discussed above, the Project site is not identified to contain known mineral resources or locally important resources delineated on a local plan, lacks sufficient geologic materials for significant mining opportunities, and has no known commercially valuable mineral resources. In addition, the existing and planned land uses and zoning for the Project site preclude mining activity. Therefore, implementation of the Project would not result in loss of availability of a known mineral resource that would be of value to the region; and would not result in the loss of a mineral resource recovery site delineated on an adopted land use plan. Therefore, impacts related to mineral resources resulting from implementation of the Project are considered less than significant.