CHAPTER 2.0 SUMMARY OF IMPACTS AND MITIGATION MEASURES

2.1 PROJECT UNDER REVIEW

This Draft EIR evaluates the potential environmental impacts related to implementation of the Draft OCMP. The Draft OCMP addresses a variety of issues relevant to mining outside of the creek channel in an area of approximately 23,174 acres along a 14.5-mile area extending from Capay Dam downstream to a levied section of the creek near the Town of Yolo. The Plan encourages off-channel, deep-pit mining under controlled and monitored circumstances, as an alternative to continued in-channel mining. It prescribes standards and regulations for siting of operations in relation to the creek channel, adjoining pits, and other land uses. It identifies protections for groundwater quality and quantity. It allows for multiple reclamation uses including agriculture, habitat, flood control, water storage, groundwater recharge, and recreation. It also establishes the groundwork for the development of a future plan to allow for public recreational activities and uses along the creek.

The draft OCMP identifies 216 million tons of aggregate on 2,887 acres of the planning area as feasible to mine over the next 50 years. Regulation of this mining would occur through the OCMP and implementing ordinances, and project-specific conditional use permits that would be required to be consistent with the OCMP and CCRMP. A complete description of the project is contained in Chapter 3.0, Description of Project and Alternatives.

2.2 AREAS OF CONTROVERSY

Section 15123 of the CEQA Guidelines requires the summary section of an EIR to include "areas of controversy known to the lead agency." The following issues (in no particular order) fit that requirement:

- Continued permitting of aggregate mining in Yolo County.
- The potential for impacts on groundwater quality as a result of implementing the OCMP.
- The potential hazards associated with reclaimed lakes.
- Recommendations of the OCMP relating to the (30-year) life of mining permits.

- Channel stability and proximity of mining to the channel.
- The accumulation of mercury in local wildlife.
- Permanent loss of agricultural land.
- Reclamation of previously agricultural land for other uses.
- Interpretation of net gain.
- Recommended frequency of well monitoring and listing of constituents to monitor.
- Depths of mining and the issue of mining below the groundwater table.
- Steepness of reclaimed pit slopes.

2.3 ISSUES TO BE RESOLVED

Section 15123 of the CEQA Guidelines requires the summary section of an EIR to include "issues to be resolved including choices among alternatives and whether and how to mitigate significant effects." The following issues fit this requirement:

- Creation of an ongoing Technical Advisory Committee to review annual monitoring data and provide recommendations and feedback to the County regarding the conditions of the creek.
- Coordination with Yolo County Flood Control and Water Conservation District (FCWCD) to use off-channel excavations as recharge and/or storage basins.
- Coordination with FCWCD to provide a regular source of surface water within the losing reaches of the creek, when there is sufficient rainfall.
- Development of an Open Space and Recreation Plan to provide a range of public activities and uses along the creek.

2.4 SUMMARY OF REGULATORY/POLICY CONSISTENCY

Section 15125(b) of the CEQA Guidelines requires the EIR to discuss "any inconsistencies between the proposed project and applicable general plans and regional plans." A number of regulations and plans exist that address conservation and development of aggregate resources and related issues, including the California Surface Mining and Reclamation Act, the Yolo County General Plan, and the Interim In-Channel Surface Mining Regulations of

Yolo County. A discussion of the consistency between the OCMP and these regulations and plans is provided in Section 4.2, Land Use and Planning, as referenced in Table 2-1.

2.5 SUMMARY OF IMPACTS

This summary provides an overview of the analysis contained in Chapter 4.0, Environmental Analysis. This summary also includes discussions of: a) effects found not to be significant; b) significant impacts; c) mitigation measures to avoid or reduce identified significant impacts; and d) unavoidable significant impacts.

Effects Found Not to Be Significant

Section 15128 of the CEQA Guidelines requires an EIR to contain a statement briefly indicating the reasons why various possibly significant effects of a project were determined not to be significant and were therefore not discussed in detail. The following statements, explaining why various effects of the project on population/housing and energy were found not to be significant, meet this requirement:

Population/Housing

No official regional or local population projections would be exceeded as a result of implementing the OCMP. The project would not induce substantial growth in the planning area either directly or indirectly, or extend major infrastructure. The hiring of additional personnel would be minimal and therefore no significant increase in housing demand would be expected, and no existing housing would be displaced. An additional discussion of these topics can be found in Section 5.2, Growth Inducing Impacts.

Energy

Implementation of the OCMP would not conflict with any adopted energy conservation plan. The effects of the project on local and regional energy supplies and on requirements for additional capacity would be minimal. Energy resources would not be used in a wasteful, inefficient, or unnecessary manner. Protection of lands containing identified mineral deposits from the encroachment of incompatible land uses would allow aggregate resources to remain available for future use and thereby reduce transportation energy use requirements. Policies in the OCMP, such as encouraging recycling efforts and mining efficiencies (such as wet pits), would result in energy conservation.

Effects Found to Be Significant and Avoidable

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any physical conditions within the area affected by the project. This includes water, land, air, ambient noise, wildlife, and objects of aesthetic significance.

Implementation of the project would generate environmental impacts in several areas, as described in Chapter 4 and summarized in Table 2-1.

Mitigation Measures to Avoid or Reduce Identified Significant Impacts

This Program EIR discusses mitigation measures that could be implemented. Generally, program-level mitigation for the OCMP includes modifications to the plan, or the addition or modification of goals, performance standards, or other requirements. The mitigations presented form the basis of the proposed Mitigation Monitoring Plan discussed in Section 1.4.

Effects Found to Be Significant and Unavoidable

Under CEQA, a significant and unavoidable effect of the project is one that would cause a substantial adverse effect on the environment and for which no mitigation is available to reduce the impact to a less-than-significant level if the project is approved. These impacts are discussed in Chapter 4.0 of this EIR and summarized in Table 2-1.

2.6 SUMMARY OF ALTERNATIVES

The following alternatives to the project are described in Chapter 3.0, Project Description, and given equal weight in Chapter 4.0, Environmental Analysis:

Alternative #1a:	No Project (Existing Conditions);
Alternative #1b:	No Project (Existing Permits and Regulatory Condition);
Alternative #2:	No Mining (Alternative Site);
Alternative #3:	Plant Operation Only (Importation);
Alternative #4:	Shallow Mining (Alternative Method/Reclamation);
Alternative #5a:	Decreased Mining (Restricted Allocation);
Alternative #5b:	Decreased Mining (Shorter Mining Period); and
Alternative #6:	Agricultural Reclamation (with Mining Operations as Proposed).

2.7 SUMMARY TABLE

The following table (Table 2-1, Summary of Impacts and Mitigation Measures) has been organized to correspond with environmental issues discussed in Chapter 4.0 of this EIR. The summary table is arranged in four columns:

1. environmental impact;
2. level of significance before mitigation;
3. recommended mitigation measures; and
4. level of significance after mitigation.

A series of measures is noted where more than one mitigation may be required to reduce the impact to a less-than-significant level. See Chapter 4.0 for complete analysis and full text of mitigation measures.

Table 2-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Environmental Impact	**Level of Significance Before Mitigation**		**Mitigation Measures**	**Level of Significance After Mitigation**	
	LS	**S**		**LS**	**SU**
Land Use and Planning					
Impact 4.2-1: Consistency with Yolo County General Plan	OCMP, A-4, A-5a, A-5b and A-6	A-1a, A-1b, A-2, A-3	*Mitigation Measure 4.2-1a (OCMP, A-4, A-5a, A-5b, A-6)* *None required. However, the amendment to draft OCMP Objective 5.3-1 proposed in Mitigation Measure 4.2-5a would reinforce Implementation Strategy #2 of the Capay Valley Area Plan (as discussed above under "Draft OCMP and Implementing Ordinances") by encouraging the reclamation of land within the Capay Valley Area to agricultural uses (i.e., areas of creek maintenance). This action would enhance the compatibility of the OCMP, A-4, A-5a, A-5b, and A-6 with the Capay Valley Area Plan.* *Mitigation Measure 4.2-1b (A-1a, A-1b, A-2, A-3)* *In lieu of adopting an OCMP and its implementing ordinances, the County shall develop an alternate approach for responding to the requirements of General Plan Conservation Policies 34 and 35. An alternate approach would be to amend the General Plan to include Conservation Policies 42, 43, 44, and 45 as discussed in Section 4.2.*	OCMP, A-4, A-5a, A-5b, and A-6	A-1a, A-1b, A-2, A-3
Impact 4.2-2: Consistency with the Yolo County Zoning Ordinance and County Code	A-1a, A-1b, A-2, and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.2-2a (OCMP, A-4, A-5a, A-5b, A-6)* *The following sections of the Yolo County Zoning Ordinance shall be amended to implement the OCMP and its implementing ordinances: Sections 8-2.404(g), 8-2.404(j), 8-2.604(n), 8-2.2311, 8-2.2312(a), and 8-2.2312(b). New sections shall be added to the Yolo County Zoning Ordinance at Section 8-2.404 (to address land use contracts in the A-P Zone), and at 8-2.23.8 (to address the Special Sand and Gravel Combining Zone [SGR]).*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-3: Consistency with the State Mining and Reclamation Act (SMARA) and the State Mining and Geology Board Reclamation Regulations	OCMP, A-4, A-5a, A-5b, and A-6	A-1a, A-1b, A-2, and A-3	*Mitigation Measure 4.2-3b (A-1a, A-1b, A-2 and A-3)* *In lieu of adopting an OCMP and its implementing ordinances, the County shall amend the mining regulations and ordinances to ensure consistency with SMARA and the State Reclamation Regulations.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-4: Consistency with the Regional Water Quality Control Board's Basin Plan		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*None Required* *Implementation of Mitigation Measures 4.4-2a and 4.4-3b would adequately mitigate this impact.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	S		LS	SU
Impact 4.2-5: Consistency with the RCD Agriculture Policies	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*Mitigation Measure 4.2-5a (OCMP, A-4, A-5a, A-5b, A-6)* *None required. As an improvement measure, however, it is recommended that the following language be added to Objective 5.3-1 of the OCMP:* *Reclamation of agricultural lands to other uses, however, is discouraged, wherever agricultural reclamation is feasible.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-6: Compatibility with Existing and Planned Land Uses	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-7: Change in Land Use Intensity	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required at the program level.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-8: Land Use Incompatibility Due to Changes in the Creek Boundary	OCMP, A-1a, A-1b, A-2, and A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-9: Land Disturbance During Mining	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-10: Potential for Additional Mining Above That Which Is Currently Known	A-1a, A-1b, A-2, and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.2-10a (OCMP, A-4, A-5a, A-5b, A-6)* *The final OCMP boundaries shall be defined as including only those 2,932 acres (including a 45-acre borrow area) presently under consideration for rezoning.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Environmental Impact	**Level of Significance Before Mitigation**		**Mitigation Measures**	**Level of Significance After Mitigation**	
	LS	**S**		**LS**	**SU**
Impact 4.2-11: Potential Impacts from the Future Sale or Transfer of Property Included within a Current Mining/Reclamation Application	A-1a, A-1b, A-2, and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.2-11a (OCMP, A-4, A-5a, A-5b, A-6)* *The OCMP and its implementing ordinances shall be expanded and clarified to address the issue of transferability of mining permits. The clarification would indicate that if a property is sold or transferred, the tonnage attributed to that property transfers as well. If that tonnage is still processed at the original plant site pursuant to the original permit approval, no additional environmental assessment or permits would be required. If that transferred tonnage is processed elsewhere, additional analysis and approvals would be required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.2-12: Compatibility with Watts-Woodland Airport Comprehensive Land Use Plan	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required at the program level.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Geology and Soils					
Impact 4.3-1: Potential for Damage from Seismic Shaking		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.3-1a (OCMP, A-4, A-5a, A-5b, A-6)* *The following performance standards shall be added to the OCMP and its implementing ordinances and existing ordinances:* *Performance Standard 2.5-25: Improvements, including the construction of buildings, roadways or other public facilities proposed for construction in reclaimed mining pits shall require a geotechnical investigation of the stability of fills conducted by a qualified and licensed geotechnical engineer. A report on the results and recommendation of the investigation shall be submitted to the Yolo County Community Development Agency prior to the issuance of building permits.* *Performance Standard 2.5-26: Backfilled mining areas and slopes shall be inspected by the landowner following strong seismic shaking events. Observable damage shall be reported to the Yolo County Community Development Agency. If, upon inspection of the reported damage, the YCCDA determines that the damage requires repair to meet the intended use of the reclaimed land, the landowner shall perform the required repairs.* *Performance Standard 2.5-27: The cost of implementing recommendations for repair of reclaimed land caused during earthquakes or other natural events shall be met through application of contingency costs provided for by the project's financial assurances as required by SMARA.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

County?

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	LS	S		LS	SU
			Mitigation Measure 4.3-1b (A-1a, A-1b, A-2, A-3) *Existing mining ordinances shall require a geotechnical investigation of the stability of fills conducted by a qualified and licensed geotechnical engineer for improvements proposed for construction in reclaimed mining pits, including the construction of buildings, roadways, or other public facilities. A report on the results and recommendation of the investigation shall be submitted to the Yolo County Community Development Agency (or other similar authority in areas outside Yolo County) prior to the issuance of building permits.*		
Impact 4.3-2: Potential Impacts Related to Slope Stability, Erosion, and Sedimentation	A-1a and A-1b	OCMP, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.3-2a (OCMP, A-4, A-5a, A-5b, A-6)* *The following performance standards of the OCMP shall be modified as follows:* *Performance Standard 2.5-4: During mining operations, a series of benches may be excavated in a slope. The vertical height and slope of the benches shall not exceed ~~ten (10) feet, and all banks shall not exceed 1:2 (horizontal to vertical)~~ maximum standards for the specific soil types presented in California Code of Regulations, Title 8, Article 6. In general, vertical cutslopes between benches shall not exceed four (4) feet in height in topsoil and overburden sediments. Benching shall be allowed in cohesive soil (clay, sandy or silty clay, clayey silt) only. Slopes above the elevation of groundwater (determined at the time of excavation by the level of exposed water in the excavation) that exceed the maximum vertical height shall be excavated and maintained at slopes not greater than 2:1. Slopes located five (5) feet or less below the average summer low groundwater level shall not be steeper than 2:1. Slopes located more than five (5) feet below the average summer low groundwater level shall not ~~exceed~~ be steeper than 1:1 (horizontal to vertical). ~~below the summer low water level of exposed groundwater in water-filled excavations.~~* *Performance Standard 2.5-16: Except where benches are used, all banks above groundwater level shall be sloped no steeper than 2:1 (horizontal:vertical). Proposed steeper slopes shall be evaluated by a slope stability study, prepared by a qualified engineer. Slopes below the groundwater level shall be no steeper than 1:1 (horizontal:vertical). Slopes located five feet or less below the summer low groundwater level shall not be steeper than 2:1.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	S		LS	SU
			Performance Standard 2.5-17: Upon the completion of operations, grading and revegetation shall minimize erosion and convey surface runoff to natural outlets or interior basins. The condition of the land shall allow sufficient drainage to prevent water pockets or undue erosion. Natural and storm water drainage shall be designed so as to prevent flooding on surrounding properties and County rights-of-way. *Storm water runoff from mining areas shall be conveyed to lowered areas (detention basins) to provide detention of runoff generated during a 20-year, one-hour storm event. All drainage conveyance channels or pipes (including spillways for detention areas) shall be designed to ensure positive drainage and minimize erosion. The drainage conveyance system and storm water detention areas shall be designed and maintained in accordance with Best Management Practices for the reduction of pollutants associated with runoff from mined areas. The design and maintenance procedures shall be documented in the Storm Water Pollution Prevention Plan required for mining operations. The drainage system shall be inspected annually to ensure that the drainage system is functioning effectively and that adverse erosion and sedimentation are not occurring. The annual inspection shall be documented in the Annual Mining and Reclamation Report.* *Performance Standard 2.5-18: All final reclaimed slopes shall have a minimum safety factor equal to or greater than the critical gradient as determined by an engineering analysis of the slope stability. Final slopes less than five (5) feet below the average summer low groundwater level shall be designed in accordance with the reclaimed use and shall not be steeper than 2:1. Reclaimed wet pit slopes located five (5) feet or more below the average summer low groundwater level shall not ~~exceed~~ be steeper than 1:1 (horizontal:vertical), in order to minimize the effects of sedimentation and biological clogging on groundwater flow, to prevent stagnation and to protect the public health.* *The maximum slope angle for all final reclaimed slopes shall be determined by slope stability analysis performed by a licensed and qualified civil or geotechnical engineer and submitted with any mining and reclamation application for review by the Yolo County Community Development Agency (YCCDA). The slope stability analysis shall conform with industry standard methodologies rotational slope failures under static and pseudostatic (seismic) conditions. The minimum factor of safety for all design reclamation slopes located adjacent to levees or below existing structures shall not be less than 1.5 for static and 1.1 for pseudostatic (seismic) conditions. Other reclamation slopes shall meet a minimum factor of safety that is consistent with the post-reclamation use proposed for the mining area.*		

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			Performance Standard 2.5-21: The grading of final slopes, the replacement soil, and associated erosion control measures shall take place prior to November 1 in areas where mining has been completed. To minimize erosion, the finish grading of mining pit slopes above the average seasonal high groundwater level, with the exception of the location of designated haul roads, shall be performed as soon as practical after the completion of mining of overburden and unsaturated aggregate resources. A drought-tolerant, weed-free mix of native and non-native grass species shall be established on slopes prior to November 1 or alternate erosion control (mulch or netting) shall be placed on exposed soil on the slopes prior to this date. Phasing of mining to minimize the length of exposed mining slopes during the rainy season is encouraged. ~~all slopes above the groundwater level shall be seeded with a drought-tolerant mix of native and non-native grass species, as soon as is practical after grading and prior to November 1. The grass seed mix shall be weed-free.~~ *Mitigation Measure 4.3-2b (A-2, A-3)* *Local mining and reclamation regulations for mining operations outside the OCMP planning area shall adopt standards similar to Performance Standards 2.5-4, 2.5-17, 2.5-18, and 2.5-21 to control erosion during mining activities.*		
Impact 4.3-3: Potential for Erosion from Surface Water Discharge, Including "Pit Capture"	A-1a, A-1b, A-2 and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.3-3a (OCMP, A-4, A-5a, A-5b, A-6)* *The following text shall be added to Action 4.4-2:* *Action 4.4-2: Designate the streamway influence boundary described in the Technical Studies as part of the Off-Channel Mining Plan. The boundary describes the general area of the creek subject to meandering, as defined by the historical activities of the channel. The streamway influence boundary also defines the area where in-stream and off-channel issues overlap and are addressed in each both plans. Whereas the streamway influence boundary shall be recognized as representative of historical conditions, the current hydraulic conditions of creek shall be considered in decision-making regarding channel and floodplain management.* *Action 4.4-3 from the OCMP shall be replaced by the following action:* *Action 4.4-3: Evaluation of proposed significant modifications to the flood plain, including off-channel mining areas, shall be made with reference to the channel improvement strategy and guidelines presented in the Cache Creek Resource Management Plan. This would ensure a consistent frame of reference and allow consideration of such modifications in the context of an integrated creek management program.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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			Action 4.4-6 shall be amended as follows: *Action 4.4-6: Allow for the design of spillways or other engineered features that provide controlled ~~pit capture during a catastrophic flood event~~ flooding of off-channel mining pits during flood events which exceed the 100-year flood event.* *Performance Standard 4.5-1 shall be amended as follows:* *Performance Standard 4.5-1: All off-channel surface mining operations shall be provided with a minimum one-hundred (100) year flood protection. Off-channel excavations that extend below the existing streambed elevation of Cache Creek shall be designed to minimize the possibility of levee breaching and/or pit capture~~, except under controlled circumstances~~.* *Performance Standard 4.5-2 shall be deleted from the OCMP.* *Performance Standard 4.5-3 shall be amended as follows:* *Performance Standard 4.5-3: Proposed off-channel excavations within the streamway influence boundary shall be set back a minimum of seven-hundred (700) feet from the existing channel bank, unless it is demonstrated ~~in a manner consistent with the Technical Studies~~ that a smaller distance would not adversely affect channel stability. Under no circumstances shall the setback be less than two-hundred (200) feet. The evaluation of the potential for adverse effects of bank erosion or failure of the land separating pits located less than 700 feet from the active channel shall include, at minimum, the following analyses:* • *The 200-foot setback area shall not include portions of the former historic active floodplain or formerly mined lands separated from the active channel by levees or unmined areas less than 200 feet wide (measured perpendicular to the active channel).* • *Identification of the former historic positions of the Cache Creek channels as delineated in the CCRMP Technical Studies, and determination if proposed project is located within the limits of the historic channel.* • *Description of current channel hydraulic conditions (based on existing or site-specific hydraulic models) for the Cache Creek channel adjacent to the site and extending not less than 1,000 feet upstream and downstream of the site.*		

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Environmental Impact	Level of Significance Before Mitigation		Mitigation Measures	Level of Significance After Mitigation	
	LS	S		LS	SU
			• *Determination of erosion potential of stream bank adjacent to the site made on the basis of stream flow velocity and estimated shear stress on bank materials during 100-year flood flows and historic patterns of erosion.* • *Analytical slope stability analysis in conformance with Performance Standards 2.5-16 and 2.5-18. This slope stability analysis of the slopes separating the mining area from the creek channel shall include evaluation of stability conditions during 100-year flood flows in the channel.* • *Future proposed bank stabilization designs, if recommended, shall not conflict with channel design recommendations of the Cache Creek Resource Management Plan unless approved by the Technical Advisory Committee.* *The following Performance Standard shall be added to the OCMP and implementing ordinances:* *Performance Standard 4.5-8: Financial assurances for off-channel mining operations which include mining within 700 feet of the active channel of Cache Creek shall include adequate funding for maintenance during the mining and reclamation period of any bank stabilization features approved for the mining permit. Maintenance of the bank stabilization features following the completion of reclamation shall be the responsibility of the property owners under the Cache Creek Resource Management Plan.*		
Impact 4.3-4: Decreased Availability of Aggregate Resources	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	S		LS	SU
IHydrology and Water Quality					
Impact 4.4-1: Potential Impacts to Groundwater Levels, Rate of Flow, and Direction of Flow	A-1a, A-1b, A-2, A-3, and A-4	OCMP, A-5a, A-5b, and A-6	*Mitigation Measure 4.4-1a (OCMP, A-5a, A-5b, A-6)* *Performance Standard 3.5-1 included in the OCMP shall be as follows:* *Performance Standard 3.5-1: The area of backfilled off-channel excavations extending below the groundwater table shall be minimized to reduce changes to groundwater levels and flow. Backfilled pits shall be oriented with regard to the direction of groundwater flow to prevent localized obstructions. If a backfilled off-channel excavation is proposed to penetrate either fifty (50) feet or one-half (½) into the saturated thickness of the shallow aquifer, then at least six months prior to the commencement of excavation below ~~the water table~~ average high groundwater level the applicant shall demonstrate in a manner consistent with the Technical Studies, that the pit design would not adversely affect active off-site wells within one-thousand (1,000) feet of the proposed pit boundary. If the application includes a series of backfilled pits, then the applicant shall also demonstrate that the cumulative effects of the multiple backfilled pits would not adversely affect groundwater flow, if there are any active off-site wells within one-thousand (1,000) feet of the pit boundaries.* *The applicant shall demonstrate, using MODFLOW,[1] that the proposed pit design would not adversely impact active off-site wells within 1,000 feet of the proposed pit boundary. An effect shall be considered adverse if the reduction in simulated groundwater levels exceeds two feet at any well located within 1,000 feet of the pit boundary or results in well failure. Average, historic low groundwater levels, which represent the condition of maximum threat to water levels in the subject well, shall be used for this simulation. If an adverse impact is identified by the MODFLOW simulation, the mining and reclamation plan would be modified or the applicant shall submit a written agreement that the well owner has agreed to relocate or redesign the well (at no expense to the County).* *In addition, the following performance standards measures shall be added to the OCMP:* *3.5-16 Site-specific aquifer testing shall be conducted, if needed, to determine aquifer properties for the required modeling.* *3.5-17 A well survey shall be conducted and all wells within 1,000 feet of the limits of mining plotted on a scaled map. Each property owner owning a parcel(s) within 1,000 feet of the proposed limits of mining shall be contacted and queried about wells that may be located near the mining area.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

[1]MODFLOW is a three-dimensional finite difference model used to simulate groundwater flow. A three-dimensional model would be necessary since aquifer permeability would vary with depth after reclamation.

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Impact 4.4-2: Potential Degradation of Water Quality During Aggregate Mining and Reclamation	A-1a, A-1b, A-2, A-3, and A-4	OCMP, A-5a, A-5b, and A-6	*Mitigation Measure 4.4-2a (OCMP, A-5a, A-5b, A-6)* *Mitigation of potential water quality impacts would be addressed as described in the flowchart presented as Figure 4.4-9. The OCMP and implementing ordinances shall be modified as described below.* *Pollution Prevention* *Performance Standard 3.5-6 of the OCMP and the associated ordinance shall both be modified as follows:* *If any off-channel excavation proposes to extend below the level of seasonal high groundwater ~~level~~, then six months prior to the commencement of excavation below the ~~water table~~ average high groundwater level the applicant shall ~~demonstrate in a manner consistent with the Technical Studies that the pit is sufficiently set back from any active drinking water wells within one-thousand (1,000) feet of the proposed pit boundaries in order to ensure that potential groundwater contamination is prevented~~. identify and locate all off-site wells within 1,000 feet of the proposed mining boundary. If active wells are identified, well characteristics (pumping rate, depth, and locations of screens) shall be determined. If wells are not located within 1,000 feet, the pre-mining impact evaluation would be considered complete.* *If mining is proposed within 1,000 feet of a municipal water supply or within 500 feet of a domestic water supply well, a capture zone analysis shall be conducted using the U.S. Environmental Protection Agency model WHPA. The simulation shall assume 30 days of continuous pumping of the water supply well (at its maximum probable yield) under analysis. A mining setback shall be established so that the capture zone and the pit do not coincide. Alternatively, the applicant shall submit a written agreement that the well owner has agreed to relocate or redesign the well (at no expense to the County). The analysis shall be prepared and signed by a Registered Professional Engineer or Certified Hydrogeologist and submitted to the County for review and shall be submitted to, and approved by, the County at least six months prior to commencement of excavation below the seasonal high groundwater level.* *Any new drinking water wells proposed for installation within 1,000 feet of a proposed wet pit mining area shall be subject to review by the Yolo County Environmental Health Department. The County shall determine, based on site-specific hydrogeology and available water quality data, whether to approve the proposed well installation.* *The County may retain appropriate staff or a contract consultant to provide third party critical review of all hydrogeologic reports related to mining applications.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	S		LS	SU
			Performance Standard 3.5-3 of the OCMP and the associated ordinance shall be replaced with the following Performance Standard: *Surface water shall be prevented from entering mined areas, through perimeter berms or ditches and grading. Appropriate erosion control measures shall be incorporated into all surface drainage systems. Drainage and detention facilities within the proposed mining areas shall be designed to prevent discharges to the wet pits and surface water conveyances (i.e., creeks and sloughs) from the 20-year/1-hour storm or less. For events greater than the 20-year/1-hour storm, runoff shall be directed into surface water conveyances. Drainage plans shall not rely solely on ditches and berms to direct runoff away from the wet pit. Without proper maintenance, berms and ditches may deteriorate with time and become ineffective. Drainage plans shall emphasize grading of disturbed areas that results in broad gentle slopes that drain away from the pits. Grading plans shall be reviewed by the County to evaluate compliance with drainage plan objectives prior to project approval.* *In addition, a restriction shall be recorded on the deed that requires berms and ditches to be permanently maintained in a condition consistent with the final approval. The deed restriction shall require inspection of the berms and ditches by a registered geologist or professional engineer every five years after completion of reclamation. An inspection report including recommendations for corrective action, if needed, shall be submitted to the Yolo County Community Development Agency following each inspection. The property owner shall be required to implement recommended corrective action, if any. In addition, an inspection easement (which allows County staff or other authorized personnel) to inspect the ditches and berms shall be recorded on the deed.* *Performance Standard 2.5-8 of the OCMP and the associated ordinance shall be modified as follows:* *Unnecessary personnel shall be excluded from off-channel excavations. Open wet pits shall be fenced with a four strand barbed wire fence or the equivalent, prior to the commencement of excavation, during excavation, and during reclamation. Fencing may enclose the property of which mining is a part, the mining site, or both. In addition, signs shall be installed at the project site boundaries and access road, indicating that the excavation area is ~~a danger zone~~ restricted. Additional security (e.g., gates with protected locks and wing fences to prevent drive-arounds) shall be provided at all vehicular access routes. The fencing and gates shall be maintained throughout the mining and reclamation period and after completion of reclamation. A requirement shall be recorded on the deed of the property which requires the landowner to maintain fences and gates.* *The potential for water quality degradation resulting from operation of motorized watercraft is adequately mitigated by Performance Standards 3.5-10 and 2.5-8.*		

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			The potential for eutrophication of the wet pit lakes would be adequately mitigated by Performance Standards 2.5-18 and 3.5-11 (discussed in Impact 4.4-3). *Performance Standard 2.4-11 of the OCMP and associated ordinance shall be deleted.* *Monitoring* *Performance Standard 3.5-4 of the OCMP and the associated ordinance shall be modified as follows:* *All surface mining operations that propose off-channel excavations extending below the groundwater table shall develop and maintain a groundwater monitoring program consisting of two components: water level measurements and water quality testing. A groundwater level monitoring program shall be initiated at least six months prior to removal of overburden. At a minimum, the groundwater level monitoring program shall consist of three monitoring wells, with at least one well upgradient of the wet pit and one well downgradient of the wet pit. Monitoring programs for proposed mining areas exceeding 100 acres (total proposed mining area over the life of the project) shall include one additional well for each 100 acres to be mined. Therefore, proposed mining areas of 1 to 99 acres would require 3 wells, 100 to 199 acres would require four wells, 200 to 299 acres would require 5 wells, and so on. These wells shall be distributed through the vicinity of the proposed mining area and used for groundwater level measurements. Groundwater levels shall be collected from the monitoring wells on a quarterly basis for six months prior to mining and for the duration of the mining period. All wellheads shall be surveyed with horizontal and vertical control to allow calculation of groundwater elevations and development of groundwater contour maps. Groundwater levels shall be measured with an accuracy of plus or minus 0.01 foot, at minimum.* *Water quality in the vicinity of each active wet pit mining location would be evaluated by analyzing samples from selected monitoring wells (one upgradient and one downgradient) and wet pit surface water sampling locations. Since mining would be conducted in phases over a relatively long period of time, pit boundaries would change with time. Selection, and installation if necessary, of downgradient monitoring wells, which would be critical to adequately characterize the groundwater quality in the vicinity of the wet pits, would be proposed by the applicant for review and approval by the County. The selected monitoring wells shall be installed and sampled at least six months prior to removal of overburden. The downgradient wells shall be located as near to active wet pit mining areas as is practical. The upgradient wells shall be located an adequate distance from the proposed mining area to ensure that effect of the wet pit on water quality in the well would be negligible. The water samples from the wet pit shall be collected in a manner so as to ensure that they are representative of water quality within the wet pit. The minimum sampling schedule and required analyses are described below.*		

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			Groundwater level and pit water surface level measurements: *Quarterly in all wells for the duration of mining and reclamation* *For proposed wet pit mining, sample collection and analysis of physical, chemical, and biological constituents shall be conducted according the following specifications:* • *Prior to removal of overburden- One upgradient and one downgradient well shall be sampled at least six months prior to removal of overburden and again at the start of excavation. The samples shall, at minimum, be analyzed for general minerals, inorganics, nitrates, total petroleum hydrocarbons (TPH) as diesel and motor oil, benzene, toluene, ethylbenzene, and xylenes (BTEX), pesticides (EPA 8140 and 8150), and coliform (with E. coli confirmation).* • *During wet pit mining and active reclamation- The wet pit shall be sampled semi-annually for the duration of mining and active reclamation. The samples shall, at minimum, be analyzed for general minerals, inorganics, nitrates, TPH as diesel and motor oil, BTEX, pesticides (EPA 8140 and 8150), and coliform (with E. coli confirmation).* *One upgradient and one downgradient well shall be analyzed, at minimum, for general minerals, inorganics, nitrates, TPH as diesel and motor oil, BTEX, pesticides (EPA 8140 and 8150), and coliform (with E. coli confirmation). The wells shall be sampled according to the following schedule:* *0-2 years: Semi-annually* *2 years to completion of reclamation: Annually* • *After active reclamation- After all heavy equipment work has been completed in the vicinity of the pit, the TPH and BTEX analyses may be discontinued. The wet pit and one upgradient and one downgradient well shall be sampled and analyzed for pH, temperature, nutrients (phosphorus and nitrogen), total dissolved solids, total coliform (with E. coli confirmation), and biological oxygen demand. This monitoring shall be conducted every two years for a ten year period after completion of reclamation.*		

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			A report to the County Community Development Agency and Department of Environmental Health shall be submitted ~~annually regarding the results of the groundwater monitoring program~~ within 30 days of the required groundwater testing. *If, at the completion of the mining and reclamation period, water quality has not been impacted, all monitoring wells shall be destroyed in accordance with California Department of Water Resources Well Standards (DWR, 1991). If the County or other agency wishes to maintain the wells for future water resources evaluation, selected wells could be preserved for this use.* *The County may retain appropriate staff or a contract consultant to provide third party critical review of all hydrogeologic reports related to monitoring.* *Data Evaluation/Corrective Action* *The following Performance Standard shall be added to the OCMP and implementing ordinance.* *PS. 3.5-16: A performance bond shall be acquired to ensure that monitoring continues through the mining period and ten years after the completion of reclamation.* *Action 3.4-4 of the OCMP shall be modified as follows:* *The Yolo County Community Development Agency shall designate staff to ~~begin compiling and coordinating the monitoring information generated by the off-channel mining operations, in order to form the foundation for preparing an ongoing groundwater database covering the entire County~~ coordinate with City, County, regional, and State agencies that may wish to receive copies of data generated from the off-channel mining operations, including the towns of Capay, Esparto, Yolo, and Madison, the city of Woodland, and the Yolo County Flood Control and Water Conservation District, the Water Resources Agency, the Central Valley Regional Water Quality Control Board, and the California Department of Water Resources. The data base shall be expanded to include other relevant sources of information, so that it can be used as reference material for ~~the Water Resources Agency and other~~ regional water planning efforts.*		

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			If at any time during the monitoring period, testing results indicate that sampling parameters exceed Maximum Contaminant Levels (MCLs), as reported in the California Code of Regulations, or established background levels, a qualified professional shall evaluate potential sources of the contaminants. The evaluation shall determine the source and process of migration (surface or subsurface) of the contaminants. A report shall be submitted to the regulatory agencies (Yolo County Community Development Agency and the Central Valley Regional Water Quality Control Board) which identifies the source of the detected contaminants and specifies remedial actions to be implemented by the applicant for corrective action. If it is determined that the source of water quality degradation is off- site, and County and RWQCB are in agreement with this conclusion, the applicant shall not be responsible for corrective action. *If corrective action is ineffective or infeasible, the responsible party must provide reparation to affected well owners, either by treatment of water at the wellhead or by procurement of alternate water supply.* *Analysis of environmental impact for projects in the vicinity of the wet pits shall include consideration of potential water quality impacts on the open water bodies.*		
Impact 4.4-3: Potential Degradation of Water Quality after Reclamation of Mined Lands	A-1a, A-1b, A-2, A-3, and A-4	OCMP, A-5a, A-5b, and A-6	*Mitigation Measure 4.4-3a (OCMP, A-5a, A-5b, A-6)* *In addition to the policies included in the OCMP, the following mitigation measures shall be implemented:* *The potential for eutrophication and biological degradation of wet pit lakes would be adequately mitigated by Performance Standards 2.5-18 and 3.5-11, and Mitigation Measure 4.4-2a.* *The potential for illegal discharges to occur would be adequately mitigated by Mitigation Measure 4.4-2a.* *The potential for water quality degradation resulting from legal operation of motorized watercraft is adequately mitigated by Performance Standard 3.5-10. The potential impacts associated with illegal operation of watercraft in the lakes is adequately mitigated by the requirement for fencing and locked gates, discussed above (Performance Standard 2.5-8).*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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			The potential impacts associated with groundwater quality degradation would be partially mitigated by implementation of the monitoring program described in Mitigation Measure 4.2-2. In addition, the following Performance Standard shall be added to the OCMP and implementing ordinance: *Overburden and processing fines shall be used whenever possible to support reclamation activities around reclaimed wet pits. These materials may be used in reclamation activities without testing for agricultural chemicals. If topsoil (A-horizon soil), formerly in agricultural production, is proposed for use within the drainage area of a wet pit, the soils must be sampled prior to placement and analyzed for pesticides and herbicides (EPA 8140 and 8150). Samples shall be collected and analyzed in accordance with EPA Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, Third Edition (as updated). Topsoil that contains pesticides or herbicides above the Maximum Contaminant Levels for primary drinking water (California Code or Regulations) shall not be placed in areas that drain to the wet pits.* *The following performance standards shall be added to the OCMP:* *Prior to approval of reclamation of aggregate mining areas to permanent lakes, the County shall commission a sampling and analysis program, to be implemented in one existing wet pit mining area within the OCMP planning area, to evaluate the potential for increased methylmercury production associated with wet pit mining and reclamation of mining areas to permanent lakes. The program shall include sampling of water and sediments from the bottom of the existing pit and analysis of the samples for organic content, pH, dissolved oxygen content, dissolved carbon content, and total mercury. In addition, samples of predatory fish (preferably, largemouth bass) shall be collected and analyzed for mercury and methylmercury content. If the initial sampling indicates either of the following conditions, the County shall perform verification sampling:* • *Average concentrations of total mercury in excess of 0.000012 mg/l in the water;* • *Mercury levels in fish samples in excess of 0.5 mg/kg.* *If verification sampling indicates exceedance of these mercury standards, the County shall not approve reclamation of mining areas to permanent lakes.*		

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			In the event of approval of reclamation of mined areas to permanent lakes, the first lake reclaimed as part of each approved long-range mining plan shall be evaluated annually by the landowner for five years for conditions that could result in significant methylmercury production. The annual evaluations shall be conducted by a qualified aquatic biologist or limnologist and shall include the following analyses: • *Lake condition profiling during the period June through September, including measurements of pH, eH (or redox potential), temperature, dissolved oxygen, and total dissolved carbon.* • *Collection of a minimum of five predator fish (preferably largemouth bass) specimens and analysis of the specimens for mercury and methylmercury content.* *If the average fish specimen mercury content exceeds 0.5 mg/kg for two consecutive years, wet pit mining on property controlled by the mining operator/owner shall be suspended and the owner/operator shall either:* • *Present a revised reclamation plan to the Yolo County Community Development Agency which provides for filling reclaimed lake to a level five feet above average seasonal high groundwater level with a suitable backfill material, or* • *Present a mitigation plan to the Yolo County Community Development Agency which provides a feasible and reliable method for reducing methylmercury production. Potential mitigation could include permanent aeration of bottom levels of the lake, alteration of water chemistry (increasing pH or dissolved organic carbon levels), or control of anaerobic bacteria populations. The mitigation plan would require approval by the Regional Water Quality Control Board, Department of Fish and Game, and the Yolo County Department of Environmental Health.*		
Impact 4.4-4: Loss of Water from Aquifer Storage Due to Evaporation	A-1a, A-1b, A-2, A-3, and A-4	OCMP, A-5a, A-5b, and A-6	*Mitigation Measure 4.4-4a (OCMP, A-5a, A-5b, A-6)* *Performance Standard 3.5-12 of the OCMP shall be modified as follows:* ~~*Reclaimed wet pits shall minimize shallow depths in order to reduce evapotranspiration, unless the shallow areas are being reclaimed to wetland habitat. Wet pits shall be considered shallow when they extend less than ten (10) feet into the groundwater table.*~~ *All permanent wet pits shall be reclaimed to include valuable wildlife habitat to offset evaporation losses from wet pits.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Impact 4.4-5: Potential Impacts Associated with Groundwater Recharge	A-1a, A-1b, A-2, and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.4-5a (OCMP, A-4, A-5a, A-5b, A-6)* *The County shall eliminate the following Actions and Performance Standards from the OCMP: Objective 3.3-3, Actions 3.4-2, 3.4-6 through 3.4-8, Performance Standards 3.5-7, 3.5-9, 3.5-14, and 3.5-15.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.4-6: Potential Impacts Resulting from Storm-Related Flooding	A-1a, A-1b, A-2, and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.4-6a (OCMP, A-4, A-5a, A-5b, A-6)* *The following performance standard shall be added to the OCMP:* *Performance Standard 4.5-8: Flood protection upgrades shall be completed in the vicinity of the mining and processing areas, if necessary, to ensure protection from the 100-year flood event. Flood protection shall be provided from flooding associated with overtopping of the alluvial separators or levees along Cache Creek and all tributaries and drainage channels (including, but not limited to, Willow Slough and Lamb Valley Slough).* *The flood protection upgrades shall be designed and constructed to provide the necessary 100-year protection without exacerbating downstream flooding problems. Downstream flooding could be increased if floodplain storage areas were removed from the drainage system by constructing levees in areas where they did not exist before (or raising levees that are overtopped in floods up to the 100-year event). Alternative flood management design systems (potentially using detention basins, infiltration galleries, and/or floodplain storage in noncritical areas) shall be required as a condition of project approval.* *The following performance standard shall be added to the OCMP:* *Performance Standard 4.5-9: The County Floodplain Administrator shall file for a Letter of Map Revision with FEMA, to update the FIRMs affected by channel maintenance activities and levee improvements with the planning area every ten years.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.4-7: Potential Impacts from Flooding Related to Dam Failure	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Environmental Impact	Level of Significance Before Mitigation		Mitigation Measures	Level of Significance After Mitigation	
	LS	S		LS	SU
Impact 4.4-8: Potential Impacts Associated with Inundation of Dry Pits or Lowered Reclaimed Surfaces by High Groundwater Conditions	A-1a, A-1b, A-2, A-3, and A-4	OCMP, A-5a, A-5b, and A-6	*Mitigation Measure 4.4-8a (OCMP, A-5a, A-5b, A-6)* *The following performance standard shall be added to the OCMP and associated ordinance:* *Performance Standard 3.5-16: The final distance between reclaimed lowered surfaces and average high groundwater shall not be less than five feet. The average high groundwater level shall be established for each proposed mining area. The degree of groundwater level fluctuation varies with location throughout the basin and within relatively small areas (proposed mining sites). The determination of average high groundwater level shall be conducted by a professional engineer or certified hydrogeologist and shall be based on wet season water level elevation data collected at the proposed site or adjacent areas with similar hydrogeological conditions. Water level records prior to 1977 shall not be used since they would reflect conditions prior to installation of the Indian Valley Dam. The dam caused a significant change in hydrology of the basin and data collected before its installation shall not be used in estimation current average high groundwater levels. The wells shall be adequately distributed throughout the proposed mining site to reflect spatial variation in groundwater levels and fluctuations.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Agriculture					
Impact 4.5-1: Consistency with the California Land Conservation Act of 1965 (Williamson Act) Regulations	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.5-2: Potential Impact of Permanent Loss of Agricultural Land Caused by Conversion of Agricultural Land to Other Post-Reclamation Uses		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.5-2a (OCMP, A-4, A-5a, A-5b, A-6)* *The following Performance Standards shall be included in OCMP:* *Performance Standard 4.5-8: All proposed mining and reclamation plans shall provide information in permit applications to allow identification of portions of the proposed mined lands that meet the definition of "prime farmlands" as defined under the Williamson Act.*		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6

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			Performance Standard 4.5-9: All mining permit applications that include "prime farmlands" as defined by the provisions of the Williamson Act shall identify the location and acreage of "prime farmlands" which, as a result of reclamation, would be permanently converted to non-agricultural uses. For each acre of "prime farmland" that would be converted to non-agricultural use, the reclamation plan shall present provisions to offset (at a 1:1 ratio) the conversion of these lands. The potential offsets can include, but not be limited to one or more of the following options: *• Identification of improvements by a qualified soil scientist to the agricultural capability of non-prime lands within or outside the project site that convert non-prime to prime agricultural conditions. These improvements can include permanent improvement of soil capability though soil amendments, reduction of soil limitations (such as excessive levels of toxins), or improvements in drainage for areas limited by flooding or low permeability soils.* *• Placement of permanent Agricultural Preserve easements on lands meeting Williamson Act definition of "prime farmland" that are not currently under Williamson Act contract.* *• Demonstration of the ability to provide irrigation to non-prime lands limited only by lack of irrigation water supply. The identified water supply cannot be made at the expense of "prime farmlands" currently using the same water supply.* *Mitigation Measure 4.5-2b (A-2, A-3)* *None required. However, agencies regulating aggregate mining projects in agricultural areas outside Yolo County shall consider adopting regulations similar to Performance Standard 4.5-9 to reduce the impacts of permanent conversion of agricultural land to non-agricultural uses.* *Mitigation Measure 4.5-2c (A-1a, A-1b)* *None available.*		
Impact 4.5-3: Potential Impacts of the Temporary Loss of Agricultural Productivity Due to Disturbance by Mining		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.5-3a (OCMP, A-4, A-5a, A-5b, A-6)* *The following performance standard shall be added to OCMP:* *Performance Standard 5.5-3: All proposed mining and reclamation plans shall present a phasing plan for mining and reclamation activities. The phasing plan shall be structured to minimize the area of disturbed agricultural lands during each mining phase, and encourage the early completion of reclamation of agricultural land.*		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6

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	LS	**S**		**LS**	**SU**
			Mitigation Measure 4.5-3b (A-1a, A-1b) *None available.* *Mitigation Measure 4.5-3c (A-2, A-3)* *Agencies regulating aggregate mining projects in agricultural areas outside Yolo County shall adopt performance standards, similar to Performance Standard 5.5-3 of the OCMP, to minimize the area and duration of disturbance of agricultural lands.*		
Impact 4.5-4: Permanent Loss of Agricultural Soils Due to Wind or Water Erosion	A-1a and A-1b	OCMP, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.5-4a (OCMP, A-2, A-3, A-4, A-5a, A-5b, A-6)* *OCMP Action 5.5-2 shall be amended as follows :* *Action 5.5-2: Topsoil, subsoil, and subgrade materials in stockpiles shall not exceed (40) feet in height, with slopes no steeper than 2:1 (horizontal:vertical). Stockpiles shall be seeded with a vegetative cover to prevent erosion and leaching. The use of topsoil for purposes other than reclamation shall not be allowed without the prior approval of the Community Development Director.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.5-5: Potential Impacts on Agricultural Capability Caused by Soil Management During Removal, Stockpiling, and Reuse		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.5-6: Potential Impacts on Agricultural Production Related to Lowered Reclaimed Surfaces	A-1a and A-1b	OCMP, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.5-6a (OCMP, A-2, A-3, A-4, A-5a, A-5b, A-6)* *The OCMP and ordinances shall be augmented with the following standard:* *Performance Standard 5.5-5: Reclaimed agricultural surfaces shall be graded to provide adequate field gradients to allow surface/furrow irrigation of crops and allow for adequate storm water drainage.* *Mitigation Measure 4.5-6b (A-4, A-5a, A-5b, A-6)* *The addition of Performance Standard 3.5-16 (Mitigation Measure 4.4-2a) would reduce the potential damage to crops by high groundwater conditions.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Impact 4.5-7: Potential Cumulative Loss of Productive Agricultural Land Within Yolo County		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.5-7a (OCMP, A-1a, A-1b, A-4, A-5a, A-5b, A-6)* *Implementation of Mitigation Measure 4.5-2a would reduce the cumulative impact of permanent conversion of agricultural land to non-agricultural uses but not to a less-than-significant level.* *Mitigation Measure 4.5-7b (A-2, A-3)* *No enforceable mitigation available.*		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6
Biological Resources					
Impact 4.6-1: Impact on Existing Vegetative Cover	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.6-2: Impact on Sensitive Natural Community Types		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.6-2a (OCMP, A-4, A-5a, A-5b, A-6)* *Section 10-4.502(b)(1) of the Off-Channel Surface Mining Ordinance shall be revised as follows:* *...The analysis shall propose appropriate measures to reduce any potential adverse impacts to species of concern, sensitive natural communities, or significant habitat.* *The following revisions shall be made to Performance Standard 6.5-2 of the OCMP:* 6.5-2. Avoid disturbance of ~~R~~riparian vegetation, including identified off-channel vegetation ~~shall be retained~~. Replacement habitat shall be established where complete avoidance is not possible ~~or replaced~~ according to a habitat restoration plan prepared by a qualified biologist, consistent with the goals of this plan. *The following shall be included as an additional Performance Standard in Chapter 6 of the OCMP:* *6.4-12. Avoid disturbance of oak woodland vegetation and mature oaks. Replacement habitat and plantings shall be established where complete avoidance is not possible according to a habitat restoration plan prepared by a qualified biologist, consistent with the goals of this plan.* *Mitigation Measure 4.6-2b (A-1a, A-1b, A-2, A-3)* *None ~~Required.~~* Available	OCMP, A-4, A-5a, A-5b, and A-6	A-1a, A-1b, A-2, and A-3

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Impact 4.6-3: Disturbance to Wildlife Habitat and Disruption of Movement Corridors		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.6-3a (OCMP, A-4, A-5a, A-5b, A-6)* *The following shall be incorporated as an additional Action policy in Chapter 6 of the OCMP:* *6.4-13. Where fence row habitat previously existed, reestablish fence row habitat as part of reclamation to agricultural use to replace and improve the wildlife habitat value of agricultural lands, allowing for reestablishment of scattered native trees, shrubs, and ground covers along the margins of reclaimed fields. Reestablished habitat can be in locations other than where occurred originally. Restoration plans shall specify ultimate fence row locations, identify planting densities for trees and shrubs, and include provisions for monitoring and maintenance to ensure establishment.* *The following shall be incorporated as an additional Action policy in Chapters 6 and 7 of the OCMP:* *6.4-14 and 7.4-9. Avoid disturbance to important wildlife habitat features such as nest trees, colonial breeding locations, elderberry host plants for VELB, and essential cover associated with riparian forest and oak woodland habitat. This shall include sensitive siting of haul roads, trails, and recreational facilities away from these features.* *Mitigation Measure 4.6-3a (A-1a, A-1b, A-2, A-3)* *None Required.*	OCMP, A-4, A-5a, A-5b, and A-6	A-1a, A-1b, A-2, and A-3
Impact 4.6-4: Impact on Special-Status Species		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.6-4a (OCMP, A-4, A-5a, A-5b, A-6)* *The following shall be included as additional Action policies in Chapter 6 of the OCMP:* *6.4-15. Essential habitat for special-status species shall be protected and enhanced, or replaced as part of mitigation plans prepared by a qualified biologist.* *6.4-16. Restoration components of reclamation plans shall include provisions to enhance habitat for special-status species, where feasible.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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			Performance Standard 6.5-3 of the OCMP shall be replaced with the following: *6.5-3. Slopes on stockpiled soils shall be graded to 2:1 for long-term storage to prevent use by bank swallows. At no time during the active breeding season (1 May through 31 July) shall slopes on stockpiles exceed 1:1, even on a temporary basis. Stockpiles shall be graded to a minimum 1:1 slope at the end of each work day where stockpiles have been disturbed during the active breeding season.* *Performance Standard 6.5-7 of the OCMP shall be revised as follows:* *6.5-7. Proposed habitat restoration or mitigation plans shall be sent to the California Department of Fish and Game, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers for review and comment to ensure that the projects do not conflict with other existing habitat enhancement efforts.* *Performance Standard 6.5-8 of the OCMP shall be revised as follows:* *6.5-8 All surface mining operations and reclamation plans shall complement the preservation and enhancement measures in ~~requirements of~~ the Yolo County Habitat ~~Management~~ Conservation Plan. Mining operators with lands designated as having a moderate to high potential for use as mitigation areas in the HCP shall be encouraged to participate in the Developer HCP Participation Options, including use of lands as mitigation sites.*		
Impact 4.6-5: Modifications to Jurisdictional Wetlands or Other Waters		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.6-5a (OCMP, A-4, A-5a, A-5b, A-6)* *The following shall be included as an additional Action policy in Chapter 6 of the OCMP:* *6.4-14. Existing jurisdictional wetlands shall be retained to the extent possible. Replacement wetlands shall be provided where complete avoidance is not possible according to a habitat restoration plan prepared by a qualified wetland specialist and approved by jurisdictional agencies, ensuring no net loss of wetland acreage or habitat value.* *Performance Standard 6.5-7 of the OCMP shall be revised as recommended in Mitigation Measure 4.6-4a.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Impact 4.6-6: Compatibility and Consistency of Restoration Provisions		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.6-6a (OCMP, A-4, A-5a, A-5b, A-6)* *Action Policy 6.4-2 of the OCMP shall be revised as follows:* *6.4-2. Coordinate with the California Department of Fish and Game, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers to ensure that proposed habitat restoration projects ~~do not conflict~~ are consistent with or complement the Off-Channel Mining Plan.* *Performance Standard 6.4-10 of the OCMP shall be revised as follows:* *6.4-10. Restore riparian habitat throughout the planning area, wherever appropriate. However, revegetative efforts shall be primarily focussed on implementing recommendations ~~Zones 1 and 2 of the Recommended Management Activity Zones, as~~ described in the Technical Studies and the subsequent Restoration Recommendations incorporated into the CCRMP.* *Performance Standard 6.5-9 of the OCMP shall be revised as follows:* *6.5-9. If any wet pit is proposed to be reclaimed for recreational uses and/or riparian habitat, the ~~application shall~~ design shall ~~the facility to~~ account for fluctuations in the groundwater table.* *Performance Standard 6.5-7 of the OCMP shall be revised as recommended in Mitigation Measure 4.6-4a.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Air Quality					
Impact 4.7-1: Potential Emissions of PM_{10}	A-1a, A-2, A-3, A-4, and A-5a	OCMP, A-1b, A-5b, and A-6	*Mitigation Measure 4.7-1a (OCMP, A-1b, A-5b, A-6)* *The following Performance Standards shall be added to the OCMP:* *Wherever practical and economically feasible, portable or movable conveyor systems shall be used to transport raw materials and overburden.*	A-1a, A-2, A-3, A-4, and A-5a	OCMP, A-1b, A-5b, and A-6

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Impact 4.7-2: Potential Emissions of Ozone Precursors (ROG and NO_x)	A-1a, A-2, A-4, and A-5a	OCMP, A-1b, A-3, A-5b, and A-6	*Mitigation Measure 4.7-2a (OCMP, A-1b, A-3, A-5b, A-6)* *The following Performance Standards shall be added to the OCMP:* *Wherever practical and economically feasible, portable or movable conveyor systems shall be used to transport raw materials and overburden.* *OCMP Performance Standard 2.5-7 and proposed Off-Channel Surface Mining Ordinance Section 10.4.11 shall be amended as follows:* *All ~~operational heavy equipment~~ internal combustion engine driven equipment and vehicles shall be kept tuned according to the manufacturer's specifications and properly maintained to minimize the leakage of oils and fuels. No vehicles or equipment shall be left idling longer than 5 minutes.*	A-1a, A-2, A-4, and A-5a	OCMP, A-1b, A-3, A-5b, and A-6
Impact 4.7-3: Cumulative Effects on Attainment of State and Federal Standards	A-1a, A-4, and A-5a	OCMP, A-1b, A-2, A-3, A-5b, and A-6	*Mitigation Measure 4.7-3b (OCMP, A-1b, A-2, A-3, A-5b, A-6)* *No enforceable mitigation measures are available.*	A-1a, A-4, and A-5a	OCMP, A-1b, A-2, A-3, A-5b, and A-6
Impact 4.7-4: Potential Impacts on Sensitive Receptors	OCMP, A-1a, A-2, A-3, A-4., A-5a, A-5b, and A-6	A-1b	*Mitigation Measure 4.7-4a (A-1b)* *None available.*	OCMP, A-1a, A-2, A-3, A-4., A-5a, A-5b, and A-6	A-1b
Traffic and Circulation					
Impact 4.8-1: Potential Increase in Trips Associated with Recycling	OCMP, A-1a, A-1b, A-2, A-3, A-4., A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4., A-5a, A-5b, and A-6	

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Impact 4.8-2 Potential for Increase in Vehicle Trips	A-1a, A-1b, A-2, A-4, and A-5a	OCMP A-3, 5b, and 6	*Mitigation Measure 4.8-2a (OCMP, A-3, A-5b, and A-6)* *Performance Standard 2.5-5 of the OCMP and Section 10-4.407 of the Off-Channel Surface Mining Ordinance shall be amended as follows:* *As a condition of approval, the operator shall ~~be required to construct~~ agree to assume joint pavement maintenance responsibility with the County (or shared with another producer using the same roadway) for all County roads along a designated haul route ~~to an engineered standard as established by the Public Works Department,~~ from the access point of the surface mining operation to the nearest State Highway. ~~Construction of the required improvements shall be completed prior to commencement of the mining operation.~~ The operator shall agree to submit an evaluation of the structural integrity of the identified roadways on or before December 1 of each year in which mining operations are permitted. The report shall be prepared by a registered professional engineer and/or Country staff with expertise in the area of roadway pavement and shall be subject to the approval of the Public Works Department. Based on the results of this annual evaluation, the Public Works Department shall identify the improvements required to maintain safe and efficient traffic operations on the road for the upcoming year. The County agrees to implement maintenance improvements similar to other County roads (i.e., fill cracks and chip seal). The operator agrees to implement the improvements beyond the typical County improvements in a timeframe set forth by the Public Works Department. ~~As an alternative, the operator may provide security in a form authorized by County Counsel equal to the estimated cost of road construction improvements, in which case improvements shall be completed within one (1) year.~~* *If a subsequent mining operation utilizes a road previously required to be improved pursuant to this subsection, then the subsequent operator shall ~~make a payment to the County based on an equitable portion of the relative impact of the proposed project. The amount paid to the County shall be reimbursed to the operator who made the previous road improvement~~ be responsible for compliance with the agreements and requirements of the previous operator.*	A-1a, A-1b, A-2, A-4, and A-5a	OCMP, A-3, 5b and 6

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Environmental Impact	**Level of Significance Before Mitigation**		**Mitigation Measures**	**Level of Significance After Mitigation**	
	LS	**S**		**LS**	**SU**
Impact 4.8-3: Potential Change in LOS at the State Route 16 / Road 98 / Main Street Intersection	A-la, A-1b, A-2, A-4, and A-5a	OCMP, A-3, A-5b, and A-6	*Mitigation Measure 4.8-3a: (OCMP, A-3, A-5b, A-6)* *The following performance standard shall be added to the OCMP and its implementing ordinance:* *Each operator shall pay its fair share toward improvements required to maintain LOS C operations on County roads or LOS D operations on State Highways. Fair share mitigation shall also be required to improve existing operational deficiencies of the transportation system. Specific locations shall be identified through the project-specific environmental review process for each operator's long-term mining permit application. Each operator shall participete in a funding program operated by Yolo County which is designed to ensure that all improvements are made in a timely manner and that a reimbursement mechanism is in place to ensure repayment of any costs contributed in excess of fair share amounts. The program shall be initiated upon the approval of the long-term mining permits and shall be updated biennially by Yolo County to ensure any new or modified impacts or funding sources are being addressed.*	OCMP, A-1a, A-1b, A-2, A-3, A-4., A-5a, A-5b, and A-6	
Impact 4.8-4: Potential Change in LOS at the State Route 16 / Road 89 Intersection	A-1a, A-1b, A-2, A-4, and A-5a	*OCMP, A-3, A-5b, and A-6*	*Mitigation Measure 4.8-4a (OCMP, A-3, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 3, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-5: Potential Impacts to the Non-Standard Segment of Road 19, West of Interstate 505	A-1a, A-1b, A-2, A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.8-5a (OCMP, A-4, A-5a, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 4, 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-6: Potential Impacts to the Non-Standard Segment of State Route 16 Between I-505 and the Entrance to the Solano Concrete Plant	A-1a, A-1b, A-2, A-4, and A-5a	OCMP, A-3, A-5b, and A-6	*Mitigation Measure 4.8-6a (OCMP, A-3, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 3, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-7: Potential Impacts to the Non-Standard Segment of Road 14, West of Interstate 505	A-1a, A-1b, A-2, A-3	OCMP, A-4, A-5a, A- 5b, and A-6	*Mitigation Measure 4.8-7a (OCMP, A-4, A-5a, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 4, 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Environmental Impact	Level of Significance Before Mitigation		Mitigation Measures	Level of Significance After Mitigation	
	LS	S		LS	SU
Impact 4.8-8: Potential Impacts to the Non-Standard Pavement Segment of Road 14, West of Interstate 505	A-1a, A-1b, A-2, A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.8-8a (OCMP, A-4, A-5a, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 4, 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-9: Potential Impacts to Two Non-Standard Bridges on Road 89, North of State Route 16	A-1a, A-1b, A-2, A-4, and A-5a	OCMP, A-3, A-5b, and A-6	*Mitigation Measure 4.8-9a (OCMP, A-3, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 3, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-10: Potential Impacts to a Non-Standard Bridge on Road 19, West of Interstate 505	A-1a, A-1b, A-2, A-3	OCMP, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.8-10a (OCMP, A-4, A-5a, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 4, 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-11: Potential Impacts to a Non-Standard Bridge on Road 85, North of Road 16A	A-1a, A-1b, A-2, A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.8-11a (OCMP,* A-4, A-5a, *A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 4, 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-12: Potential Impacts to a Non-Standard Bridge on Road 14, West of Interstate 505	A-1a, A-1b, A-2, A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.8-12a (OCMP,* A-4, A-5a, *A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 4, 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-13: Potential Impacts to the Non-Standard Curve Radii at the Road 85 / Road 14 Intersection	A-1a, A-1b, A-2, A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.8-13a (OCMP,* A-4, A-5a, *A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	**S**		**LS**	**SU**
Impact 4.8-14: Potential Impacts to the Non-Standard Curve Radii at the State Route 16 / Road 89 Intersection	A-1a, A-1b, A-2, A-4, and A-5a	OCMP, A-3, A-5b, and A-6	*Mitigation Measure 4.8-14a (OCMP, A-3, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 3, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-15: Potential Impacts to the Non-Standard Curve Radii at the Road 20 / Road 96 Intersection	A-1a, A-1b, A-2, A-4, and A-5a	OCMP, A-3, A-5b, and A-6	*Mitigation Measure 4.8-15a (OCMP, A-3, A5b, A-6)* *Implementation of Mitigation Measure 4.8-3a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 3, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.8-16: Potential for Accelerated Pavement Deterioration	A-1b an d A-2	OCMP, A-1a, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.8-16a (OCMP, A-1a, A-3, A-4, A-5a, A-5b, A-6)* *Implementation of Mitigation Measure 4.8-2a would reduce this impact to a less-than-significant level for the OCMP and Alternatives 1a, 3, 4, 5a, 5b and 6.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Noise					
Impact 4.9-1: Exposure to Unacceptable Noise Levels from Mining, Processing, Hauling, Reclamation, and Post-Reclamation Activities On Site	A-1a, A-1b, A-2, and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.9-1a (OCMP, A-4, A-5a, A-5b, A-6)* *The performance standards in the Off-Channel Surface Mining Ordinance (Section 10-4.418) shall be modified so that the residential noise limit is a CNEL of 60 dB rather than the currently specified L_{eq} of 60 dB. This change shall also be made in the Off-Channel Mining Plan.* *Mitigation Measure 4.9-1b (OCMP, A-4, A-5a, A-5b, A-6)* *From 6:00 a.m. to 6:00 p.m., noise levels shall not exceed an average noise level equivalent (L_{eq}) of eighty (80) decibels (dBA) measured at the property boundaries of the site. However, noise levels may not exceed an average noise level equivalent (L_{eq}) of sixty (60) decibels for any nearby off-site residences or other noise-sensitive land uses.* *From 6:00 p.m. to 6:00 a.m., noise levels shall not exceed an average noise level equivalent (L_{eq}) of sixty-five (65) decibels (dBA) measured at the property boundaries of the site.* *Noise levels shall not exceed a community noise equivalent level (CNEL) of sixty (60) decibels (dBA) for any nearby off-site residence or other noise-sensitive land uses.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	**S**		**LS**	**SU**
			Mitigation Measure 4.9-1c (OCMP, A-4, A-5a, A-5b, A-6) *The following Performance Standard shall be added to the OCMP:* *Mining activities shall not exceed the noise limit of CNEL 60 dB at existing residences. An existing residence shall be considered the property line of any residentially zoned area or, in the case of agricultural land, any occupied residential structures. Achieving the noise standards could involve setbacks as proposed in the Off-Channel Surface Mining Ordinance (Section 10.4.425), the use of quieter equipment adjacent to residences, or the construction of landscaped berms between mining activities and residences.*		
Impact 4.9-2: Exposure to Unacceptable Increases in Noise Generated by Off-Site Truck Traffic	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.9-3: Contribution to Increase in Cumulative Noise	A-2	OCMP, A-1a, A-1b, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.9-3a (OCMP, A-4, A-5a, A-5b, A-6)* *The following performance standard shall be added to the OCMP and its implementing ordinances:* *Operators shall provide acoustical analysis for future truck and traffic noise associated with the individual operations along County roadways identified as experiencing significant impacts due to increased traffic noise. The study shall identify noise levels at adjacent noise-sensitive receptors and ways to control the noise to the "normally acceptable" goal of a CNEL of 60 dB and reduce the increase over existing conditions to 5 dB or less. Typical measures that can be employed include construction of noise barriers (wood or masonry), earthen berms, or re-routing of truck traffic.* *Mitigation Measure 4.9-3c (A-1a, A-1b, A-3)* *Existing mining ordinances shall be modified to require an acoustical analysis for future truck and traffic noise associated with individual operations along County roadways identified as experiencing significant impacts due to increased traffic noise. The study shall identify noise levels at adjacent noise-sensitive receptors and ways to control the noise to the "normally acceptable" goal of a CNEL of 60 dB and reduce the increase over existing conditions to 5 dB or less. Typical measures that can be employed include construction of noise barriers (wood or masonry), earthen berms, or re-routing of truck traffic.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Environmental Impact	Level of Significance Before Mitigation		Mitigation Measures	Level of Significance After Mitigation	
	LS	S		LS	SU
Impact 4.9-4: Generation of Vibration or Nuisance Noise	A-1a, A-1b, and A-2	OCMP, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.9-4a (OCMP, A-3, A-4, A-5a, A-5b, A-6)* *The following new performance standard shall be added to the OCMP:* *If mining occurs within 1500 feet of residences, equipment used during nighttime activities shall be equipped with non-sonic warning devices consistent with OSHA regulations, which may include fencing of the area to avoid pedestrian traffic, adequate lighting of the area, and placing an observer in clear view of the equipment operator to direct backing operations. Prior to commencement of operations without sonic warning devices, operators shall file a variance request with the Cal OSHA Standards Board showing that the proposed operation would provide equivalent safety to adopted safety procedures, including sonic devices.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Aesthetics					
Impact 4.10-1: Effects on Existing Views or Vistas During Mining	A-2 and A-3	OCMP, A-1a, A-1b, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.10-1a (OCMP, A-4, A-5a, A-5b, A-6)* *In conjunction with the environmental review of individual projects permitted under the OCMP, means of minimizing the visibility of mining operations, facilities and landform alterations from public viewpoints shall be assessed based on site-specific visual characteristics and viewing conditions. The use of berms, vegetative screens, seeding, special plant materials and contouring the sides and top surfaces of modified landforms, or other measures, shall be incorporated into the individual mine and reclamation plans as appropriate.* *Mitigation Measure 4.10-1b (OCMP, A-4, A-5a, A-5b, A-6)* *Where mining occurs within 1,000 feet of a public right-of-way, including Roads 85, 87, 89, 94B and I-505, the operators shall phase mining such that no more than 50 acres of the area that lies within 1,000 feet of the right-of-way would be actively disturbed at any time. Actively disturbed areas are defined as those on which mining operations of any kind, or the implementation of reclamation such as grading, seeding or installation of plant material are taking place.* *Mitigation Measure 4.10-1c (A-1a, A-1b)* *None available.*		OCMP, A-1a, A-1b, A-4, A-5a, A-5b, and A-6

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	LS	**S**		**LS**	**SU**
Impact 4.10-2: Effects on Views or Vistas Following Reclamation	OCMP, A-4, A-5a, A-5b, and A-6	A-1a, A-1b, A-2, and A-3	*Mitigation Measure 4.10-2a (OCMP, A-4, A-5a, A-5b, A-6)* *None required. However, the following measure would further reduce impacts:* *In conjunction with the environmental review of individual projects permitted under the OCMP, further means of improving the appearance of the landscape after reclamation shall be assessed based on site-specific visual characteristics, site lines and view corridors. The use and placement of berms, vegetative screens, special plant materials, grading slopes and contouring the sides and top surfaces of modified landforms to mimic surrounding landforms, or other measures, shall be incorporated into the mine reclamation plans as appropriate.* *Mitigation Measure 4.10-2b (A-1a, A-1b, A-2 and A-3)* *No mitigation available.*	OCMP, A-4, A-5a, A-5b, and A-6	A-1a, A-1b, A-2, and A-3
Impact 4.10-3: Potential for Visual Incompatibility with Surrounding Land Uses	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.10-4: Introduction of Light and Glare	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.10-5: Consistency with Yolo County General Plan Policies	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Issue 4.10-6: Contribution to Cumulative Visual Impacts	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	**S**		**LS**	**SU**
Cultural Resources					
Impact 4.11-1: Potential Impacts to Cultural Resources		OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.11-1a (OCMP, A-4, A-5a, A-5b, A-6)* *The following Performance Standard shall be added to the OCMP:* *Damaging effects on cultural resources shall be avoided whenever possible. If avoidance is not feasible, the importance of the site shall be evaluated by a qualified professional prior to commencement of mining operations. If a cultural resource is determined not to be important, both the resource and the effect on it shall be reported to the County, and the resource need not be considered further. If avoidance of an important cultural resource is not feasible, a mitigation plan shall be prepared and implemented. The mitigation plan shall explain the importance of the resource, describe the proposed approach to mitigate destruction or damage to the site, and demonstrate how the proposed mitigation would serve the public interest.* *In addition, Performance Standard 2.5-3 of the OCMP shall be modified as follows:* *If human skeletal remains are encountered during excavation, all work within seventy-five (75) feet shall immediately stop, and the County Coroner shall be notified within twenty-four (24) hours. If remains are of Native American origin, the appropriate Native American community identified by the Native American Heritage Commission shall be contacted, and an agreement for treating or disposing of, with appropriate dignity, the remains and associated grave goods shall be developed. If any cultural resources such as chipped or ground stone, historical debris, building foundations, or paleontological materials are encountered during excavation, then all work within seventy-five (75) feet shall immediately stop and the Director shall be notified at once. Any cultural resources found on the site shall be recorded by a qualified archaeologist and the information shall be submitted to the County.* *Mitigation Measure 4.11-1b (A-1a, A-1b, A-2, A-3)* *None required. Impacts to cultural resources within areas where mining currently is permitted or in off-site areas are subject to existing State and Federal regulations and restrictions related to the disturbance of cultural resources.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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	LS	S		LS	SU
Hazards					
Impact 4.12-1: Potential Human Health And/Or Environmental Impacts from the Accidental Release of Petroleum Products and Other Chemicals Used During Mining and Reclamation And/Or at Processing Plants	A-1a, A-1b, A-2, and A-3	OCMP, A-4, A-5a, A-5b, and A-6	*Mitigation Measure 4.12-1a (OCMP, A-4, A-5a, A-5b, A-6)* *Goal 2.2-4 shall be revised as follows:* *Eliminate or minimize hazards to the public health and safety that are associated with surface mining operations and reclamation.* *Objective 2.3-3 shall be revised as follows:* *Provide standards and procedures for regulating surface mining operations and reclamation so that hazards are eliminated or minimized and potential adverse environmental effects are reduced or prevented.* *Action 2.4-2 shall be revised as follows:* *Improve the County's monitoring of surface mining by requiring that all operations within the planning area submit detailed annual reports, as well as copies of permits approved by other agencies of jurisdiction. Hazardous materials business plans must be submitted biannually, as required by the Health and Safety Code, unless the types of hazardous materials used change, in which case revised business plans must be submitted within 30 days of the change. This would enable the County to better assess the impacts of off-channel mining and the success of reclamation efforts.* *The following Performance Standard shall be added to the Aggregate Resources Element of the OCMP:* *Fueling and maintenance activities of rubber-tired equipment are prohibited within 100 feet of open bodies of water during mining and reclamation. All Storm Water Pollution Prevention Plans shall include provisions for releases of fuels during fueling activities for draglines.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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SU = significant and unavoidable
OCMP = Draft Off-Channel Mining Plan and Implementing Ordinances
A-1a = No Project (Existing Conditions)
A-1b = No Project (Existing Permits and Regulatory Condition)
A-2 = No Mining (Alternative Site)
A-3 = Plant Operations Only (Importation)
A-4 = Shallow Mining (Alternative Method/Reclamation)
A-5a = Decreased Mining (Restricted Allocation)
A-5b = Decreased Mining (Shorter Mining Period)
A-6 = Agricultural Reclamation (with Mining Operations as Proposed)

Table 2-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Environmental Impact	**Level of Significance Before Mitigation**		**Mitigation Measures**	**Level of Significance After Mitigation**	
	LS	**S**		**LS**	**SU**
			Objective 3.3-3 and Action 3.4-3 shall be revised as follows: *Objective 3.3-3: Ensure that off-channel surface mines are operated such that surface and groundwater supplies are not adversely affected by erosion, lowering of the water table, and/or contamination <u>during mining and reclamation</u>.* *Action 3.4-3: Include a groundwater monitoring program as a condition of approval for any surface mining <u>and reclamation</u> operation that proposes off-channel excavations that extend below the groundwater level. The monitoring program shall require regular groundwater level data, as well as an ~~annual test for~~ a water quality <u>monitoring program</u> based on a set of developed standards.*		
Impact 4.12-2: Historic Pesticide Use May Affect the Health and Safety of Workers Engaged in Mining or Reclamation Activities	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.12-3: Steep Pit Slopes May Present a Drowning Hazard to the Public	A-1a, A-1b, A-2, A-3, and A-4	OCMP, A-5a, A-5b, and A-6	*Mitigation Measure 4.12-3a (OCMP, A-5a, A-5b, A-6)* *Goals 2.2-4 and 2.3-3 shall be revised to include references to reclamation. Refer to Mitigation Measure 4.12-1a.* *Performance Standards 2.5-4, 2.5-16, and 2.5-18 shall be revised as required by Mitigation Measure 4.3-2a to require that slopes shall not be steeper than 2:1 five feet below the average summer low groundwater level.* *Performance Standard 2.5-8 shall be revised to include signage and fencing requirements during and after reclamation. These changes have been included in Mitigation Measure 4.4-2a in the Hydrology section.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.12-4: Open Bodies of Water May Become Breeding Areas for Mosquitoes. An Increase in the Mosquito Population Could Adversely Affect the Public Health	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, A-3, A-4, A-5a, A-5b, and A-6	

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Table 2-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Environmental Impact	Level of Significance Before Mitigation		Mitigation Measures	Level of Significance After Mitigation	
	LS	S		LS	SU
Public Services and Utilities					
Impact 4.13-1: Potential for Long-Term Impacts to Open Space and Recreational Opportunities in the Lower Cache Creek Area	OCMP, A-1a, A-1b, A-2, and A-3, A-4, A-5a, A-5b, and A-6		*None required.*	OCMP, A-1a, A-1b, A-2, and A-3, A-4, A-5a, A-5b, and A-6	
Impact 4.13-2: Potential Increase in Demand for Public Services	OCMP, A-1a, A-1b, A-2, and A-3, A-4, A-5a, A-5b, and A-6		*Mitigation Measure 4.13-2a (OCMP, A-4, A-5a, A-5b, A-6)* *None required; however, the following is recommended:* *The County shall identify the costs of implementing the policies contained in the OCMP, and determine a fair-share cost program for reimbursement by gravel operators and any other affected parties.* *Mitigation Measure 4.13-2b (A-1a, A-1b, A-2, A-3)* *None required.*	OCMP, A-1a, A-1b, A-2, and A-3, A-4, A-5a, A-5b, and A-6	

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