PROJECT 2C

# Anderson-Cottonwood Irrigation District Main Canal Modernization Project

## 1. Project Description

| | |
|---|---|
| ***Project Type:*** | System improvement |
| ***Location:*** | Shasta County |
| ***Proponent(s):*** | Anderson-Cottonwood Irrigation District (ACID or District) |
| ***Project Beneficiaries:*** | ACID, downstream users, environment, Sacramento-San Joaquin Delta |
| ***Total Project Components:*** | Short-term component, lining of approximately 2 miles of the Main Canal in high seepage areas |
| ***Potential Supply:*** | 20,000 acre-feet per year (ac-ft/yr) |
| ***Cost:*** | $4 million |
| ***Current Funding:*** | $100,000 |
| ***Short-term Components:*** | Flow measurement, control facilities, telemetry (supervisory control and data acquisition [SCADA]) |
| ***Potential Supply (by 2003):*** | 10,000 ac-ft/yr |
| ***Cost:*** | $2.7 million |
| ***Current Funding:*** | $100,000 through California Department of Water Resources Water (DWR) Use Efficiency Program grant, earmarked for feasibility studies |
| ***Implementation Challenges:*** | Access through adjacent properties to ACID right-of-way for construction, line of site SCADA facilities, environmental impacts of construction, 5-month construction window coinciding with the rainy season |
| ***Key Agencies:*** | DWR, National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), U.S. Bureau of Reclamation (USBR), City of Redding, City of Anderson, Shasta County, and environmental interest groups |

## Summary

The purpose of this evaluation is to technically evaluate a project that would improve ACID's conveyance system to increase water use efficiency. The District proposes to construct 13 new flow control and measurement structures with telemetry throughout the ACID conveyance system in an effort to continuously control and monitor system flows. Also, the project would initiate the lining of critical canal sections with high seepage, thereby improving water management within the District and conceivably throughout the sub-basin.

The District diverts water from the Sacramento River in Redding, California. The primary water source is a gravity diversion from the river at the seasonal ACID diversion dam in Redding. The District also operates a pump station on the river several miles downstream to supply a lateral canal. ACID's distribution system includes approximately 35 miles of Main Canal, about 98 percent of which is unlined. The Main Canal flows through six inverted siphons to provide crossings of streams such as Clear Creek, and also three flume sections across smaller streams and lowland areas. Several wasteways are located along the canal route, which return water to the Sacramento River and local streams when flow exceeds the capacity of the canal. Figure 2C-1 depicts the Main Canal system and locations of the proposed facilities associated with this project.

The ACID Main Canal Modernization Project is a two-phase project intended to facilitate improved water management. The District is unmetered and has flow measurement capabilities at only one location on the Main Canal. Water management has historically been limited to management of the headgate near the river and manual control structures downstream, with surpluses spilling at the various wasteways. Also, the canal seepage is significant in certain sections near natural creek and drainage channels where soils are fast draining and the canal contributes directly to the underlying groundwater basin.

## Short-term Component

The entire project is expected to be completed and fully in service within 3 years of project approval. The project has been split into two phases because of what are perceived to be different environmental compliance requirements for different elements of the work. The first phase of the project would be to install flow measurement devices, water control facilities, and telemetry along the Main Canal. It is assumed that environmental compliance requirements would be minimal because the work would occur within the footprint of the canal or its laterals and have little or no direct short- or long-term environmental impacts. However, if it is determined during early environmental evaluations of this or other Sacramento Valley Water Management Agreement projects that reduction in spills to adjacent drainages as a result of improved water management is a significant environmental consequence, the timeframe for project implementation may be extended.

Phase 1 reconnaissance, feasibility studies, and preliminary design are anticipated to require 5 months. Design, permitting, and environmental documentation are anticipated to require an additional 5 months, holding to the assumption of limited environmental compliance requirements. The benefits of the project would be realized during the 2003 irrigation season when construction is completed. Implementation of this phase would entail the necessary

site selection, design, construction, construction management, and post-construction monitoring associated with the following facilities:

- **13 water control structures—**Facilities located along the ACID Main Canal, combining new construction and retrofit of existing structures, are as follows:
  - Replacement of motor for existing radial gate headworks structure.
  - Construction of three new concrete control structures with motor-operated slide gates or radial gates. General locations and design flows that have been identified for the three new control structures are as follows:

    North of Anderson near Clear Creek, 300 cubic feet per second (cfs)
    South of Anderson near Anderson High School, 250 cfs
    North of Cottonwood, near Gas Point Road and Interstate 5, 100 cfs
  - Replacement of nine turnouts on the Main Canal with new concrete structures and motor-operated slide gates.
- **13 measurement flumes—**Structures at each of the 13 new/retrofit structures listed above.
- **13 SCADA facilities—**Automation through the installation of SCADA facilities integrated with the 13 water measurement and control structures.

## Long-term Component

The primary purpose of this evaluation is to evaluate the potential for this project to provide water supply benefits in the short-term (by end of 2003). As part of this initial evaluation, potential long-term components of the proposed project (defined as any part of the project proceeding past or initiated after December 2003) have been considered on a conceptual level. Further consideration and technical evaluation of long-term component feasibility and cost will occur as the next level of review under the Sacramento Valley Water Management Agreement. Long-term-component project descriptions are included in these short-term project evaluations only as a guide to the reader to convey overall project intent.

The second phase of the project would complete the lining of critical sections of the Main Canal. It is assumed that environmental documentation requirements would be more significant because of the potential effects on surface water and groundwater adjacent to the canal. The canal lining component would be completed in the second construction window available to the district, between the 2003 and 2004 irrigation seasons. Phase 2 reconnaissance , feasibility studies, and preliminary design are anticipated to be concurrent with the Phase 1 studies. Design, permitting, and environmental documentation are anticipated to require an additional year. The benefits of the project would be realized during the 2004 irrigation season when construction is completed. Implementation of this phase would entail the necessary site selection, design, construction, construction management, and post-construction monitoring associated with the following facilities:

- **2 miles of canal lining—**Concrete lining in the high seepage, sandy areas of the canal, presumably about 2 miles long. It is expected that approximately 1mile of lining would

be constructed just upstream of Clear Creek, with the other 1-mile section adjacent to Spring Gulch.

# 2. Potential Project Benefits/Beneficiaries

The proposed construction of new facilities is expected to generate numerous benefits for both local and regional water users. The benefactors of this program include ACID, downstream users, the environment, and the Sacramento-San Joaquin Delta. The following benefits are discussed in this section:

- Water Supply Benefits
- Water Management Benefits
- Environmental and Water Quality Benefits

## Water Supply Benefits

The proposed project would provide the capability to more flexibly and efficiently manage the amount and timing of diversions from the Sacramento River. It would reduce diversions, thereby increasing instream flows, and also would reduce spill, evapo-transpiration (ET), and seepage losses. Water supply benefits would include:

- **Water control, automation, and measurement—**The new/retrofitted canal structures would automatically adjust to changing canal water levels, as influenced by fluctuations in Sacramento River flows and downstream irrigation needs. The resulting reduction in operational spills would reduce both diversion from the river and ET losses in the drainage courses receiving the spills. The flow measurement component would enhance the District's capability to track river diversions, quantify losses and conservation benefits, and schedule and synchronize diversions with grower needs. It is estimated that through improved control, automation, and measurement, annual diversions from the Sacramento River may be reduced by as much as 7.5 percent, or 10,000 ac-ft, as a result of reducing operational spills through this project.

  It is recognized that a portion of ACID's historical spills return to the river through natural or constructed watercourses, a portion that, therefore, may not add "new" flow to the river. However, the associated delay and water quality degradation are undesirable and further warrant control of the spills. The significant portion that does not return to the river is lost to the system through evaporation and transpiration en route to the river. Thus, the reduction in operational spills through improved control and automation would decrease non-productive ET and increase river flows by a corresponding amount.

  ACID is the largest purveyor among the 14members of the Redding Area Water Council (RAWC), which is working on a regional plan to solidify the Redding Basin's water resources through the year 2030. Improved control and measurement capabilities would enhance the District's contribution to this initiative.

- **Canal lining—**The canal lining component would drastically reduce seepage in critical areas. Concrete lining in the high seepage, sandy areas of the canal, presumably about 2 miles long, may reduce seepage by about 10,000 ac-ft/yr. This reduction estimate is based on canal dimensions and a seepage loss rate of 17 inches per day for a 180-day

irrigation season. The loss rate of 17 inches per day reflects the seepage difference between an unlined canal in sandy soil (20 inches per day) and a concrete-lined canal (3 inches per day). The resulting seepage estimate for the project, therefore, represents an "avoided loss" by upgrading to concrete lining.

Seepage along ACID's Main Canal contributes in part to groundwater. Because the canal is elevated above surrounding terrain over the majority of its length, a significant portion of the seepage also resides at or near the ground surface outside the canal. This portion ultimately evaporates or is transpired by nearby grass and vegetation. The canal lining element of the project also would benefit adjacent landowners in certain areas along the canal that are adversely affected by canal seepage.

### Water Management Benefits

Water management benefits include:

- **System efficiency—**The predominant goal of the project is increased system efficiency. The automation of ACID's Main Canal would substantially improve the District's ability to more efficiently utilize their supply. The automated check structures would enable District staff to micromanage water delivery and prevent the majority of the inevitable operational spills that are often associated with manual structures.The District and its patrons would benefit by virtue of new, automated facilities and canal lining providing improved control, flexibility, and reliability along with less maintenance.
- **System flow measurement**—The new structures could be incorporated with ongoing efforts by the District to more accurately define system inflows and outflows. Measurement and tracking of flows add a necessary dimension to the management of water supply by allowing the owner to more accurately define its water use.

### Environmental and Water Quality Benefits

As ACID's primary source of supply, the Sacramento River would be directly and most beneficially influenced by the District's efficient use of its water supply. The potential 20,000-ac-ft/yr decrease in surface water diversions has the potential for increasing available seasonal in-stream flows to the Sacramento-San Joaquin Delta. This additional water would contribute to addressing Delta water quality concerns that have been at the core of CALFED and other programs' efforts for the past several years. These and other potential environmental benefits associated with this project would be quantified throughout the various stages of the project, from feasibility study through final design.

## 3. Project Costs

The cost opinions shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation from the information available at the time of the estimate. It is normally expected that cost opinions of this type, an order-of-magnitude cost opinion, would be accurate within +50 to -30 percent. Project costs were developed at a conceptual level only, using data such as cost curves and comparisons with bid tabs and vendor quotes for similar projects. The costs

were not based on detailed engineering design, site investigations, and other supporting information that would be required during subsequent evaluation efforts.

The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. As a result, the final project costs will vary from the opinions presented here. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

Table 2C-1 presents a planning-level estimate of project costs.

TABLE 2C-1
Planning-level Project Costs: Phase 1
*Anderson-Cottonwood Irrigation District Main Canal Modernization Project*

| Item | Quantity | Units | Unit Price ($) | Total Cost (x 1,000) | Descriptions |
|---|---|---|---|---|---|
| Radial Gate | 1 | Motor | $30,000 | $30 | Motor replacement |
| Concrete Control Structures | 3 | Gate | $200,000 | $600 | Three radial gates |
| Canal Turnouts | 9 | Turnout | $25,000 | $225 | Nine turnouts |
| SCADA | 1 | System | $268,000 | $268 | |
| Measurement Devices | 9 | Flume | $20,000 | $180 | Repogle flumes installed on the laterals, 60 cfs ea. |
| | 5 | Flowmeter | $1,000 | $5 | Flowmeters for the drain pumps |
| | 4 | Flume | $64,500 | $258 | Repogle flumes installed on the Main Canal at the mid-points, 200 cfs, 300 cfs |
| | | | **Subtotal ->** | **$1,566** | |
| | | | Contingencies and Allowances (30%) -> | $470 | |
| | | | Total Construction Costs -> | $2,040 | |
| | | | | $100 | |
| | | | Environmental Mitigation (5%) -> | | |
| | | | Engineering, Environmental, Construction Management and Admin. (25%) -> | $510 | |
| | | | **Total Project Cost ->** | **$2,650** | |

TABLE 2C-2
Planning-level Project Costs: Phase 2
*Anderson-Cottonwood Irrigation District Main Canal Modernization Project*

| Item | Quantity | Units | Unit Price ($) | Total Cost (x 1,000) | Descriptions |
|---|---|---|---|---|---|
| Canal Lining | 40,667 | Square yards | $20 | $800 | 40,667 square yards |
| | | | **Subtotal ->** | **$800** | |
| | | | Contingencies and Allowances (30%) -> | $240 | |
| | | | Total Construction Costs -> | $1,040 | |
| | | | Environmental Mitigation (5%) -> | $50 | |
| | | | Engineering, Environmental, Construction Management and Admin. (25%) -> | $260 | |
| | | | **Total Project Cost ->** | **$1,350** | |

Project costs would be borne by the primary project beneficiaries, including Delta water quality interests, ACID, and, to a lesser extent, agricultural interests in the Redding area.

Typical annual operations and maintenance (O&M) costs for a project of this nature would range from about 5 percent of initial capital costs. Annual O&M costs would include power for the gates at the control structures, power for the SCADA facilities, inspection and maintenance of the structures and the canal lining, and data collection and reporting related to the measurement facilities. Annual operations and maintenance costs would approach $25,000 per year, plus an estimated $100,000 expense after 15 years to upgrade or recondition structures and canal lining.

# 4. Environmental Issues

As noted in Section 2, this project is anticipated to provide benefits in the form of increased water supply, more flexible and efficient water management, and improved water quality – all of which could improve the greater Sacramento River ecosystem.

Project implementation would also result in impacts to the environment. Key issues that are anticipated relate primarily to the proposed canal lining, and could include secondary groundwater recharge impacts and elimination of habitat adjacent to and within the canal prism. Efforts to address these concerns are noted in Section 5, Implementation Challenges. Construction-related impacts would also occur prior to project implementation. Construction-related impacts would be similar to other, common construction projects that occur near seasonal drainages and waterways. Depending upon the controversial nature of the groundwater and Endangered Species Act (ESA) issues, it is likely that the appropriate level of environmental documentation necessary for this project would, at a minimum, be a Mitigated Negative Declaration.

Implementation of the project would also require issuance of permits from various regulatory agencies. Following is a summary of the likely permitting requirements. Additional permitting requirements may be identified pending further project refinement.

- **State Water Resources Control Board—**Applications for new water rights and changes in point of diversion would be required.
- **Regional Water Quality Control Board—**Large amounts of earthwork would be required for the construction activities. Depending upon project configuration and location, Water Quality Certification under the federal Clean Water Act may be required for construction. In addition, National Pollutant Discharge Elimination System (NPDES) stormwater-related approvals may be required.
- **Federal and State Endangered Species Act—**Consultation with state and federal resource agencies (e.g., USFWS, NMFS, CDFG) may be required to protect special-status species and their habitat.
- **U.S. Army Corps of Engineers (COE)—**The project may affect wetland habitat and require a permit for discharge of dredged or fill material pursuant to Section 404 of the federal Clean Water Act.

- **Advisory Council on Historic Preservation—**Consultation under Section 106 of the National Historic Preservation Act may be necessary if historical resources are affected by construction of the project.
- **California Department of Fish and Game—**If alterations to streams or lakes are required as part of project implementation, a Streambed or Lakebed Alteration Agreement may be required.
- **Local governments and special districts—**Specific agreements for rights-of-way, encroachments, use permits, or other arrangements may need to be made with local entities in the vicinity of the project.

A draft CEQA environmental checklist has been prepared for this proposed project and is included as an attachment to this evaluation. The checklist provides a preliminary assessment of the environmental areas of concern, as well as areas that are not likely to be of concern, associated with this project. The checklist would be finalized as part of the environmental compliance required for project implementation.

# 5. Implementation Challenges

The project implementation would occur in several incremental stages, each of which would have significant challenges. Many of these challenges would be inherent to any project of this size and complexity. The following lists some of the implementation challenges anticipated to be associated with this project.

## Environmental Regulatory Compliance

Extensive environmental documentation, surveying, monitoring, and permitting would be required for this project. Habitat for known ESA-listed species such as the valley elderberry longhorn beetle and the giant garter snake is present within the project area. Project scheduling would have to reflect environmental regulatory requirements including any limitation on windows of construction.

## Access to Project Site

It is probable that access through adjacent properties to the ACID right-of-way would be required for construction. Private property owners may be reluctant to allow such access, and this could potentially cause difficulties to construction activities.

## Coordination among Public and Private Entities

Strong coordination would be required among local, state, and federal entities such as USFWS, USBR, and DWR. The governmental agencies would have strong interests associated directly with the project and indirectly as it may affect other interests in the area. It is highly probable that because of the complexity and far-reaching implications of the project competing interest may arise. Reliable communication and integrated coordination would be required to create a successful project.

### Coordination between Concurrent Projects

Numerous parties are examining similar projects throughout the valley. To optimize the effectiveness of these projects, coordination between the endeavors would be required from the onset. The strongest motivation for such an effort is three-fold: (1) to avoid duplication of effort and as a result efficiently utilize available funds, (2) to avoid the nullification of project benefits through competing projects, and perhaps most importantly, (3) to optimize the benefits of these projects to the watershed.

## 6. Implementation Plan

Extensive engineering and environmental investigations are necessary to further evaluate this project. The implementation plan is shown on Figure 2C-2.

### Tasks Common to Phases 1 and 2

**1.1 Data collection and mapping—**Initial effort would focus on collecting and reviewing existing information to assist in pinpointing locations to install gate structures, measurement flumes, and SCADA equipment. Preliminary geotechnical data would also be gathered to confirm the locations and extent of seepage problems. Data collection and mapping is estimated to require 5 months to complete.

**1.2 Environmental reconnaissance—**This task would provide for biological field surveys, resource database review, and other reconnaissance necessary to determine permitting requirements and the appropriate level of environmental documentation required for implementation of each phase of the project. This task would also support site selection in the preliminary design task by identifying any sensitive areas or issues of environmental concern. The environmental reconnaissanceis estimated to require 3 months to complete.

### Tasks Specific to Phase 1 Only

**2.1 Preliminary design—**This task would make use of the information collected earlier to establish sites for improvements and types of facilities to be used. Sufficient design would be completed to determine budget estimates of construction cost and to establish the preferred alternative for subsequent NEPA/CEQA compliance. Preliminary designis estimated to require 4 months to complete.

**2.3 Permitting and environmental documentation—**This task is expected to consist of an extension of environmental reconnaissance, resulting in verification that Phase 1 has no significant affect on the environment. This would be determined through completion of environmental checklists per NEPA and CEQA. Phase 1 permitting and environmental documentation is estimated to require 3 to 5 months to complete.

**2.2 Final design—**Facilities would be evaluated and designed according to site-specific hydraulic and site conditions, and sized appropriately for existing in-channel flows. The new control structures are expected to be standard concrete canal checks with radial gates or motor-operated slide gates (MOSG) mounted on breastwalls. The turnouts are expected to require new concrete headwalls with MOSG. It is expected that Replogle flumes would be used for measurement. Construction plans and specifications would be developed to

facilitate bidding for one or multiple construction contracts. The final design is estimated to require 4 months to complete.

**3.1 Construction—**This task would include the construction/installation of all control and measurement facilities, and SCADA systems. This task also includes the effort and cost of securing easements, if necessary, to allow for construction. It is expected that most of the construction activity would need to occur between November and March, when ACID is not delivering irrigation water. Construction is estimated to require 5 months to complete.

**3.2 Construction management and inspection—**This task would provide for the services of an engineering consultant to administer the constructioncontract and inspect the work for compliance with the contract documents. Services would include processing the contractor's pay requests, reviewing construction submittals, materials testing, and startup procedures. For scheduling purposes, construction management and inspectionwould occur concurrent with construction.

## Tasks Specific to Phase 2 Only

**2.1 Preliminary design—**This task would make use of the information collected earlier to establish sites for improvements. Sufficient design would be completed to determine budget estimates of construction cost and to establish the preferred alternative for subsequent NEPA/CEQA compliance. Meetings would be held with any affected landowners to ensure cooperation and coordination prior to proceeding further at each location. Preliminary design is estimated to require 5 months to complete.

**2.2 Permitting and environmental documentation—**This task would likely require preparation of an Environmental Assessment/Initial Study (EA/IS) in accordance with NEPA and CEQA, respectively. Key issues that are anticipated were described in Section 4. Permitting and environmental documentationis estimated to require 12 months to complete.

**2.3 Final design—**Lining is expected to be reinforced shotcrete, but other methods/products, such as clay, may be evaluated for cost and performance. Construction plans and specifications would be developed to facilitate bidding for one or multiple construction contracts, depending on the actual number and length of separate reaches of lining. The final design is estimated to require 5 months to complete.

**3.1 Construction.** This task would include the construction/installation of the canal lining. This task would also include the effort and cost of securing easements, if necessary, to allow for construction. It is expected that most of the construction activity would need to occur between November and March, when ACID is not delivering irrigation water. Construction is estimated to require 5 months to complete.

**3.2 Construction management and inspection—**This task would provide for the services of an engineering consultant to administer the constructioncontract and inspect the work for compliance with the contract documents. Services would include processing the contractor's pay requests, reviewing construction submittals, materials testing, and startup procedures. For scheduling purposes, construction management and inspectionwould occur concurrent with construction.

## Other Tasks Common to Phases 1 and 2

**4.1 Operation and maintenance (O&M)—**O&M of all new facilities and equipment is proposed to be accomplished by the District. O&M is considered in this proposal to be an in-kind, cost-sharing service in perpetuity.

**5.1 Contract management and administration—**This task would incorporate management of project costs and schedule, administering grant funds, developing work plans, coordinating with other entities and agencies, and overseeing activities of the project team. Contract management and administration is estimated to require 2.25 years to complete from the start of the project to final completion of construction.

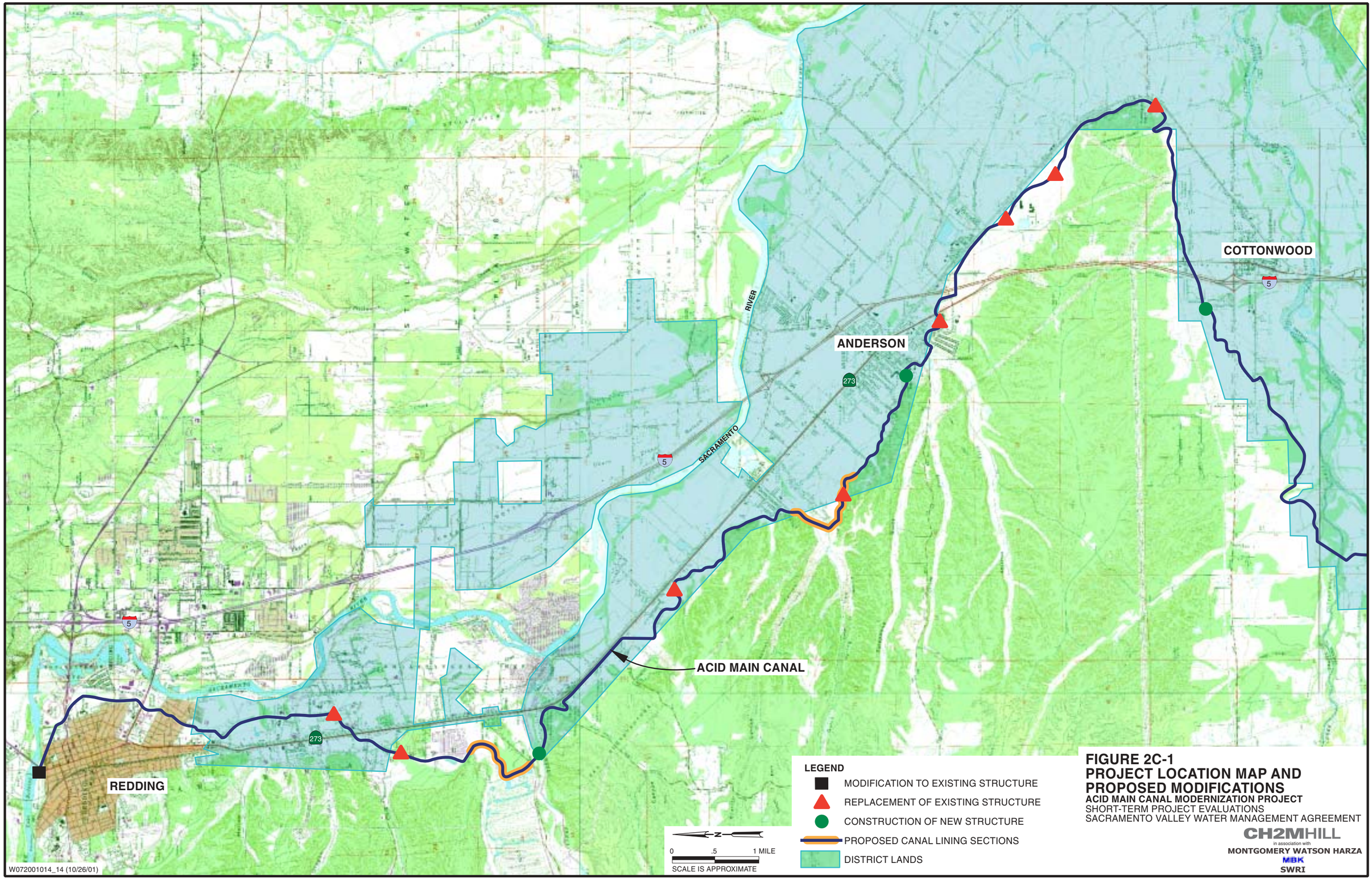


**FIGURE 2C-1**
**PROJECT LOCATION MAP AND PROPOSED MODIFICATIONS**
**ACID MAIN CANAL MODERNIZATION PROJECT**
SHORT-TERM PROJECT EVALUATIONS
SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT

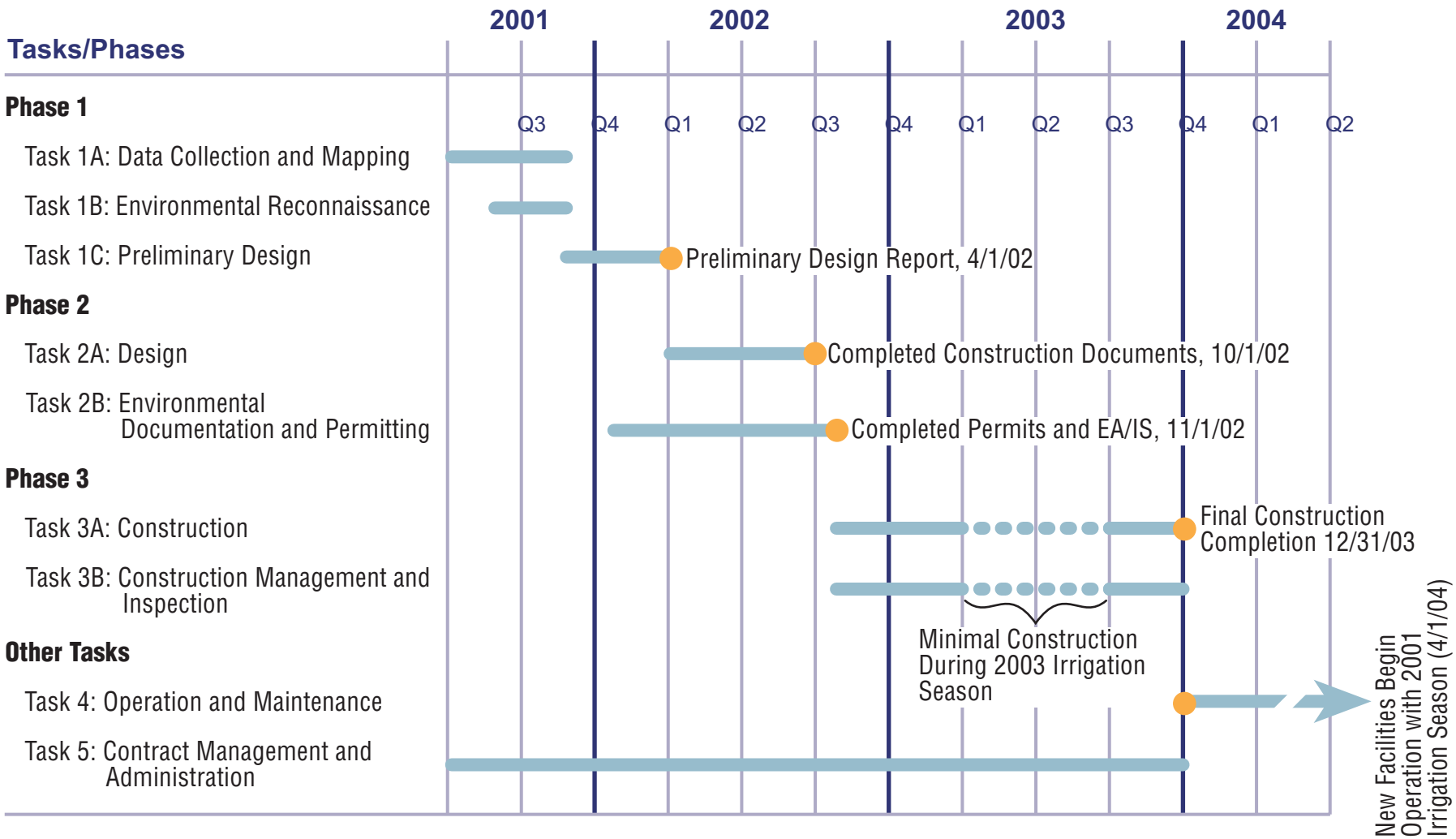


**FIGURE 2C-2**
**PRELIMINARY IMPLEMENTATION SCHEDULE**
**ACID MAIN CANAL MODERNIZATION PROJECT**
SHORT-TERM PROJECT EVALUATIONS
SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT

CH2MHILL
in association with
MONTGOMERY WATSON HARZA
MBK
SWRI

W072001014_74 (10/26/01)

# Project 2C—Draft CEQA Environmental Checklist

# Project 2C—Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agriculture Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Geology/Soils |
| ☐ Hazards & Hazardous Materials | ☐ Hydrology/Water Quality | ☐ Land Use/Planning |
| ☐ Mineral Resources | ☐ Noise | ☐ Population/Housing |
| ☐ Public Services | ☐ Recreation | ☐ Transportation/Traffic |
| ☐ Utilities/Service Systems | ☐ Mandatory Findings of Significance | |

# Determination:

(To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

| | |
|---|---|
| Signature | Date |
| Printed Name | For |

| Issues: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| I. AESTHETICS—Would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☒ | ☐ | ☐ |
| *Short-term impacts from increased noise and dust emissions could occur as a result of construction. Mitigation measures implemented for noise and air quality would reduce any impacts to a less than significant level.* | | | | |
| d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☐ | ☒ |
| II. AGRICULTURE RESOURCES—Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | ☐ | ☐ | ☒ | ☐ |
| III. AIR QUALITY—Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☒ | ☐ | ☐ |
| *Increased air emissions could result from construction of the project. Implementation of best management practices (BMP) during construction would reduce the amount of emissions and reduce the impact to a less than significant level.* | | | | |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☒ | ☐ | ☐ |
| *See response to III (a) above.* | | | | |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). | ☐ | ☐ | ☒ | ☐ |
| d) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| e) Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

| Issues: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| IV. BIOLOGICAL RESOURCES—Would the project: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| *Known Endangered Species Act (ESA)-listed species such as the valley elderberry longhorn beetle and the giant garter snake are within the area. Additionally, sensitive riparian habitat exists in and around the project site. Project scheduling would have to reflect environmental regulatory requirements including any limitation on windows of construction.* | | | | |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| *See response to IV (a) above.* | | | | |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act, (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☒ | ☐ | ☐ |
| *See response to IV (a) above.* | | | | |
| *d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or, impede the use of native wildlife nursery sites?* | ☐ | ☒ | ☐ | ☐ |
| See response to IV (a) above. | | | | |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☒ | ☐ | ☐ |
| *The removal of some vegetation may be required for construction of the project. Mitigation measures would be implemented to replace any vegetation removed during construction, which would reduce the impact to a less than significant level.* | | | | |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?. | ☐ | ☒ | ☐ | ☐ |
| *See response to IV (e) above.* | | | | |
| V. CULTURAL RESOURCES—Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | ☐ | ☒ | ☐ | ☐ |
| *A significant impact would occur if a cultural resource were to be disturbed by activities associated with project development. In the event that an archaeological resource was discovered, appropriate measures would be undertaken to minimize any impacts.* | | | | |

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|---|---|---|---|---|
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ☒ | ☐ | ☐ |
| *See response to V (a) above.* | | | | |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☒ | ☐ | ☐ |
| *See response to V (a) above.* | | | | |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☒ | ☐ | ☐ |
| *See response to V (a) above.* | | | | |
| VI. GEOLOGY AND SOILS—Would the project: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☐ | ☒ |
| ii) Strong seismic ground shaking? | ☐ | ☐ | ☐ | ☒ |
| iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☐ | ☒ |
| iv) Landslides? | ☐ | ☐ | ☐ | ☒ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☐ | ☐ | ☒ |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | ☐ | ☐ | ☐ | ☒ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☐ | ☒ |
| VII. HAZARDS AND HAZARDOUS MATERIALS—Would the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☒ | ☐ | ☐ |
| *Construction equipment would require the use of potentially hazardous materials. The potential for significant hazardous material spill would be unlikely because of the limited amount of such materials that would be used onsite. If a spill or release of such materials were to occur, it could potentially be significant unless BMPs were implemented.* | | | | |

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| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| 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 result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☐ | ☒ |
| VIII. HYDROLOGY AND WATER QUALITY— Would the project: | | | | |
| *a) Violate any water quality standards or waste discharge requirements?* Increases in turbidity would be likely to occur during any in-stream construction work. Additionally, there is a potential for an increase of erosion and sedimentation from construction activity. This could be a significant impact and would require an erosion control plan and the implementation of BMPs to reduce any impacts to waterways in and around the project area. | ☐ | ☒ | ☐ | ☐ |
| 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). | ☐ | ☐ | ☒ | ☐ |
| *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?* | ☐ | ☐ | ☒ | ☐ |

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|---|---|---|---|---|
| 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? | ☐ | ☐ | ☐ | ☒ |
| 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 which 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) Inundation by seiche, tsunami, or mudflow? | ☐ | ☐ | ☐ | ☒ |
| IX. LAND USE AND PLANNING—Would the project: | | | | |
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☒ | ☐ | ☐ |
| *Short-term impacts from increased noise and dust emissions could occur as a result of construction. Mitigation measures implemented for noise and air quality would reduce any impacts to a less than significant level.* | | | | |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☐ | ☐ | ☒ | ☐ |
| 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? | ☐ | ☐ | ☐ | ☒ |

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|---|---|---|---|---|
| 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 applicable standards of other agencies. | ☐ | ☒ | ☐ | ☐ |
| *Short-term noise levels are expected to increase for the duration of construction. These noise increases would be temporary, and mitigation measures would be implemented to reduce any impact to a less than significant level.* | | | | |
| 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? | ☐ | ☐ | ☐ | ☒ |
| XII. POPULATION AND HOUSING—Would the project: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). | ☐ | ☐ | ☐ | ☒ |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| XIII. PUBLIC SERVICES—Would the project: | | | | |
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services? | ☐ | ☐ | ☐ | ☒ |
| Fire protection? | ☐ | ☐ | ☐ | ☒ |
| Police protection? | ☐ | ☐ | ☐ | ☒ |
| Schools? | ☐ | ☐ | ☐ | ☒ |

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|---|---|---|---|---|
| Parks? | ☐ | ☐ | ☐ | ☒ |
| Other public facilities? | ☐ | ☐ | ☒ | ☐ |
| XIV. RECREATION—Would the project: | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |
| XV. TRANSPORTATION/TRAFFIC—Would the project: | | | | |
| a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | ☐ | ☐ | ☒ | ☐ |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | ☐ | ☐ | ☒ | ☐ |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☒ |
| e) Result in inadequate emergency access? | ☐ | ☐ | ☐ | ☒ |
| f) Result in inadequate parking capacity? | ☐ | ☐ | ☐ | ☒ |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | ☐ | ☐ | ☐ | ☒ |
| XVI. UTILITIES AND SERVICE SYSTEMS—Would the project: | | | | |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ☐ | ☐ | ☐ | ☒ |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | ☐ | ☐ | ☐ | ☒ |

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| e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☒ | ☐ |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | ☐ | ☐ | ☒ | ☐ |
| XVII. MANDATORY FINDINGS OF SIGNIFICANCE | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | ☐ | ☐ | ☒ | ☐ |
| c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☐ | ☒ | ☐ |