g) Impair implementa+tion of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed project would not impair implementation of or physically interfere with the adopted Yolo County Emergency Operations Plan or any emergency evacuation plans. Therefore, no impact would occur.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less-than-Significant Impact. The project site is located in a rural area primarily surrounded by a creek, agriculture, orchards, and a few farmsteads. Construction and operation of the proposed levee setback and road relocation is not anticipated to result in wildfires. Therefore, this impact would be less than significant.

HYDROLOGY AND WATER QUALITY

THRESHOLDS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

This section provides information on water quality and hydrology conditions in the project area and mitigation if needed to reduce potentially significant project effects to hydrology and water quality.

ENVIRONMENTAL SETTING

HYDROLOGY

Cache Creek emanates from Clear Creek in Lake County and flows through a narrow and steep 30-mile long canyon to Capay Valley in Yolo County. It is fed by Bear Creek and the North Fork of Cache Creek with a total watershed of approximately 1,140 square miles. Mean annual runoff is approximately 374,000 acre-feet at the town of Yolo. Significant water diversions have occurred on Cache Creek since the mid- to late-1800s. Today, Cache Creek flows are partially controlled by the dam at Indian Valley Reservoir on the North Fork of Cache Creek and the control structure at the Clear Lake outlet. Two diversions supply irrigation water to Capay Valley and large farm areas northwest and southwest of Woodland.

Flow in Cache Creek has large seasonal and annual variability. Because of water diversions, there is also a significant spatial variation in flow along the creek. At the nearby town of Yolo, annual peaks have ranged from near zero to 40,000 cubic feet per second (cfs) (EIP Associates et al. 1995). Four major floods have been documented for the Cache Creek basin during the last half of the 20th century, and 20 severe floods have occurred since 1900. The most severe floods of recent years in the Cache Creek basin downstream from Clear Lake occurred in 1939, 1955, 1956, 1958, 1964, 1965, 1970, 1983, 1995, and 1997 (USACE 2002).

Prior to significant gravel mining, Cache Creek was described as being a wide, relatively steep braided channel upstream from Yolo and a narrow, incised channel flowing in fine-grained overbank deposits and tule marsh downstream from Yolo (EIP Associates et. al. 1995). In general, average channel width in gravel-mined reaches of Cache Creek has decreased from historic conditions because of bridge and levee construction and aggregate extraction. Conversely, average channel depths have increased as a result of channel degradation and confinement by levees and bridges.

Downstream of Yolo, near the Yolo Bypass, the Cache Creek Settling Basin was constructed to prevent sediment being carried by Cache Creek from adversely affecting the hydraulic capacity of the Yolo Bypass through excess sediment deposition. It is bounded by levees on all sides and covers 3,600 acres. The basin was originally constructed by USACE in 1937. The levee heights and locations have been modified to control sediment deposition and enhance basin sediment storage (USACE 2002).

WATER QUALITY

The Cache Creek watershed drains a large area that encompasses a wide variety of land uses. These land uses have the potential to contribute to water quality problems such as fecal coliform from septic systems and cattle; boron, mercury, and other minerals from geothermal springs and abandoned mines; fertilizers, pesticides, and herbicides from agriculture activities; and sediment from erosion. Although Cache Creek is not used as a municipal drinking water supply, water quality problems do affect fish and wildlife, as well as recreational and agricultural uses along the creek. Fertilizer, pesticide, and herbicide levels in the creek are not of local concern (USACE 2003).

There is a local concern about high levels of boron in Cache Creek. Boron is a result of geothermal releases found in the upper reaches of the basin. Boron concentrations vary depending on the volume of flow in Cache Creek. During low flows in late spring, boron-containing materials precipitate out on the rocks along the creek. In late fall, when flows increase, boron-containing minerals are dissolved and carried into the Yolo Bypass and then to the Sacramento-San Joaquin River Delta.

Groundwater quality is generally very good except for localized areas along Cache Creek that contain high boron levels. Boron levels in these areas range from 2 to 4 parts per million (ppm), in comparison to background levels of 0.6 to 1.0 ppm in other parts of Yolo County (USACE 2002).

The Central Valley Regional Water Quality Control Board (Central Valley RWQCB) currently designates Cache Creek as an Impaired Water Body due to high levels of mercury in fish populations. Studies have indicated that Cache Creek is a major source of mercury to the Sacramento-San Joaquin River Delta estuary. This has caused concern because the Delta is a highly favorable environment for methylation. The methylation of mercury is common in anaerobic environments. Methyl-mercury is more bio-available than metallic mercury and can be found in toxic concentrations in species at the top of food chains. Mercury is present throughout the basin, originating from geothermal springs, agricultural runoff, atmospheric deposition, and erosion of naturally mercury-enriched soils. However, the majority of mercury comes from mercury-laden mine and retort wastes. There are three inactive mercury-mining districts in the upper watershed, including Sulfur Bank Mercury Mine at Clear Lake, which is a Superfund site, and the Sulfur Creek and Knoxville mining districts. Elevated mercury concentrations have been observed in invertebrates and fish species sampled from Cache Creek (USACE 2002).

The Central Valley RWQCB listed Cache Creek on the EPA list of priority water bodies that do not meet beneficial uses. The Central Valley RWQCB developed Total Maximum Daily Load (TMDL) limits related to the Cache Creek mercury management strategy and released the draft TMDL report in 2004. The final staff report for Basin Plan Amendments for Control of Mercury in the Cache Creek Watershed was adopted in 2005 (Central Valley RWQCB 2005).

DISCUSSION

a) Violate any water quality standards or waste discharge requirements?

Less than Significant with Mitigation. Notching of the levee at the project site could contribute to increased sediment to Cache Creek. Approximately 20 feet of the existing levee at LM3.9L, and 10 feet of the existing levee at LM4.2L, would be degraded to the elevation of the levee setback areas. These exposed slopes could be subject to rainfall and erosion and could cause temporary discharges of sediment and other contaminants in stormwater runoff to Cache Creek. Large-scale erosion and generation of contaminated runoff are highly unlikely, and there would be no fill associated with this action. Because some soil erosion and sedimentation of Cache Creek could occur, this is considered to be a potentially significant impact on water quality. Implementation of Mitigation Measure Hydro-1 would reduce this impact to a less-than-significant level.

Mitigation Measure Hydro-1: Prepare a Storm Water Pollution Prevention Plan.

Before the start of any construction work, site grading, or excavation associated with the setback levees, the construction contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) detailing measures to control soil erosion and waste discharges from the construction areas and submit a Notice of Intent (NOI) to the Central Valley RWQCB for stormwater discharges associated with general construction activity. The SWPPP will include an erosion control and restoration plan, a water quality monitoring plan, a hazardous materials management plan, and postconstruction BMPs. The BMPs will be maintained until all areas disturbed during construction have been adequately stabilized.

The specific BMPs that will be incorporated into the SWPPP will be determined during the final stages of project design. However, the SWPPP is likely to include one or more of the following standard practices, which are commonly used during the construction and postconstruction phases of levee setback projects:

- Soil and Vegetation Disturbance. Minimize ground and vegetation disturbance during project construction by establishing designated equipment staging areas, spoils and soil stockpile areas, and equipment exclusion zones prior to the commencement of any construction operations.

- Hazardous Materials. Use and store hazardous materials, such as vehicle fuels and lubricants, in designated staging areas located away from surface waters. Implement a spill prevention and control plan that specifies measures that will be used to prevent, control, and clean up hazardous materials spills.

All contractors conducting construction-related work shall be required to implement the SWPPP to control soil erosion and waste discharges of other construction-related contaminants. The general contractor and subcontractor(s) conducting the work shall be responsible for constructing or implementing, regularly inspecting, and maintaining the measures in good working order.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less-than-Significant Impact. The proposed project would not require the use of groundwater, and no impervious surfaces would be constructed that would interfere with groundwater recharge. There would be minimal, if any, change in the amount of impervious surface area (related to the proposed road relocation) at the project site. Therefore, groundwater supplies would not be affected, and groundwater recharge capability would be unchanged. This impact would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less-than-Significant Impact, Beneficial. Construction and operation of the proposed levee setback and road relocation would take place on the landside of the existing levee. However, notches would be cut into the existing levees at each site to provide for drainage. These notches would be sloped to provide hydrologic connectivity between Cache Creek and the levee setback areas. Construction of the setback levees and notching of the existing levee would change the existing drainage patterns of the project area. Creating notches in the existing levee would ensure proper drainage of the project area. The new setback levees and notching would reduce the potential for flooding and therefore substantial erosion and siltation at the project site and vicinity; therefore, the proposed project would have a less-than-significant impact on hydrology and erosion at the project site and vicinity. This impact is considered to be beneficial.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less-than-Significant Impact, Beneficial. Construction and operation of the proposed levee setback would take place on the landside of the existing levee. However, notches would be cut into the existing levees at each site to provide for drainage. These notches would be sloped to provide hydrologic connectivity between Cache Creek and the levee setback areas. Construction of the setback levees and notching of the existing levee would change the existing drainage patterns of the project area. Creating notches in the existing levee would ensure proper drainage of the project area; therefore, the proposed project would have a less-than-significant impact on hydrology in the project area.

Moreover, the proposed project would have a benefit by substantially reducing the potential for flooding at the two critical erosion sites, which would adversely affect the project site and vicinity. The project site was determined to be a critical erosion site by USACE in 2006. Encroachment by Cache Creek into the minimum berm specification of 30 feet has been observed at two locations at the project site, and encroachment at these two locations has been identified as requiring immediate remediation to prevent levee failure. Construction of the proposed setback levees would serve to protect the integrity of the levee system and provide flood protection for the immediate area on the north side of the creek. This impact is considered to be beneficial.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less-than-Significant Impact. No impervious surfaces would be constructed as part of the levee setback that would alter the amount of runoff from the project site. Proposed relocation of the road would result in minimal change in the amount of impermeable surface area at the site. Because there would be little change in the amount of runoff from the project area, the project would not exceed the capacity of any existing or planned stormwater drainage systems. Therefore, the impact would be less than significant.

f) Otherwise substantially degrade water quality?

Less-than-Significant Impact. As discussed in Mitigation Measure Hydro-1 above, a SWPPP and associated BMPs would be implemented to protect water quality in the project area. Therefore the project is not expected to substantially degrade water quality. This impact would be less than significant.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project would not include construction of any housing. Therefore, there would be no impact.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less-than-Significant Impact, Beneficial. The project would construct two setback levees that would redirect flood flows into the Cache Creek channel. The proposed project would increase flood protection and would direct flood flows away from nearby residences and agricultural land. This impact is less than significant and is considered to be beneficial. See d) above for additional information.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less-than-Significant Impact, Beneficial. The proposed project would improve flood protection for residences and agricultural land in the project area thereby reducing the risk of loss, injury, or death involving flooding. This impact would be beneficial. See d) above for additional information.

j) Innundation by seiche, tsunami, or mudflow?

No Impact. The project area is geographically removed from areas where the potential for seiche, tsunami, or mudflow exists (e.g., near a lake, the ocean, or hillsides). Therefore, there would be no impact associated with seiche, tsunami, or mudflow.

MINERAL RESOURCES

	THRESHOLDS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**Mineral Resources. Would the project:**				
	a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☒	☐
	b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The California Surface Mining and Reclamation Act (SMARA) was enacted by the State Legislature to regulate activities related to mineral resource extraction. The Act requires the prevention of adverse environmental effects caused by mining, the reclamation of mined lands for alternative land uses, and the elimination of public health and safety hazards from the effects of mining activities. Most of the mining operations along Cache Creek are subject to all of SMARA's requirements.

The California Division of Mines and Geology classifies the regional significance of mineral resources in accordance with the SMARA. Mineral Resource Zones (MRZs) have been designated to indicate the significance of mineral deposits. Aggregate resources along lower Cache Creek are mapped as three MRZs: MRZ-1, an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence; MRZ-2, an area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists; and MRZ-3, an area where the significance of mineral deposits cannot be evaluated from existing data.

The primary mineral resource presently being extracted in the county is aggregate. Most of the aggregate occurs along Cache Creek, beginning at the upstream end of Capay Valley at County Road 85 and extending downstream to approximately I-5. Throughout this area, the aggregate consists of large concentrations of a high-grade gravel, sand, and clay and is roughly 100–125 feet thick (Yolo County 1996, 2002a). Six aggregate mines are currently operational in the county; all are located on the stream terraces of Cache Creek, and most are commercial operations (Yolo County 2005):

- Madison Plant: Syar Industries, Inc.;
- Esparto-Reiff Property and Mast Property: Teichert Aggregates;
- Solano Concrete Off-Channel: Rinker Materials, Inc.;
- Capay Facility: Granite Construction Company;
- Woodland Plant: Teichert Aggregates; and
- Cache Creek Facility: Schwarzgruber & Sons.

The closest mining activities are the Cache Creek Facility and the Woodland Plant on the south bank of Cache Creek, and both facilities are approximately 4 miles southwest of the project area (Yolo County 2005). According to the California Division of Mines and Geology (CDMG), the project area is not classified as an MRZ (CDMG 1988).

DISCUSSION

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

Less-than-Significant Impact. The project area is not located on land classified by the California Department of Mines and Geology as an MRZ, an area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists (CDMG 1988). The primary mineral resource presently being extracted in the county is aggregate which is used as an important material in Portland cement concrete, asphalt concrete, plaster, stucco, and as a road base material. Thus, implementation of the proposed project is not likely to result in the loss of availability of a known mineral resource that would be of future value to the region and State residents. This would be a less-than-significant impact.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Less-than-Significant Impact. The nearest mining activities to the project area are on the south bank of Cache Creek, approximately 4 miles southwest of the proposed project location. Construction of the setback levees would not impede or interfere with the establishment or continuation of existing mineral extraction operations.

Because construction of the setback levees would not affect an MRZ and is not envisioned as an area for future mining activities, the proposed project would not significantly affect locally important mineral resources. This would be a less-than-significant impact.

NOISE

THRESHOLDS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Noise. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, State, or federal standards?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

This section includes a description of ambient-noise conditions, summary of applicable regulations, and an analysis of potential short-term construction and long-term operational-source noise impacts of the proposed project. Mitigation measures are recommended as necessary to reduce significant noise impacts to a less-than-significant level.

ENVIRONMENTAL SETTING

The project site is located in Yolo County, California, near the town of Yolo at LM 3.9L and 4.2L. Existing noise-sensitive land uses[1] in the vicinity include rural residences off of County Road 17A, of which the closest is within approximately 100 feet to the north of LM 4.2L. The Migrant Headstart Preschool Facility is located approximately one-quarter mile east of the project site on County Road 17A.

The existing noise environment within the project vicinity is primarily influenced by surface-transportation noise emanating from vehicular traffic on nearby roadways (e.g., County Roads 17a and 98A, State Route (SR) 113, and I-), the Southern Pacific Railroad (particularly horn blasts from the grade crossings in the City of Woodland

1 Noise-sensitive land uses generally include those uses where exposure would result in adverse effects (e.g., sleep disturbance, annoyance), as well as uses where quiet is an essential element of their intended purpose. Residences are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other sensitive land uses include hospitals, convalescent facilities, parks, hotels, churches, libraries, and other uses where low interior noise levels are essential.