

4.1 CEQA REQUIREMENTS

The key requirements under CEQA to identify and evaluate alternatives in an Environmental Impact Report are listed below:

- 15126.6(a) states that “An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.”
- 15126.6 (b) states that “...the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.”
- 15126.6(c) states “The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects.”

Under CEQA, the County must identify feasible alternatives that will avoid, or at least lessen, any significant impacts associated with the project. The County must determine what represents a feasible alternative, taking into account costs and engineering feasibility, and how the alternative may affect meeting the project objectives. An alternative cannot be dismissed simply because it prevents the project objectives from being fully realized. Any new environmental impacts of an alternative must also be considered. In addition, the No Project Alternative must be evaluated in an EIR.

Based on the analyses in the Draft EIR, the proposed project would result in a significant and not mitigable air quality impact related to the emissions of ozone precursors (reactive organic gases and nitrogen oxides), primarily from the operation of excavation and transport equipment at the project site. Such emissions are roughly proportional to the rate of production, and any new surface mine with approximately the same production rate and operations as the proposed Diamond Rock quarry would have a similar impact. While it may not be possible to avoid this impact, alternatives are considered with the goal of reducing air emissions or further reducing other effects of the project.

4.2 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the proposed mine would not be established at the project site. As such, the following significant, but mitigable (Class II) impacts would be avoided at this location:

- Possible downstream channel degradation and upstream headcutting due to sediment deficit in the river as mining rates exceed natural sediment replenishment rates.

- Possible headcutting along the tributary Deer Park Creek due to steep hydraulic transition at the edge of the mine pit.
- Localized flooding on the project site from two sources during very wet winters with severe runoff conditions.
- Unstable or unsafe mine slopes under seismic or saturated conditions.
- The removal of 27 acres of alluvial scrub habitat from the Cuyama River channel during the 30-year mining period, and for an unknown period of time after the cessation of mining. This effect would displace wildlife and reduce the amount of scrub habitat for wildlife use along this portion of the river.
- A lag time in natural recovery of native scrub in the mining areas after mining has ended would extend beyond the permit period.
- Nighttime lighting at the Processing Area, which would adversely affect nocturnal wildlife in the habitat area located to the south.
- Haul trucks traveling from the mine pit to the Processing Area, which may inadvertently strike reptiles and small mammals.
- Creation of potential impediments to wildlife movement by the mining operation in the river channel, forcing wildlife to find new travel corridors.
- Possible disturbance or displacement to the endangered blunt-nosed leopard lizard from adjacent mining activities.
- Possible significant impact to AM and PM peak hour traffic conditions due to increased truck trips on State Route 33 south of Ojai.
- Possible impact on roadway operations at the State Route 33/ project site driveway due to trucks turning into the site.
- Substantial increase in ambient noise levels (daytime and nighttime) at residences near the Processing Area.
- Substantial increase in noise levels at rural residential receptors along State Route 33 between the project site and Ojai.
- Increase in NO_x emissions above threshold levels from equipment operations, and from truck traffic.
- Stockpiles and mining equipment at the Processing Area could adversely affect the aesthetic views of the valley for travelers along State Route 33.
- The nighttime visual setting may be degraded due to lighting at the Processing Area during night operations.

The beneficial impact of restoring the eastern bank of the Cuyama River would also not be achieved under this alternative.

Under this alternative, the existing agricultural operations at the project site would continue. PCC-grade aggregate would continue to be supplied to the region from various other existing and possibly newly permitted sources in Santa Barbara, San Luis Obispo, Ventura, Los Angeles, and Kern counties. Some of these sources will establish haul truck routes that utilize segments of State Routes 33 and 166 that are included in the proposed project. Hence, the No Project Alternative may not entirely avoid the traffic, air quality, and highway noise impacts noted above. To meet demand, new or expanded mining projects could be approved in the upper Cuyama Valley within either Kern or Ventura counties. If these jurisdictions approve a new or expanded mine (there are three in Ventura County now in the Cuyama Valley), the more localized impacts of the proposed Diamond Rock Mine could be realized elsewhere under the No Project Alternative.

4.3 REDUCED MINING AREA SCENARIOS

Under the proposed project, the mining area would encompass up to 85 acres. Mining would occur in an incremental manner over the 30-year permit period; however, it is possible that the entire 85 acres would not be mined. The designation of a potentially larger than needed mining area provides flexibility for the applicant to seek marketable product within the mining area. There is a level of uncertainty about the quality and amount of marketable aggregate for any new mine. Hence, the ability to shift the mining to more productive areas provides greater certainty in meeting production goals.

Under this alternative, it is assumed that the mining area would be reduced 25 to 50 percent. By reducing the mining area, the potential maximum amount of material to be mined on an annual basis, and for the life of the permit, would be reduced from the proposed project.

A smaller mining area would result in one of the following mining operation scenarios with the concomitant reduction in environmental impacts compared to the proposed project.

4.3.1 Scenario No. 1: Shorter Permit Period

The peak and average annual mine production rates under this alternative could remain the same as the proposed project, but the permit period would be proportionately reduced because the aggregate resources would be depleted earlier than under the proposed project. Hence, the environmental impacts of the proposed project would be “reduced” by having the mine operate for less than a 30-year period. Under this scenario, the number of years with on-site equipment emissions and fugitive dust, noise, nighttime lighting, and habitat disturbance, as well as associated truck trips, would be lessened compared to the proposed project with a 30-year permit. However, the intensity of daily and annual impacts under this scenario may not be less than under the proposed project, as the daily and annual rates of production would

not be limited, nor the area to be mined. Thus, under this scenario the identified significant air quality impact due to NO_x from equipment operations would remain.

4.3.2 Scenario No. 2: Reduced Annual Production

Under this scenario, the allowable annual mine production would be reduced proportionately to the size of the reduced mine pit. The project life would remain 30 years. Decreased annual production would be achieved by limiting work hours, work days, daily throughput, or truck trips. The maximum daily production may or may not be reduced, but the frequency of days with maximum daily production would be less. A reduced mine pit area coupled with limitations on work hours, days, and production would directly lessen the magnitude of the following impacts which were identified as significant but mitigable (Class II) for the proposed project:

- Possible downstream channel degradation and upstream headcutting due to sediment deficit in the river as mining rates exceed natural sediment replenishment rates.
- The removal of 27 acres of alluvial scrub habitat from the Cuyama River channel during the 30-year mining period, and for an unknown period of time after the cessation of mining, would displace wildlife and reduce the amount of scrub habitat for wildlife use along this portion of the river.
- There would be a lag time in natural recovery of native scrub in the mining areas after mining has ended would extend beyond the permit period.
- The nighttime lighting at the Processing Area would adversely affect nocturnal wildlife in the habitat area located to the south (only if nighttime processing were prohibited).
- Haul trucks traveling from the mine pit to the Processing Area may inadvertently strike reptiles and small mammals.
- The mining operation in the river channel could create potential impediments to wildlife movement in the river channel and force wildlife to find new travel corridors.
- Possible disturbance or displacement to the endangered blunt-nosed leopard lizard from adjacent mining activities.
- Substantial increase in ambient noise levels (daytime and nighttime) at residences near the Processing Area.
- Substantial increase in noise levels at rural residential receptors along State Route 33 between the project site and Ojai.
- Project related traffic using State Routes 33 and 166 within the limits of Santa Barbara County would increase daily NO_x emissions in Santa Barbara County above threshold levels.

- Stockpiles and mining equipment at the Processing Area could adversely affect the aesthetic views of the valley for travelers along State Route 33.
- The nighttime visual setting may be degraded due to lighting at the Processing Area during night operations (only if nighttime processing were prohibited).

It should be noted that the above potentially significant impacts associated with the proposed project can be fully mitigated to less than significant levels with the required mitigation measures described in Section 3.0 of the Draft EIR. This scenario of the Reduced Mining Area Alternative provides an alternative approach to avoiding significant impacts by providing an over limit on mining area, work hours, work days, and throughput. In essence, this scenario is a “downsized” version of the proposed project. This scenario may reduce on-site operations sufficiently to avoid the significant air quality impact related to NO_x from equipment operations. While this alternative scenario may have this advantage, it would provide a daily volume of material similar to or less than that which is currently accessible to the applicant. For this reason, it is unlikely that this alternative would be pursued.

4.4 REDUCED MINING DEPTH (AND REDUCED ANNUAL PRODUCTION)

Under this alternative, the proposed maximum allowable mining depth would be reduced to 40 or 50 feet, compared to the proposed 90-foot maximum depth. The objective of this alternative is two fold: 1) avoid encountering groundwater and potentially unstable slopes during mining; and 2) reducing the volume of the maximum excavated mine pit to increase the probability that it will fill with sediments during moderate sized runoff events. The latter objective would reduce the potential for adverse hydraulic effects from a deep pit being present in the river channel (i.e., headcutting, downstream channel bed erosion, bank erosion) and the interference with overall sediment transport in this segment of the river which would affect the mine pit size, material quality, and reclamation timing of the downstream GPS mine. At this time, there is insufficient hydraulic information to determine whether this alternative (same mining area, but shallower) or a smaller mining area (but with the 90-foot depth) would better accomplish the latter objective.

Annual production would be decreased under this alternative due to the reduction in the available material to be mined. The maximum daily production may or may not be reduced, but the frequency of day with maximum daily production would be less. The air quality impact related to NO_x production from operations equipment may still be significant on high-production days. Decreased production would be achieved by limiting work hours, work days, daily throughput, or truck trips. A shallower mine pit coupled with limitations on work hours, days, and production would directly lessen the magnitude of the impacts that were identified as significant but mitigable (Class II) for the proposed project, as follows (the same as for the Reduced Mining Area Alternative):

- Possible downstream channel degradation and upstream headcutting due to sediment deficit in the river as mining rates exceed natural sediment replenishment rates
- The removal of 27 acres of alluvial scrub habitat from the Cuyama River channel during the 30-year mining period, and for an unknown period of time after the cessation of mining, would displace wildlife and reduce the amount of scrub habitat for wildlife use along this portion of the river
- There would be a lag time in natural recovery of native scrub in the mining areas after mining has ended would extend beyond the permit period
- The nighttime lighting at the Processing Area would adversely affect nocturnal wildlife in the habitat area located to the south (only if nighttime processing were prohibited)
- Haul trucks traveling from the mine pit to the Processing Area may inadvertently strike reptiles and small mammals
- The mining operation in the river channel could create potential impediments to wildlife movement in the river channel and force wildlife to find new travel corridors
- Possible disturbance or displacement to the endangered blunt-nosed leopard lizard from adjacent mining activities
- Substantial increase in ambient noise levels (daytime and nighttime) at residences near the Processing Area
- Substantial increase in noise levels at rural residential receptors along State Route 33 between the project site and Ojai
- Project related traffic using State Routes 33 and 166 within the limits of Santa Barbara County would increase daily NO_x emissions in Santa Barbara County above threshold levels
- Stockpiles and mining equipment at the Processing Area could adversely affect the aesthetic views of the valley for travelers along State Route 33
- The nighttime visual setting may be degraded due to lighting at the Processing Area during night operations (only if nighttime processing were prohibited)

4.5 MODIFIED MINE PIT LAYOUT (LESSEN HYDRAULIC IMPACTS)

The analysis of the hydraulic impacts of the in-channel mine pit (Section 3.1.2) indicated that the proposed Diamond Rock Mine, combined with the nearby existing GPS mine, could create a sediment deficit in the river as mining rates exceed natural sediment replenishment rates. This condition may result in downstream channel degradation and upstream headcutting, although there is uncertainty if this impact would occur. The analysis also indicated that the berms surrounding the mine pit could increase flow velocities, which in

turn could cause channel or bank erosion west of the mine pit under certain circumstances. Finally, the analysis indicated that the proposed mining could affect the sediment replenishment rate and nature of the sediments at the downstream GPS mine, which is primarily an economic effect that could be adverse, neutral, or beneficial depending upon the river flow and hydraulic conditions during a replenishment event.

To ensure that these two impacts did not reach significant levels (i.e., cause headcutting or downstream channel erosion that affect public infrastructure, or erode banks on adjacent properties), mitigation measures were identified in Section 3.1.3. Mitigation Measure W-1 involves a modification to the design of the mine pit, while Mitigation Measure W-2 involves monitoring and adaptive modifications to the details of the mine pit design.~~the following mitigation measures are specified:~~

~~**Suggested Condition W-1.** The proposed mining plan shall be modified to reconfigure the southwest corner of the proposed mine pit to allow for a 900-foot wide open channel area between the west bank of the Cuyama River and the berm surrounding the pit. An example of the overall intent of the modified mining plan is provided on Figures 3-8 and 3-9. The applicant shall monitor river flows for the first three winters after mining has been initiated (with the use of low flow berms in the river channel). The applicant shall document the effect of the low flow berms on river flows during these winters through the use of on-ground photographs, maps, diagrams, and/or notes from personal observations. This information shall be provided to County P&D at the end of each winter (April) for review. County P&D will review this information and determine if the additional channel width under this mitigation measure is considered necessary to avoid adverse hydraulic impacts in the river channel such as excessive berm erosion, river bank erosion, and channel scouring. The applicant shall coordinate with P&D staff prior to the first monitoring year to ensure that the information to be provided is sufficient for evaluation purposes. At the end of three years of monitoring, if there are sufficient data, P&D will determine if the modification of the mining pit boundary shall be continued while more monitoring data is collected, shall be considered a permanent limit, or shall be rescinded and the original proposed boundary reinstated.~~

~~**Required Mitigation Measure W-2.** The applicant shall survey the river bottom elevations from bank to bank each April and October at three locations: 1) 1,000 feet upstream of the current mine pit; 2) in the middle of the current mine pit; and 3) 1,000 feet downstream of the current mine pit. Elevations of the channel bottom shall be collected at survey points in three transects across the river. The number of survey points shall be sufficient to provide cross sections to compare the channel cross sections from year to year. These data shall be reviewed each year by County P&D, in consultation with County Flood Control District, during the annual SMARA inspections to determine if there is evidence of headcutting or channel degradation. If adverse hydraulic conditions are evident, or appear to be developing, which could result in off-site impacts, County P&D will confer with the County Flood Control to determine modifications to the mining pit layout, width, and/or depth that would~~

~~avoid these impacts. Given the uncertainty in ascribing these impacts to the presence of the mine pit, an incremental, multi year approach to address these impacts by mine pit modifications would be implemented by the County P&D.~~

Measure W-1 was designed to modify an obvious element of the mining plan that could cause adverse hydraulic impacts – the southwest corner of the mine pit that essentially extended the mining area across the entire river. Measure W-2 was designed to monitor river flows, sediment transport, and channel conditions over the years as mining progressed in order to detect adverse impacts, if any, at an early stage. If an impact is identified, the mining plan would be modified to end the impact, reverse any adverse trends, and prevent it from occurring in the future.

While measures W-1 and W-2 have been defined as mitigation applicable to the project, they can also be considered as an alternative design, but the net effect in reducing the potential for impacts is the same. Under this alternative, the mine pit would be modified to minimize potential adverse hydraulic impacts at the beginning of the permit to provide a highly conservative and cautious approach to the project, and reduce risk of any unexpected hydraulic impacts that could occur under the proposed project and Mitigation Measure W-2 monitoring program. This alternative could ~~would~~ involve the following mine area modifications:

- Reduce the width of the mining pit to half the width of the river channel at the project site
- Reconfigure the downstream end of the mine pit with a more pointed shape rather than a blunt edge
- Create and maintain 10:1 mine pit slopes on the upstream and western edges of the mine pit during the period December 1 to April 1 each year to provide a uniform weir-like interface between the mining pit and by-pass channel west of the pit

It should be noted that under this alternative, there would still be a need to monitor the effects of flood flows and replenishment events to ensure that the above modifications are achieving the desired results. Hence, Mitigation Measure W-2 would still be required.

4.6 UPLAND MINE SITE ALTERNATIVE (USE OF AGRICULTURAL LAND)

Under this alternative, the mine pit would be located on the floodplain adjacent to the Cuyama River in order to avoid the river channel and associated hydraulic and biological impacts. This alternative would result in a new significant impact: displacement of existing agriculture such that the agriculture viability of the affected parcels would be removed. In addition, it would be difficult to reclaim the mine pit in an upland area because it would require the hauling and dumping of fill from another location to return the upland mine pit to

the pre-mining grade and re-establish agriculture. This operation would result in temporary, but probably significant, air quality impacts due to daily NO_x and ROC emissions.

Filling the mine pit at the end of the 30-year permit period would require finding a source of fill and soil that would be suitable to reclaim the area for agriculture uses. Extraction of this material from another location could adversely affect land use, biological habitat, cultural resource, aesthetic conditions, and water quality at the source site. These impacts would likely be significant, given the large volume and area required to supply the fill for reclamation.

4.7 ALTERNATIVE MINE SITE

Troesh Materials Inc. conducted a review of potential aggregate resource sites in the region centered around their ready mix concrete operation in Nipomo in southern San Luis Obispo County. Besides the nature of the aggregate resources present, other factors in their review included access to a public highway, proximity to Nipomo and to Troesh's aggregate market area, sufficient isolation to minimize environmental and land use conflicts, and the ability to lease a site from a willing landowner. Their review resulted in a focus on the Cuyama River Valley and nearby areas. This area was found to provide two types of aggregate resource:

- Closest to the highway, and occurring for approximately 30 miles in an easterly direction, are quarry stone of the Franciscan formation with ultra basic, altered and original sedimentary rock. It was found that the deposits in the upper Cuyama River are extensive. The rocks in the deposits are varied and they qualify as concrete aggregates.
- Other types of aggregate sources in the Cuyama River basin are alluvial deposits, which start significantly at 30 miles east of Highway 101, and occur intermittently into Ventura County. The hard rock deposits of the lower Cuyama River are subject to inclusion of serpentine rock, a precursor to asbestos. This material is inconsistent in terms of quantity and quality.

Specific locations in this region that were investigated include the following, with notes provided by Troesh:

- Cottonwood Canyon (10 miles west of Cuyama). Preliminary studies indicate the possibility of good concrete aggregates, yet there were significant environmental concerns, which would make permitting difficult and costly.
- General Production Service (GPS) (0.5 miles downstream of the proposed Diamond Rock operation). The quality of aggregates produced has not fully meet Troesh standards for ready mix concrete. More importantly production levels are insufficient for Troesh to meet the demand for its ready mix concrete.

- Ozena (15 miles south of Troesh on State Highway 33). The quality of aggregates produced does not fully meet Troesh standards for ready mix concrete. Production is limited at Ozena and the facility cannot provide the quantity of material needed by Troesh to maintain its current sales levels. In addition, haul costs from Ozena are high due to the travel distance.
- Bud Richards (4 miles south of Troesh on State Highway 33). Investigations indicate there is not enough river property to provide an operational base.

In summary, factors including the quality and quantity of material present, environmental constraints, distance, and area for production facilities combined to make all of the above alternatives less preferable than the proposed site at Triangle E Farms along the Cuyama River.

The selected site on the Triangle E Farms property contains aggregate that meets all ASTM standards for concrete aggregate, and consists of about 60% sand and 40% rock. The site is located in a relatively remote area where the land use and environmental conflicts are substantially less than in a more developed area. The river mining area does not contain wetlands, anadromous fish, or high value riparian habitat. The hydrologic conditions of the river are highly favorable for year-round mining due to the low runoff and rapid percolation. In addition, the aggregate material is replenished by natural river flows. Based on this review, it appears unlikely that a similar site with the volume and quality of aggregate material will be found. If a similar site could be found, it would be located elsewhere along the river or in a similar habitat and would most likely have similar or greater environmental and land use constraints.

4.8 COMPARISON OF ALTERNATIVES

The environmental impacts of the alternatives are compared to the proposed project in Table 4-1. ~~It should be noted that the proposed project would not result in a single Class I, any significant, unavoidable impacts. This is the emission of more than 55 pounds per day of NO_x as part of the on-site mining and processing operations. Depending on production rate, it is likely that this impact would be associated with any of the alternatives involving a size and scale similar to the proposed project, and that all ten potentially significant impacts listed above can be feasibly mitigated to less than significant levels through the mitigation measures identified in the EIR.~~

The No Project Alternative would avoid the significant NO_x production from operations and would avoid the other significant, but mitigable impacts (Class II) of the proposed project.

The Reduced Mining Area Alternative with the shorter permit period would not avoid or substantially change any Class I or Class II impacts associated with the proposed project

**TABLE 4-1
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT**

Alternative	Would it <u>Avoid</u> a Significant Unmitigable (Class I) or Mitigable Impact (Class II) Associated with the Proposed Project ?	Would it <u>Reduce</u> Potentially Significant Impacts Associated with the Proposed Project to Less Than Significant Levels by the Nature of the Alternative Rather than the Application of Mitigation?	Does It Have Other Impacts?
No Project Alternative	Yes/Yes.	Yes.	No.
Reduced Mining Area (shorter permit period scenario)	No/No.	No, because the daily operations would be similar to the proposed project.	No.
Reduced Mining Area (reduced annual production)	Possibly avoid Class I air quality impact/Yes.	Yes. It would avoid the following potentially significant impacts (similar to the proposed project with mitigation): river hydraulics, habitat loss, habitat recovery time, nighttime lighting, wildlife vehicle strikes, wildlife movement, leopard lizard impacts, Sphinx moth impacts, noise impacts on nearby residents, noise impacts along SR 33, air quality impacts, and visual impacts.	
Reduced Mining Depth	No/No.	Yes. It would avoid the following potentially significant impacts (similar to the proposed project with mitigation): river hydraulics, habitat loss, habitat recovery time, nighttime lighting, wildlife vehicle strikes, wildlife movement, leopard lizard impacts, Sphinx moth impacts, noise impacts on nearby residents, noise impacts along SR 33, air quality impacts, and visual impacts.	No.
Modified Mine Layout	No/Yes. It would avoid the adverse impacts on river hydraulics (similar to the proposed project with mitigation).	No.	
Upland Mine Site (on adjacent agricultural land)	No/Yes, as it would avoid habitat and wildlife related impacts.	Yes, as it would avoid river hydraulic impacts, and habitat/wildlife related impacts.	Yes – loss of agricultural land and increased visual impacts.
Alternative Mining Sites	Not likely/Not likely.	Not likely.	Unknown.

because this alternative would still involve mining and processing at the project site at a rate similar to the project, albeit for a shorter period of time.

The Reduced Mining Area Alternative with a smaller mining pit might involve reduced operations to the point that the Class I air quality impact would be avoided. It would not avoid the Class II impacts associated with the proposed project. However, it would reduce these impacts through the nature of the alternative – a smaller mining area and the limits on work days, hours, and throughput for this alternative.

The Reduced Mining Depth Alternative would also not avoid the Class II impacts associated with the proposed project. However, it would reduce these impacts through the nature of the alternative – a smaller mining area and the limits on work days, hours, and throughput for this alternative.

The Modified Mine Pit Layout Alternative would reduce the Class II impact on river hydraulics associated with the proposed project, but would not avoid the other Class II impacts associated with the proposed project.

The use of the adjacent agricultural lands for the mine pit (Upland Mine Site Alternative) would avoid habitat related impacts, but would also create a new significant impact by displacing a viable agricultural operation and intensifying visual impacts.

Under the CEQA Guidelines, the EIR must identify the environmentally superior alternative, if it is other than the No Project Alternative. Based on the above analyses, the Reduced Mining Area Alternative with a smaller pit and limits on work days, hours, and throughput would be considered the environmentally superior alternative to the proposed project. This is Alternative 4.4 as described above. It would have the same number of Class II impacts as the proposed project, but with lesser habitat impacts and less frequent daily operations impacts related to noise, truck trips, and truck emissions. Depending on the intensity of daily operations, this alternative might avoid the Class I significant and unmitigable air quality impact from the project. From a material production viewpoint this alternative would provide the applicant with a smaller aggregate resource supply, when compared with the proposed project, not significantly different from current supplies.