4.15 Water Quality and Supply

This section describes the existing hydrological setting for the Proposed Project site, including runoff, drainage, water quality, and water supply based on information from federal, State, and regional agencies, as well as information provided by the Applicant. This section also identifies potentially significant impacts that could result from implementation of the Proposed Project and provides mitigation measures to avoid or minimize significant impacts, where feasible and warranted.

Scoping Issues Addressed

During the Proposed Project's scoping period, the County Department of Public Works provided a comment letter that addressed issues related to water resources, as summarized in Table ES-1. The letter, dated July 9, 2012, contained (1) requests for revisions to Applicant materials submitted with its CUP application, (2) comments related to public works resources in the Proposed Project area, and (3) recommendations for the Proposed Project's CUP conditions of approval. The majority of comments and recommendations addressed in the letter relate to public road improvements as mitigation and related fees, permit requirements and agreements. However, the first part of this comment letter recommends updates to the Proposed Project's Drainage Report and associated grading plans for potential flood hazards delineation, as well as completion of the County's Stormwater Quality Plan Application because the Proposed Project qualifies as a Priority Project, as defined by Section 22.10.155 of Title 22 of the County Code. Per the Applicant's response letter on July 31, 2012, these materials have been submitted to the County and are considered in this analysis.

The County Department of Agriculture/Weights and Measures also provided a comment letter, dated July 15, 2012, that suggested that the Proposed Project should minimize or avoid impacts to agricultural resources, including water resources.

In addition to the above, two comments were received at the Proposed Project's scoping meeting held on June 27, 2013 that relate to water resources. One commenter requested identification of the existing quarry's source of water for dust suppression. The County responded that all existing and proposed water supply needs for quarry operations, including process water, are provided by the quarry's existing Use Pond, and sometimes supplemented by surface runoff water collected in the excavation pit (please refer to EIR Section 2.5.4, Proposed Quarry Operations, Water Use and Management). The second comment received at the meeting requested information regarding the existing quarry's water demand, and how the Proposed Project may affect it. The County responded that exiting quarry operations require approximately 55 afy for dust suppression, and that the Proposed Project is estimated to cause the quarry to utilize about 2.8 afy additional water, for a total of 57.8 afy. It was additionally noted that this water supply comes from on-site sources, and that an estimated 90 percent of the process water used is recovered.

4.15.1 Existing Conditions

Climate

The Santa Margarita area has a Mediterranean climate, with distinct wet and dry seasons. The climate is characterized by long, dry, warm summers and mild, relatively wet winters. The average maximum temperature during the summer months is about 90°F, and average minimum temperatures drop to the 30s°F in winter. The mean annual precipitation is about 32 inches, with most of the rainfall occurring between October and April, and the highest average rainfall totals occurring in January and February (Western Regional Climate Center, 2013).

Stormwater and Drainage

The Salinas River is the dominant hydrologic feature in the vicinity, located adjacent to and just east of the Proposed Project site. The Salinas River is a major river system in California, with a watershed covering approximately 4,600 square miles (SWRCB, 1999). The headwaters of the Salinas River are within the County. From there, it flows northwesterly through Monterey County and discharges into Monterey Bay, about 120 miles from the Proposed Project site. The predominant land use that drains to the Salinas River is agriculture. The Proposed Project site is located adjacent to the Upper Salinas River Reach; the Upper Salinas Reach is that portion of the River extending from its headwaters to its confluence with the Nacimiento River to the north.

The Salinas Dam, which was built in 1941, is located approximately seven miles upstream of the Proposed Project site and forms Santa Margarita Lake, a relatively small reservoir with a capacity of 23,800 acre-feet (City of San Luis Obispo, 2013). Construction of the dam changed the hydrology of the river downstream of the dam, substantially reducing flows (a median annual flow reduction of 75 percent between 1943 and 1982) (Upper Salinas–Las Tablas Resource Conservation District, 2002). The nearest stream gage on the river is just downstream from the dam. The gage near the dam is maintained by the County (San Luis Obispo County, 2011), and for the 23 years of available data for this location (1987 through 2009) annual flows have ranged from a low of 808 afy to over 80,000 afy, with a median value of 8,660 afy (URS, 2013).

The eastern boundary of the existing quarry's Upper Area (see EIR Figure 2.5-1), associated with the current excavation pit, is approximately 100 feet from the active channel of the Salinas River. However, the bedrock which separates the active channel from the mining pit is approximately 50 feet high and composed of granitic rock. In the vicinity of the excavation pit, the bedrock separator is continuous and appears to effectively isolate flows in the Salinas River from quarry operations. Based on review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and the topography of the Proposed Project site, the ridge of the bedrock separator is, at minimum, 20 feet higher than the 100-year inundation level associated with the Salinas River floodplain. The bottom of the existing excavation pit is approximately 60 feet below the active channel of the Salinas River. Based materials provided by the Applicant, there has never been a breach in the alluvial separator or any overland interchange of water between the mining pit and the Salinas River (Wallace Group, 2013). The current excavation pit is internally drained such that all precipitation that falls within it is conveyed inward, toward the center of the impoundment (see EIR Figure 2.5-2).[1]

The existing quarry's Lower Area, where the current aggregate processing and the HMA plants operate (see EIR Figures 2.5-1 and 2.5-2), is located at a lower, relatively flat area adjacent to the Salinas River where the river enters the open valley floor. In the Lower Area, the separation between the aggregate processing area is less well-defined (essentially just a low gravel berm) relative to the Upper Area.

The proposed expansion area is located in rugged uplands adjacent to and west of the existing excavation pit in the quarry's Upper Area. The elevations in this Upper Area range from approximately 1,000 feet amsl in the northeast, to approximately 1,380 feet amsl at the peaks along the southern ridgeline. This southern ridgeline represents a drainage divide. Precipitation that falls to the north of the ridgeline, the area that encompasses most of the proposed expansion area, flows to the north over undeveloped land and ultimately discharges to the Salinas River. Precipitation that falls south of the ridgeline flows through a steeply wooded valley that drains toward the existing aggregate processing area. There are no

[1] The "impoundment" is the bottom of the quarry's excavation pit where water collects.

defined creeks or drainage ditches that convey runoff from the Lower Area directly to the Salinas River; runoff either ponds or is conveyed to the river by sheetflow. Ponded water infiltrates or evaporates (Chang, 2013). Ponded water is also periodically pumped into the Salinas River. These discharges are covered by the National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, as described in more detail in Section 4.15.3 (Regulatory Setting), below.

Flooding

Storm-Related Flooding

The Salinas River, located adjacent to the Proposed Project site to the east, can experience high-flow conditions that result in flooding during intense storm events. Based on the FEMA Flood Insurance Rate Maps, much of the Proposed Project's Lower Area is located within 100-year flood hazard zone, as shown in Figure 4.15-1. Specifically, the flood hazard zone is "Zone A", which is defined by FEMA as "areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies." The Upper Area, including the existing excavation pit and the proposed expansion area are not subject to flooding as delineated by Flood Insurance Rate Maps.

Dam Failure

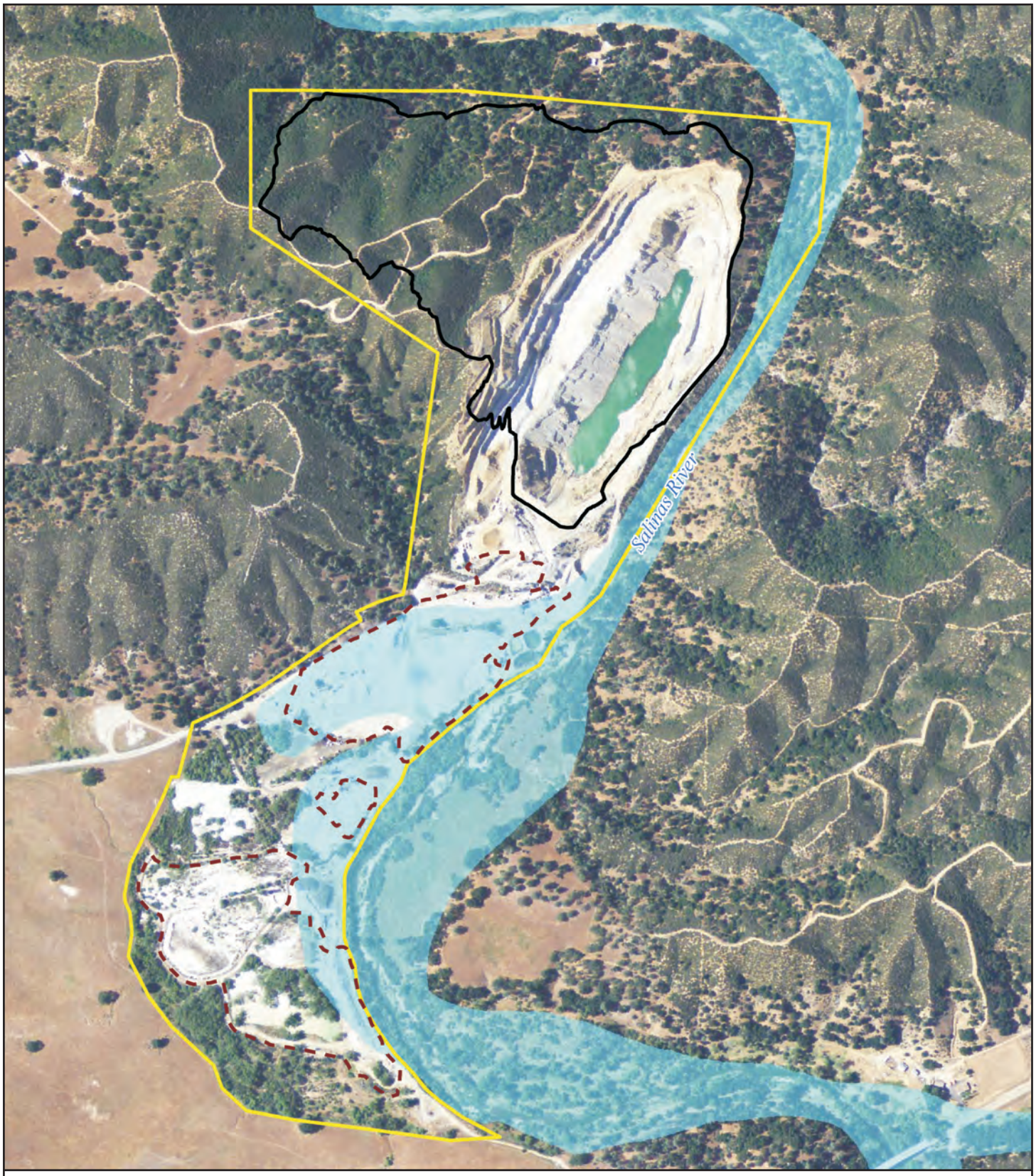
According to the County's Safety Element (County of San Luis Obispo, 1999):

> *A sudden failure of the Salinas Dam would result in the release of water from Santa Margarita Lake in a northern direction into the Salinas River. Assuming Santa Margarita Lake was at capacity at the time of the failure, it is estimated that the water released from the dam would inundate an area extending between 300 and 500 feet on either side of the centerline of the river, and isolated low-lying areas up to the Atascadero.*

While the inundation levels would not likely be high enough to flood the excavation pit, much of the Lower Area (the existing processing area and future reclamation area) is within 500 feet of the active channel of the Salinas River and could be affected by flooding related to failure of the Salinas Dam.

Seiches

A seiche is the oscillation of a body of water. Seiches occur most frequently in enclosed or semi-enclosed basins such as lakes, bays and harbors. They can be triggered in an otherwise still body of water by strong winds, changes in atmospheric pressure, earthquakes, tsunami, or tides. Triggering forces that set off a seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin. The only enclosed water bodies in the vicinity of the Proposed Project site are the impoundment area of the quarry and Santa Margarita Lake. The relatively small size of the impoundment would minimize the magnitude of a seiche wave and the steep quarry pit sidewalls would contain any seiche oscillation. Flooding associated with a seiche in Santa Margarita Lake at the Proposed Project site, would be a lesser magnitude event than flooding associated with the failure the Salinas Dam, as described above, since only a portion of the water in the reservoir would escape during a seiche. It should be noted that damaging seiches in California reservoirs have never been documented and are thus considered very low probability events.



N

0 325 650
Feet

100 Year FEMA Floodplain
RPA Area
Lower Area Reclamation Grading Limits
Quarry Excavation Limits

Aspen Environmental Group

Source: EnviroMINE, Inc. 2013

Figure 4.15-1

100 Year Flood Plain Delineation of the Proposed Project Site

Coastal Flooding Hazards

Based on the elevation of the Proposed Project site (a minimum of 880 feet amsl), and the distance to the Pacific Ocean (16 miles), coastal flooding hazards (e.g., sea level rise, tsunami, and extreme high tides) would not be a potential flooding hazard.

Groundwater Occurrence

The Proposed Project site, which is underlain by granitic rock, is not located within a designated groundwater basin.[2] Competent granitic rock has essentially no porosity or permeability to water, and therefore useable groundwater aquifers do not typically occur in regions underlain by competent granitic rock. However, some groundwater can occur within the fractures that develop within the rock. While some water seeps have been observed on the walls of the existing excavation pit, no significant groundwater-bearing zones were encountered during drilling operations related to characterizing the minable resources in the proposed expansion area (Golder Associates, 2012). Calculations indicate that groundwater seepage into the existing mining pit from all the surrounding granitic rock walls occurs at an average rate of approximately nine gallons per minute (Golder Associates, 2012). A combination of this seepage and rainfall runoff collect in the bottom of the existing mining pit and form a pond.

Water Supply and Water Quality

The Proposed Project site is not located within an established water district service area. The available options for local water supply include surface water (e.g., the Upper Salinas River and associated underflow in alluvial sediments) and groundwater (i.e., subsurface water not associated with underflow of the Upper Salinas River). As described above, the Proposed Project site is not underlain by a reliable groundwater resource and therefore existing quarry operations do not rely on groundwater (i.e., no wells are operated at the site).

The water supply requirements of the existing quarry and aggregate processing operation are supported by surface water supplies. The primary water supply is a “source pond” located in the Lower Area adjacent to the Salinas River, as shown in Figure 2.5-2. The Source Pond is replenished by seepage from the underflow of the Salinas River. When seepage does not adequately replenish the Source Pond, the operator pumps directly from the Salinas River. Water from the Source Pond is pumped to the Use Pond. Water is pumped directly from the Use Pond for various uses, including supplying the processing plant. The total water used from this source for processing is approximately 300 afy (Golder Associates, 2012). However, it is estimated by the Applicant that 90 percent of this water is returned to the settling ponds (where processing fines settle out of the water); much of this water infiltrates into the subsurface and is returned to the Salinas River underflow. An additional 5 afy is extracted from the Source Pond for dust suppression. The secondary source of water is the ponded water in the excavation pit. The operator pumps approximately 50 afy from this pond for dust suppression.

There are no wells on-site and no local groundwater quality data are available. Available surface water quality data are related to regulatory agency sampling of flows in the Salinas River at various points along the river’s length, none of which are near the Proposed Project site, and grab surface water samples collected by the Applicant.

[2] The Paso Robles Groundwater Basin, the major groundwater basin in the region, is located north of the Project site.

The Central Coast Regional Water Quality Control Board (RWQCB) initiated systematic monitoring of the water quality in the upper and lower portions of the Salinas River in 1999 under its Central Coast Ambient Monitoring Program. Since the majority of the water quality issues for the Salinas River are in the lower reach, most sampling locations are also located in the lower reach. The nearest sampling location to the Proposed Project site is approximately eight miles downstream in Atascadero (there are no upstream monitoring locations). Water quality in the Salinas River at this location, characterized by the results of monitoring conducted between 1999 and 2007, is relatively good for nutrients, indicators of biological contamination, turbidity, chloride, sodium, and toxicity. Monitoring has indicated "slightly impacted" or "impacted" conditions related to total dissolved solids, dissolved oxygen, pH, suspended solids, and water temperature (RWQCB, 2007).

The designated beneficial uses of the Salinas River (between the Nacimiento River and Santa Margarita Reservoir), as specified in the California RWQCB, Central Coast Region, Water Quality Control Plan, commonly referred to as the "Basin Plan," are: municipal and domestic supply; agricultural supply; industrial process supply; groundwater recharge; recreation, wildlife habitat; cold and warm freshwater habitat; migration and spawning; rare, threatened, and endangered species; and commercial and sport fishing (RWQCB, 2011).

The Salinas River (between the Nacimiento River and Santa Margarita Reservoir) is listed as an impaired water body under Section 303(d) of the Federal Clean Water Act due to chloride and sodium (SWRCB, 2007). The Clean Water Act requires states to develop Total Maximum Daily Loads (TMDLs)[3] for impaired waters. TDMLs for chloride and sodium in this reach of the Salinas River are anticipated to be prepared by 2019.

4.15.2 San Luis Obispo County Plans and Policies

The following is a list of relevant County goals, policies and implementation strategies related to hydrology and water quality included in the COSE (County of San Luis Obispo, 2010).

GOAL BR4: The natural structure and function of streams and riparian habitat will be protected and restored.

Policy BR 4.1: Protect Stream Resources. *Protect streams and riparian vegetation to preserve water quality and flood control functions and associated fish and wildlife habitat.*

Implementation Strategy BR 4.1.1: Approach to stream protection

a. *Require preservation of natural streams and associated riparian vegetation in an undisturbed state to the greatest extent feasible in order to protect banks from erosion, enhance wildlife passageways, and provide natural greenbelts.*
b. *Include stream and riparian corridors as part of a network of wildlife corridors.*
c. *Protect steam corridors and setback areas through easements or dedications.*

[3] On a broad level, the TMDL process leads to a "pollution budget" designed to restore the health of a polluted body of water. The TMDL process provides a quantitative assessment of water quality problems, contributing sources of pollution, and the pollutant load reductions or control actions needed to restore and protect the beneficial uses of an individual water body impaired from loading of a particular pollutant. More specifically, a TMDL is defined as the sum of the individual waste load allocations for point sources, load allocations for non-point sources, and natural background such that the capacity of the water body to assimilate pollutant loading (the loading capacity) is not exceeded (40 CFR §130.2).

d. *Protect the needs of wildlife when watercourse alteration is undertaken, explore alternatives to alteration, and assure that stream diversion structures protect habitats.*

GOAL WR 3: Excellent water quality will be maintained for the health of people and natural communities

Policy WR 3.1: Prevent water pollution. *Take actions to prevent water pollution, consistent with federal and state water policies and standards, including but not limited to the federal Clean Water Act, Safe Drinking Water Act, and National Pollutant Discharge Elimination System (NPDES).*

Implementation Strategy WR 3.1.1: Support TMDLs. *Participate in and support the development and implementation of Total Maximum Daily Loads (TMDLs) with the Regional Water Quality Control Board and State Water Resources Board.*

Implementation Strategy WR 3.1.2: Employ pollution prevention in County operations. *Employ pollution prevention techniques in all County operations and maintenance activities consistent with the Best Management Practices outlined in the County's Stormwater Management Program.*

Implementation Strategy WR 3.1.3: Minimize construction related impacts to water quality. *Minimize construction and post-construction impacts of development through implementation of the County's Stormwater Management Program and Stormwater Pollution Prevention and Discharge Control Ordinance in compliance with Phase II of the National Pollutant Discharge Elimination System (NPDES).*

Policy WR 3.2: Protect watersheds. *Protect watersheds, groundwater and aquifer recharge areas, and natural drainage systems from potential adverse impacts of development projects.*

Implementation Strategy WR 3.2.1: Minimize runoff from new development. *Ensure that public and private developments subject to discretionary review are designed to minimize runoff from such sources as homes, golf courses, swimming pools, and roadway maintenance.*

Implementation Strategy WR 3.2.2: Permeable Materials. *Encourage the use of permeable materials in areas where hardscape is proposed.*

GOAL WR 6: Damage to life, structures, and natural resources from floods will be avoided.

Policy WR 6.3: Drainage problems. *Consider drainage problems in the context of an entire watershed. Consider drainage problems in the context of an entire watershed. Drainage and flood management plans should address property owner and developer responsibilities. These plans should use an integrated watershed approach that incorporates flood management, water quality, water supply, groundwater, and ecosystem protection and enhancement objectives on a watershed/basin scale.*

Policy WR 6.4: Integrated drainage approach. *Assure that proposed development integrates ecosystem enhancement, drainage control, and natural recharge as applicable.*

Implementation Strategy WR 6.4.2: Include stormwater management in drainage plans. *Drainage plans will identify measures to detain or retain stormwater as appropriate in order to assist infiltration, including identification of sites for infiltration basins.*

The following is a list of relevant County goals, policies and implementation measures related to flooding included in the Safety Element (County of San Luis Obispo, 1999).

GOAL S-2: Reduce damage to structures and the danger to life caused by flooding, dam inundation and tsunami.

Policy S-8: Flood Hazards: *Strictly enforce flood hazard regulations both current and revised. FEMA regulations and other requirements for the placement of structures in flood plains shall be followed. Maintain standards for development in flood-prone and poorly drained areas.*

Implementation Measures:

Standard S-16 – To the extent practicable, do not allow development in areas of high flood hazard potential.

Standard S-17 – Discourage single road access into remote areas that could be closed during floods. Additional access ways should be planned.

Standard S-18 – Review plans for construction in low-lying areas, or any area which may pose a serious drainage or flooding condition.

Standard S-19 – Do not allow development which will create or worsen known flood and drainage problems.

Policy S-12: Dam Failure. *Minimize the risk of dam failure.*

Implementation Measures:

Program S-27 – Work with appropriate agencies at the state and federal levels to assist with the inspection and maintenance of dams to minimize the risk of failure.

Program S-28 – Maintain a dam failure evacuation plan with guidance for public officials on emergency notification and evacuation.

4.15.3 Regulatory Setting

Federal

Clean Water Act (CWA). The CWA (33 United States Code Section 1251 *et seq.*) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the United States. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the USEPA the authority to implement pollution control programs. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the NPDES permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine RWQCBs. The Proposed Project site is within the jurisdiction of the RWQCB (the regulatory programs managed by the State Water Resources Control Board and the RWQCB locally are described below).

Section 303(d) of the CWA (CWA, 33 United States Code Section 1250 *et seq.*, at Section 1313(d)) requires states to identify “impaired” water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the EPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of TMDL requirements. The State Water Resources Control Board and the RWQCBs have on-going efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDLs.

National Flood Insurance Program. This program was implemented by the Congress of the United States in 1968, enables participating communities to purchase flood insurance. Under Executive Order 11988, FEMA is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a one percent or greater chance of flooding in any given year (also termed the 100-year floodplain). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain.

State

Porter-Cologne Water Quality Control Act. The State Water Resources Control Board regulates water quality through the Porter-Cologne Water Quality Act of 1969, which contains a complete framework for the regulation of waste discharges to both surface waters and groundwater of the State. On the regional level, the Proposed Project falls under the jurisdiction of the RWQCB, which is responsible for the implementation of state and federal water quality protection statutes, regulations, and guidelines. The RWQCB has developed a Water Quality Control Plan (Basin Plan). The Basin Plan lists the various beneficial uses of water within the region, describes the water quality which must be maintained to allow those uses, describes the programs, projects, and other actions which are necessary to achieve the standards established in this plan, and summarizes plans and policies to protect water quality. The following permits and programs are managed by the State Water Resources Control Board and the RWQCB:

- **Municipal Stormwater Program.** Municipal stormwater discharges in the County are regulated under the NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit). The County's Storm Water Management Plan (SWMP) was prepared in compliance with federal mandates to reduce stormwater pollutants to receiving waters to the "maximum extent practicable" through the application of BMPs. The Proposed Project site does not discharge runoff to a municipal storm sewer system and is outside the coverage areas identified in the SWMP. Therefore, this program does not apply to the Proposed Project.
- **Construction General Permit.** Pursuant to CWA Section 402 and the Porter-Cologne Water Quality Control Act, the State Water Resources Control Board adopted an NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAR000002) on September 2, 2009. To obtain coverage under the Construction General Permit, a discharger must provide via electronic submittal, a Notice of Intent, a Storm Water Pollution Prevention Plan (SWPPP), and other documents required by Attachment B of the Construction General Permit.
- Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation, that result in soil disturbances of at least 1.0 acre of total land area (or smaller sites that are part of a common plan of development or sale that disturbs more than 1.0 acre of land surface). A SWPPP must be prepared by a Qualified SWPPP Developer that meets the certification requirements in the Construction General Permit. The purpose of the SWPPP is to: (1) help identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges; and, (2) describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. The Construction General Permit mandates certain requirements based on the risk level of the project (Level 1, Level 2, or Level 3), which is based on the risk of sediment discharge and the receiving water risk. Since the Proposed Project would disturb more than 1.0 acre of land, the requirements of the Construction General Permit apply.

- **Industrial Stormwater Permit.** Industrial facilities, such as the existing quarry, are subject to requirements in the Statewide NPDES Permit for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, Order No. 97-03-DWQ, General Permit No. CAS000001 (Industrial General Permit). Under this permit, each industrial facility is required to implement a SWPPP that addresses industrial pollutant sources and identifies BMPs to minimize the discharge of pollutants to the specified standards.

SMARA. As outlined in EIR Section 2.4.1 (Vested Mining Right), the SMARA was enacted by the State Legislature in 1975 as a means of minimizing adverse environmental effects of surface mining, ensuring that mined lands are reclaimed to a usable condition and that the production and conservation of mineral resources are encouraged. The SMARA establishes State policy regarding reclamation of mined lands and minerals management practices, among other things. The Proposed Project would be subject to the requirements of SMARA. As related to hydrology and water quality issues, the process of reclamation includes maintaining water quality, minimizing flooding and erosion damage to wildlife and aquatic habitats caused by surface mining. The requirements of the Act apply to any surface mining operations that disturb more than one acre or remove more than 1,000 cubic yards of material. Therefore, the Proposed Project is subject to the requirements of SMARA and implementation of its requirements would be handled at the County level.

Senate Bill (SB) 610, Water Supply Assessment. SB 610, passed in 2002, requires detailed analysis of water supply availability for certain large development projects. The primary purpose of SB 610 is to improve the linkage between water and land use planning by ensuring greater communication between water providers and local planning agencies, and ensuring that land use decisions for certain large development projects are fully informed as to whether sufficient water supplies are available to meet project demands. Water Supply Assessments requirements are typically implemented at a local level.

SB 610 also requires the preparation of a Water Supply Assessment (WSA) for certain types of large projects that are subject to CEQA. Based on the water use, detailed in the Proposed Project application (specifically described in the 2012 Hydrogeologic Evaluation, Santa Margarita Quarry Extension technical report prepared by Golder Associates), a water supply assessment under SB 610 is not required because the Proposed Project would not be defined as a “project” under Water Code Section 10912(a). The proposed increase in water use, which is relatively minor, would not exceed the thresholds for triggering a SB 610 assessment.

Local

The Proposed Project would be subject to compliance with each of the County ordinances described below.

Land Use Ordinance, Title 20 of the County Code. The County has adopted standards to protect against flood damage to homes and structures located within the 100-year floodplain. The flood damage protection standards are included in the County’s Land Use Ordinance (Section 22.07.060). Floodplain regulations are intended to ensure that floodplain development is safe from flooding and causes no adverse impact on adjacent property. Floodplain regulations also include floodplain management tools such as zoning, subdivision, rules for building in floodplains, and special-purpose floodplain ordinances. San Luis Obispo County requires approval of a Drainage Plan by the County Engineer for all projects and activities located within an existing flood hazard zone, and/or required to have land use permit approval. In addition, Section 22.16.030 (Water Efficient Landscape Methods) of Title 22 of the County Code provides guidance on design methodologies to ensure that planting and landscaping will be water efficient.

Building and Construction Ordinance, Title 19 of the County Code. The County requires building and construction projects adhere to requirements related to site grading (Section 19.20.040), erosion control (Section 19.20.090), and sewage disposal (Section 19.20.220).

Land Use Ordinance, Title 22 of the County Code. The County requires that an Erosion and Sedimentation Control Plan be prepared for certain projects (Section 22.52.120). Specifically, any site disturbance activities involving removal of one-half acre or more of native vegetation in any of the following areas: (1) geologically unstable areas; (2) on slopes in excess of 30 percent; (3) on soils rated by the National Resources Conservation Service (NRCS) as being highly erodible; and, (4) within 100 feet of any watercourse shown on the most current 7-1/2 minute USGS quadrangle map.

4.15.4 Assessment Methodology

The existing conditions, described above in EIR Section 4.15.1 (Environmental Setting), provide the basis for evaluating potential impacts related to the Proposed Project. This analysis included third-party review of the 2012 Hydrogeologic Evaluation, Santa Margarita Quarry Extension prepared by Golder Associates (Golder Associates, 2012) and the 2012 Drainage Report for the Santa Margarita Quarry prepared by Chang Consultants (Chang, 2012), the updated 2013 Drainage Report for the Santa Margarita Quarry prepared by Chang Consultants (Chang, 2013), as well as independent research. For the Proposed Project's on-going mining, only activities that would be conducted in the proposed expansion area are evaluated for potential impacts to hydrology and water quality. For the reclamation phase, potential impacts to hydrology and water quality for the entire Proposed RPA area are considered. Impacts are categorized per the significance classification system provided in EIR Section 4.1 (Environmental Analysis, Introduction, Impact Significance Classification Scheme).

4.15.5 Project Impacts and Mitigation Measures

The analysis of the impacts related to hydrology and water quality that could result from implementation of the Proposed Project is presented below.

Significance Criteria

The Proposed Project would have a significant impact on the environment related to hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements, create any substantial new sources of polluted runoff, or otherwise degrade surface water or groundwater quality;
- Deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- Alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation or flooding on- or off-site;
- Place fill or structures within a watercourse or flood hazard area which would impede or redirect flood flows, or exacerbated flooding at or away from the site;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or

Impact HYD-1: Result in degradation of surface and/or groundwater quality

There are two principal ways that the Proposed Project could impact water quality and potentially violate water quality standards: (1) result in direct discharges of degraded runoff to nearby surface waters (i.e., the Salinas River); or (2) result in discharges of contaminants to the quarry's proposed excavation pit that would degrade groundwater quality.

Excavation

Quarry activities associated with the Proposed Project would require the disturbance of vegetation and soils and significant alteration of the already disturbed lands. This has the potential to increase erosion and allow sediments to be (1) entrained in stormwater runoff and (2) transported away from the mining area. Drainage and runoff from the expanded quarry operation would be directed to the excavation pit and therefore prevented from flowing directly into the Salinas River. This is an appropriate BMP for the protection of receiving water quality, and therefore potential impacts to receiving water quality related to the Proposed Project's excavation phase would be less than significant. However, the Proposed Project could result in chemical releases (e.g., fuels, hydraulic fluids, lubricants) to waters within the impoundment. During and after storms, when water levels rise in the impoundment, water may be forced under increased hydraulic head into the surrounding fracture system. Potentially contaminated water is likely to receive little "treatment" as it flows through these fractures (relative to flow in an alluvial aquifer where silt and sand particles adsorb contaminants). If discharged to the Salinas River, this seepage water could adversely affect receiving water quality.

However, the potential impact to groundwater quality and discharges to the Salinas River is less than significant for the flowing reasons:

- The Applicant would be required to comply with existing State and local hazardous materials handling requirements and programs. These include maintaining and regularly updating the existing quarry's Hazardous Materials Business Plan. The requirements for proper management of hazardous materials, which substantially minimize the risk of spills, are described in more detail in EIR Section 4.9 (Hazards and Hazardous Materials). In addition, the Applicant would be required to cleanup any spills that occurred in accordance with existing regulations.
- The proposed excavation area is not underlain by a groundwater aquifer. While some water seeps have been observed on the walls of the existing excavation pit, no significant groundwater-bearing zones were encountered during drilling operations related to characterizing the minable resources in the proposed expansion area (Golder Associates, 2012). There are no identified water wells located locally that draw water from this granitic rock formation, and therefore no potential users that could be affected by a spill that reached the impoundment.
- The Applicant does not typically operate diesel or hydraulic equipment in the impoundment, thereby minimizing the likelihood that a spill would reach water within it. As the impoundment area expands, operation of the quarry would need to work close to the impoundment water to remove material from the pit bottom. A "worst-case" scenario would be a spill (e.g., a broken hydraulic hose on a loader) near the impoundment. The few gallons of hydraulic fluid that might be spilled could reach the impoundment and affect water quality. However, as described above, there is no groundwater aquifer below the excavation pit. The unexcavated granite that lines the impoundment would be expected to contain the water and any chemical spills that might occur. The only way affected water could migrate away from the excavation pit would be through bedrock fractures. Only a few fractures that do not yield much water have been observed in the excavated pit faces. Based on this observation, flow in the fractures is minimal.

- Based on available hydrogeologic data and the elevation difference between the existing and proposed quarry excavation pit bottom (the existing quarry pit is approximately 60 feet lower than the active channel of the Salinas River), any groundwater seepage that may occur in the walls and floor of the existing or proposed pit would be directed inward, toward the pit and the impoundment (i.e., the hydraulic gradient of the groundwater table is toward the impoundment). This hydrogeology limits the area that could be affected by a chemical spill and would thus prevent any contaminants that entered the impoundment from migrating away from the Proposed Project site.
- Proposed activity within the existing excavation pit using heavy equipment is an existing, or "baseline," condition. The Proposed Project would continue this operation, and would not implement any activity that increases the threat to water quality relative to current operations.

Reclamation

Final reclamation would occur after completion of all quarry operations. It would consist of equipment removal, rough and finish grading, resoiling, revegetation, and monitoring. Reclamation would be divided into the quarry's Upper and Lower Areas, and would be anticipated to require five years to complete after quarry operation cessation. Final reclamation of the Upper Area, which encompasses the impoundment, would require the use of some heavy equipment to complete the finish grading and resoiling, but operations would be of lower intensity than mining itself. The potential for water quality impacts associated with active reclamation of the Upper Area would be reduced relative to each excavation phase and therefore less than significant. The bedrock separator that separates the Salinas River from the quarry would remain intact. After completion of the active reclamation grading and revegetation, no activities that could impact water quality would occur in the Upper Area.

The Lower Area would also be graded and resoiled. According to the Applicant's RPA (EnviroMINE, 2013):

> *Low areas in the topography will be filled and hummocks and sand mounds will be flattened, providing stable drainage. In general, the Lower Area will be graded to direct runoff away from the Salinas River toward several low-lying areas where water will percolate into the sub-surface or evaporate. In addition to grading the site to contour the topography for drainage purposes, compacted areas of the Lower Area will be ripped to a depth of at least one foot to decompact the surface in preparation for revegetation. Areas where existing vegetation is established and proper drainage exists will not require grading to achieve reclamation.*

As described in the Proposed RPA, active reclamation activities, stormwater management, and soil erosion control within the Proposed RPA area would be managed in accordance with a site-specific SWPPP. However, this SWPPP has not yet been prepared. It is noted that the Proposed RPA includes general measures and approaches to minimize erosion, including: vegetation maintenance on areas disturbed from quarry activities; construction of naturally lined ditches; planting and hydroseeding at the appropriate time of the year to insure revegetation of disturbed areas; and monitoring of reclaimed areas for evidence of erosion. However, these proposed general measures do not provide adequate detail to ensure that water quality impacts related to final reclamation phase grading of the Lower Area would be less than significant. As such, implementation of Mitigation Measure HYD-1 is recommend to reduce this potential impact to less than significant.

HYD-1 **Prepare and Implement Site-Specific SWPPP.** The Applicant shall prepare a site-specific Storm Water Pollution Prevention Plan (SWPPP) in accordance with current regulations and industry practice at the time that final reclamation of the Lower Area is being planned.

The SWPPP shall include the Best Management Practices (BMPs) necessary to ensure that grading and resoiling activities do not adversely impact water quality in the Salinas River, potentially including, but not limited to:

Erosion Control BMPs:

- Scheduling
- Preservation of Existing Vegetation
- Hydraulic Mulch
- Hydroseeding
- Soil Binders
- Straw Mulch
- Wood Mulching
- Earth Dikes and Drainage Swales
- Velocity Dissipation Devices
- Slope Drains
- Compost Blankets
- Soil Preparation / Roughening
- Non-Vegetative Stabilization

Temporary Sediment Control BMPs:

- Silt Fencing
- Sediment Basins
- Sediment Trap
- Check Dams
- Fiber Rolls
- Gravel Bag Berms
- Sandbag Barriers
- Straw Bale Barriers
- Storm Drain Inlet Protection
- Temporary Silt Dikes
- Compost Socks and Berms

The SWPPP shall be submitted to the County Department of Planning and Building for review and approval prior to initiation of grading activities. Monitoring reports shall be submitted annually to the County Department of Planning and Building for review.

Impact HYD-2: deplete groundwater supplies or affect groundwater levels

Excavation

Dust Suppression Water. Current water requirements for dust suppression are approximately 55 afy. During the majority of the year, water is and would continue to be pumped out of the impoundment for dust suppression (Figure 2.5-2). During periods when the impoundment is dry, typically in the late fall until the start of the rainy season, supplemental water for dust suppression is and would continue to be pumped from the Use Pond (Figure 2.5-2). The total volume of water pumped from the impoundment averages, and would continue to average, 50 afy and the remaining 5 afy are pumped from the Use Pond.

Under the proposed expansion, at full development, dust suppression water needs would increase by 2.8 afy, for a total estimated maximum water need of 57.8 afy. The proposed increase in dust suppres-

sion water use (2 to 3 afy) for expanded quarry operation would be provided by water collected in the existing impoundment (Golder Associates, 2012). As the excavation area expands, it is likely that more water would collect in the impoundment because the catchment area (e.g., the area that drains to the impoundment) would be progressively enlarged. The hydrogeologic assessment prepared for the Proposed Project indicates that the water collected in the impoundment would be adequate to supply the 2 to 3 afy increase for dust suppression water needs (Golder Associates, 2012). Since the quarry's impoundment water supply would be able to adequately accommodate increased water supply demand, no additional extraction from the Salinas River would be required and the increase in water use related to dust suppression would be less than significant.

Wash Water for Aggregate Processing. Annual water usage at the processing plant in the future under the Proposed Project would depend on the amount of production and percentage of material that requires washing. Mining and material production volumes would continue to vary from year-to-year as market demand increases or decreases. For the purposes of this analysis, it is assumed that the baseline water use (existing conditions) is represented by the historic water use associated with processing the average aggregate production (the 10-year average annual production over the period from 2002 to 2012 is 544,877 tons) and the water use under the proposed expansion would be associated with maximum permitted production of 700,000 tons per year (a "worst case" scenario for water use).

Based on a 10-year average production level for the existing operations, estimates of water use for operation of the processing plant is approximately 300 afy (which includes all processing water, customer spray bars, and toilet use[4]). Water for the aggregate processing is supplied from the Use Pond, which is recharged from the Source Pond (Figure 2.5-2). The Source Pond is fed by the Salinas River. The Use Pond water is piped into the Secondary Processing Plant, where clays and silts become suspended in the water. The sediment-laden water is subsequently pumped from the Secondary Processing Plant to a series of sedimentation ponds where residual sediment settles out (Figure 2.5-2). Of the 300 afy circulated through the Secondary Processing Plant, it is estimated that 10 percent of the water is consumed during processing, and the remaining 90 percent is retained in the sediment ponds and either infiltrates or evaporates, as shown in Table 4.15-1 (Golder Associates, 2012). The discharges to the relatively small settling ponds (approximately 6,000 square feet of total surface area) occur on an on-going basis when the processing plant is operating (at a rate of approximately 750 gallons per minute) and the ponds do not overflow. This indicates that the infiltration rate is substantial. In addition, the calculated annual volume of water that would be expected to evaporate from the settling ponds is less than one afy .[5]

Table 4.15-1. Baseline and Proposed Water Use

Aggregate Production Scenario	Aggregate Production Volume	Water Use	Water Volume Returned to Settling Ponds	Net Water Use
10-year Average Production	544,877 tons/year	300 acre-feet/year	270 acre-feet/year	30 acre-feet/year
Maximum Permitted Production	700,000 tons/year	333 acre-feet/year	300 acre-feet/year	33 acre-feet/year

Sources: Golder Associates, 2012; Wallace Group, 2013.

[4] Water use associated with customer spray bars and toilets represent less than 0.2 percent of the quarry's total water use. This negligible water use volume is not discussed further.

[5] The California Department of Water Resources (DWR, 1979) indicates a local evaporation rate of 1,867 millimeters (6.1 feet) per year. Assuming a 6,000 square foot pond area, the estimated volume to be evaporated each year is 36,600 cubic feet or 0.8 acre-feet.

The maximum water use under the Proposed Project would occur during a year of maximum permitted aggregate production (i.e., 700,000 tons in one year). The Applicant estimates that an additional 33 afy would be required to process the aggregate during a maximum production year over an average year. Since 90 percent of the water is returned to the settling ponds, and most of that is returned to the underflow of the Salinas River, the Proposed Project would be expected to use (and consume) an additional three acre-feet of water during a maximum production year in comparison to the baseline average use. The annual flow in the Salinas River ranges from a low of 808 acre-feet per year (afy) to over 80,000 afy, with a median value of 8,660 afy (URS, 2013). The lowest recorded annual flow in the Salinas River is well above the Project's water needs. Therefore, potential impacts related to increased water use during excavation would be less than significant.

Reclamation

During final reclamation, the processing plant would no longer be in operation, and therefore the main water use activity associated with the quarry, including its proposed expansion, would be eliminated. Water would continue to be used for dust suppression while final grading and resoiling activities are under way. This amount of water use would be expected to be similar to the amount of water needed during excavation phase dust suppression. Irrigation of plantings is not specified in the Proposed RPA, except in special circumstances (i.e., if particular vegetation types do not meet their respective success criteria). After resoiling and establishment of vegetation is complete, water use would be eliminated completely. Since water use during final reclamation would decrease relative to existing conditions, water use impacts during this phase would be less than significant.

Impact HYD-3: Alter drainage patterns or result in increased erosion and flooding

The Proposed Project includes extensive earth moving activity that would dramatically change the site's topography. This change in topography would result in an alteration of runoff patterns and drainage characteristics associated with the Proposed Project site. These changes could affect erosion rates and flooding conditions, as discussed below.

Excavation

Drainage and runoff from Proposed Project would be directed to the impoundment and therefore be prevented from flowing directly into the Salinas River. The creation of a larger internally drained area would reduce the potential for erosion and sediment generated at the Proposed Project site to reach the Salinas River. Sediment contribution to the Salinas River would be reduced because under existing undeveloped conditions, some sediment is entrained in runoff and is discharged to the river. In addition, landslides that might occur with the boundaries of the undeveloped Project site could generate soil and debris that could eventually reach the Salinas River. Under the Proposed Project, all sediment discharges (including any landslide debris) would be directed inward toward the excavation pit and would not be able to reach the Salinas River. Similarly, flooding along the Salinas River would be incrementally reduced because the Proposed Project would result in a slight reduction of the area that drains to the river. The precipitation that falls would within the proposed expansion area would not run off into the Salinas River and would not contribute to downstream flooding during extreme storm events. Therefore potential impacts to receiving water quality and flooding related to the changing drainage patterns during the mining/excavation phase would be less than significant.

Reclamation

As described above, for excavation, potential erosion and flooding impacts associated with reclamation of the Upper Area would be less than significant because the Upper Area would remain internally drained through the reclamation and post-reclamation phases. Reclamation of the Lower Area would consist of equipment removal, rough and finish grading, resoiling, revegetation, filling of the ponds, and monitoring. Reclamation would represent a stabilization of the ground surface by restoring vegetation, thus reducing erosion potential relative to existing conditions. Directing surface drainage away from direct discharges into the Salinas River (as proposed by the Proposed RPA) would result in an incremental decrease in the Proposed Project's contribution to flooding along the river, particularly during small to moderate storm events. During extreme storms, much of the Lower Area would become hydraulically connected to the Salinas River and become part of the active floodplain, and as such, redirection of surface drainage away from the river would no longer be effective. However, as long as there is no net increase in fill placement in the floodplain, or fill that impedes flood flows as part of reclamation grading is prevented (see Impact HYD-4, below), impacts related to proposed changes in topography in the Lower Area would be less than significant.

Impact HYD-4: Place fill or structures in the floodplain, potentially affecting flooding levels

Placement of fill or structures within the floodplain could change drainage patterns, impede flows, or displace flood storage areas so that flooding conditions change at and away from the site, as addressed below.

Excavation

The Proposed Project's excavation area is not located within a FEMA flood hazard area; therefore neither excavation nor the placement of fill or structures in this area would affect flood hazards at or away from the Proposed Project site. Impacts would be less than significant.

Reclamation

The southern and central portions of the Lower Area are located within the mapped FEMA flood hazard area, as shown in Table 2.5-1. Reclamation activities in the Lower Area under the Proposed Project could affect flooding at and way from the site. Low areas in the topography would be filled and hummocks and sand mounds would be flattened, providing stable drainage. In general, the Lower Area would be graded to direct runoff away from the Salinas River toward several low-lying areas. These activities could result in a net increase in the placement of fill within the flood hazard zone, potentially displacing the flood storage capacity of the floodplain. The Applicant's proposed conceptual reclamation plan includes approximate post-reclamation grading contours for the Lower Area, but it has not been determined whether the proposed configuration would affect flood storage or conveyance. However, grading activities within the FEMA flood hazard area would be subject to the requirements of the County's Land Use Ordinance (Title 22), Flood Hazard Area code (Section 22.14.060), which states that all uses proposed within a flood hazard area (except temporary uses, emergency work, and existing uses) must prepare a Drainage Plan for the County's review and approval and the Plan must ensure that:

> *No construction or grading shall limit the capacity of the floodway or increase flood heights on existing structures unless the adverse effect of the increase is rectified to the satisfaction of the Director of Public Works. In no case shall flood heights be increased above that allowed under the Federal Flood Insurance Program (County Code Section 22.14.050.D.1.a)*

Compliance with this existing requirement would ensure that reclamation grading does not result in adverse impacts to flooding conditions along the Salinas River. Therefore this impact would be less than significant.

Impact HYD-5: Expose people or structures to flooding related to dam failure or seiche

Catastrophic failure of the Salinas Dam would result in the release of water from Santa Margarita Lake into the Salinas River channel. It is estimate that low-lying areas up to 500 feet from the centerline of the Salinas River could be inundated in this type of event. However, dam failure is considered to be a very low probability event. Existing dams are subject to both federal and State laws addressing dam safety and are periodically inspected to ensure that they are adequately maintained and that any identified deficiencies are corrected. Regular inspections and required maintenance of the dams substantially reduce the potential for catastrophic failure.

Flooding associated with a seiche in Santa Margarita Lake at the Proposed Project site, would be a lesser magnitude event than flooding associated with the failure the Salinas Dam at Santa Margarita Lake since only a portion of the water in the reservoir would escape during a seiche. This considered to be an extremely low-probability event and impacts would be less than significant.

Excavation

Based on inundation mapping for failure of the Salinas Dam, flood water levels would not be high enough to flood the existing excavation pit or the proposed expansion area. Since this is a very low probability event and inundation depths would not be expected to affect the proposed expansion area, impacts related to dam failure during excavation would be less than significant.

Reclamation

Much of the Lower Area (the existing processing area and future reclamation area) is low-lying and within 500 feet of the active channel of the Salinas River and could be affected by flooding related to failure of the Salinas Dam. Inundation depths have not been calculated and therefore a precise estimation of the specific areas within the Lower Area that would be inundated cannot be reasonably identified. However, the post-excavation reclaimed land use would be open space and wildlife habitat. This proposed land use does not include structures that could be used for human habitation or other human uses. Since this is a very low probability event, and the reclaimed land use would not directly or indirectly expose people or structures to flooding risk, flooding impacts from reclamation would be less than significant.