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County of Sacramento
02/24/2025
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EXEMPT FROM FILING FEES PURSUANT TO GOV. CODE, § 6103

SUPERIOR COURT OF CALIFORNIA

COUNTY OF SACRAMENTO

COUNTY OF SACRAMENTO, a California county, SACRAMENTO COUNTY WATER AGENCY, a California water district, CITY OF STOCKTON, a charter city, SACRAMENTO AREA SEWER DISTRICT, a California public agency, CENTRAL DELTA WATER AGENCY, a California public agency, and COUNTY OF SAN JOAQUIN, a California county, Petitioners and Plaintiffs, v. DELTA STEWARDSHIP COUNCIL, a California state agency, Respondent and Defendant, DOES 1 through 50, Real Parties in Interest.	Case No. 25VVM000030 [Deemed Verified Pursuant to Code Civ. Proc., § 446] **EXHIBITS IN SUPPORT OF PETITION FOR WRIT OF MANDATE AND COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF** **VOLUME 1 OF 2** (Code Civ. Proc., §§ 525 et seq., 1060, 1085, 1094.5; Wat. Code, § 85000 et seq.; Cal. Const., Art. 1, § 7) *Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief filed concurrently herewith*

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Exhibit A

Print Form

Notice of Determination

Appendix D

To:

☒ Office of Planning and Research

U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Rm 113, Sacramento, CA 95814

☐ County Clerk
County of: _____
Address: _____

From:

Public Agency: Department of Water Resources
Address: 1516 9th St, Sacramento, CA 95814

Contact: Marcus Yee
Phone: 916-699-8405

Lead Agency (if different from above):

Address: _____

Contact: _____
Phone: _____

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2020010227

Project Title: Delta Conveyance Project Final EIR

Project Applicant: California Department of Water Resouces

Project Location (include county): See Attachment 1 and Figure 1

Project Description:
See Attachment 2

This is to advise that the California Department of Water Resouces (☒ Lead Agency or ☐ Responsible Agency) has approved the above described project on 12/21/2023 (date) and has made the following determinations regarding the above described project.

1. The project [☒ will ☐ will not] have a significant effect on the environment.
2. ☒ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☐ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☒ was ☐ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:
1516 9th St, Sacramento, CA 95814 or https://www.deltaconveyanceproject.com

Signature (Public Agency): _____ Title: Director

Date: _____ Date Received for filing at OPR: 12/21/2023

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2011

Attachment 1
Project Location

The project area consists of the construction footprint of the project facilities. The physical footprint of the Project would lie primarily within the boundaries of the statutorily defined Delta. Additionally, certain facilities that would be constructed under the Project would be located southeast of the statutory Delta (see Figure 1, Project Location).



Figure 1. Project Location

Attachment 2
Project Description

The Project consists of the construction, operation, and maintenance of new State Water Project (SWP) water diversion and conveyance facilities in the Delta that would be operated in coordination with the existing SWP facilities.

The Project would include the following key components and actions.

- Two intake facilities along the Sacramento River in the north Delta near the community of Hood with on-bank intake structures that would include fish screens.
- A concrete-lined tunnel, and associated vertical tunnel shafts, to convey flow from the intakes about 45 miles to the south to the Bethany Reservoir Pumping Plant and Surge Basin at a location south of the existing SWP Clifton Court Forebay.
- A Bethany Reservoir Pumping Plant to lift the water from inside the tunnel below ground into the Bethany Reservoir Aqueduct for conveyance to the Bethany Reservoir Discharge Structure and into the existing Bethany Reservoir.
- Other ancillary facilities to support construction and operation of the conveyance facilities including, but not limited to, access roads, concrete batch plants, fuel stations, and power transmission and/or distribution lines.
- Efforts to identify geotechnical, hydrogeologic, agronomic, and other field conditions that will guide appropriate construction methods and monitoring programs for final engineering design and construction.

Volume 1, Chapter 3, *Description of the Proposed Project and Alternatives*, of the Final Environmental Impact Report (EIR) provides further information on the above components and actions and related activities required as part of the Project (e.g. park-and-ride lots).

The EIR evaluates Project operations based on the Project design and what was known and reasonably foreseeable when the EIR was prepared, but DWR acknowledges that: (1) operations will not occur for well over 15 to 20 years due, in part, to the time required to complete construction of the project, and (2) new information of substantial importance or substantial changes could occur with respect to Project design or the circumstances under which the Project is undertaken. Under these conditions, prior to the commencement of operations, DWR would evaluate whether subsequent CEQA review is required before undertaking any discretionary actions that may be required to change Project design or operational criteria such that they are sufficiently protective to environmental resources.

Exhibit B

Chapter 3
Description of the Proposed Project and Alternatives

3.1 Introduction

As described in Chapter 1, *Introduction*, the California Department of Water Resources (DWR), at the direction of Governor Gavin Newsom in Executive Order N-10-19, has inventoried and assessed approaches to modernize water conveyance through the Sacramento–San Joaquin Delta (Delta) and proposed a new, single-tunnel project. DWR has developed the basic project purpose and objectives described in Chapter 2, *Purpose and Project Objectives*, consistent with the Governor's Executive Order.

The alternatives in this *Delta Conveyance Project Final Environmental Impact Report* (EIR), including the proposed project, meet the requirements of the California Environmental Quality Act (CEQA). This CEQA analysis is also intended to support compliance with other state and federal permit requirements where discussion of alternatives is relevant. As described in more detail in Section 3.2, *Alternatives Development Process*, and in Appendix 3A, *Identification of Water Conveyance Alternatives*, DWR considered all suggestions made during the scoping process as well as other information on the record to evaluate and screen potential alternatives to be analyzed in detail in this Final EIR.

For the Delta Conveyance Project (project), DWR is preparing a standalone EIR that will not be prepared jointly with a federal agency's National Environmental Policy Act (NEPA) compliance document. As explained in Chapter 1, a separate Environmental Impact Statement (EIS) will be prepared to meet the requirements of NEPA, with the U.S. Army Corps of Engineers (USACE) as the lead agency. Because of this, care has been taken in this Final EIR to describe alternatives at a level of detail normally required for an EIS to ensure as much consistency as possible for these two documents. The Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] § 1502.14) require all reasonable alternatives to be objectively evaluated in an EIS, so that each alternative is evaluated at an equal level of detail (40 CFR § 1502.14(b)).

The proposed project and alternatives evaluated in this Final EIR involve the construction and operation of new conveyance facilities for the movement of water entering the Delta from the Sacramento Valley watershed to the existing State Water Project (SWP) and, potentially, to Central Valley Project (CVP) facilities in the south Delta, which would result in a dual-conveyance system in the Delta. This Final EIR also analyzes related amendments to the long-term water supply contracts that may be needed.

CEQA Guidelines also direct that "the specific alternative of 'no project' shall also be evaluated along with its impact" (14 Cal. Code Regs. § 15126.6 [e][1]). The No Project Alternative analysis is required to discuss existing conditions at the time the Notice of Preparation (NOP) is published, as well as "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (14 Cal. Code Regs. § 15126.6 [e][2]). In this chapter, Section 3.5, *No Project Alternative*, describes the types of actions that Delta Conveyance Project participants other than DWR might undertake to address local supply issues under a long-term scenario in which the Delta Conveyance

Project is not approved or implemented. Because the effects of climate change and sea level rise are reasonably foreseeable, they are included in the No Project Alternative. Appendix 3C, *Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions*, further details assumptions for the No Project Alternative.

This Final EIR provides the project-level analyses to disclose impacts required for approval of any of the alternatives and provides information to facilitate the proposed project permit decisions. This chapter describes the No Project Alternative and nine project alternatives (Table 3-2) that are evaluated in detail in this Final EIR. The project alternatives have been developed to best meet the project's basic purpose and objectives described in Chapter 2 and are the outcome of an extensive screening process summarized in Section 3.2. *Alternatives Development Process*, and Section 3.2.1, *Alternatives Screening Analysis*, and detailed in Appendix 3A, *Identification of Water Conveyance Alternatives*. Appendix 3A includes consideration of potential alternatives to the Delta Conveyance Project (project), alternatives identified during the public scoping process, and alternatives previously considered for the California WaterFix environmental review process.

Section 3.3, *Proposed Project and Alternatives Overview*, provides an overview of the proposed alignment and operational alternatives, and Section 3.4, *Common Features of the Alternatives*, describes the key facilities common to most of the alternatives and alignments. Sections 3.2, 3.3, and 3.4 of this chapter discuss conveyance facilities. Section 3.5, *No Project Alternative*, describes the No Project Alternative. Sections 3.6 through 3.14 describe the characteristics that differentiate the nine project alternatives (Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, 4c, and 5). A discussion of maintenance is integrated into the sections describing major common features as relevant, and is not presented separately. Section 3.15, *Field Investigations*, describes past and future efforts to identify geotechnical, hydrogeologic, agronomic, and other field conditions that will guide appropriate construction methods and monitoring programs for final engineering design and construction. Additional actions not analyzed in this EIR associated with field investigations would comply with the necessary state environmental review requirements and may require additional CEQA review.

Section 3.16, *Intake Operations and Maintenance*, describes the conveyance facility operational criteria and assumptions. This Final EIR also considers the operation and maintenance of the SWP in relation to implementation of the project alternatives. Maintenance of these facilities is described and analyzed in cases where new types of maintenance would be required for new facilities. For the 7,500-cubic-feet-per-second (cfs) Alternatives 2a and 4a that would involve the CVP, those operations and any maintenance of those facilities are also analyzed.

Section 3.17, *Real-Time Operational Decision-Making Process*, describes the real-time operations decision-making process under current operations and how it would operate with the project alternatives. Section 3.18, *Adaptive Management and Monitoring Program*, briefly describes adaptive management and monitoring that would occur under the project.

The Community Benefits Program, proposed as part of the project, is introduced in Section 3.19 and described more fully in Appendix 3G, *Community Benefits Program Framework*. The Community Benefits Program could provide funding for actions that are described in broad general categories that could be funded but no action has yet been identified. Accordingly, the analysis of the potential impacts of those actions is at a commensurate general level and is provided in Chapter 34, *Community Benefits Program Analysis*, of this Final EIR. Because significance determinations regarding specific Community Benefits Program actions would be speculative, none are provided. As

projects are funded, they will undergo project-level CEQA review, as appropriate, and any other required regulatory processes before they would be implemented.

Section 3.20, *Ombudsman,* describes how DWR will create a Delta Conveyance Project community support position, referred to as a project ombudsman, to increase effective communication and provide a single point of contact for members of the public and other interested parties during construction of the proposed project. Section 3.21, *Potential Davis-Dolwig Act Actions*, describes how DWR will comply with this act requiring that "preservation of fish and wildlife be provided for in connection with the construction of state water projects." Section 3.22, *Contract Amendments*, discusses contractual arrangements between DWR and the public water agencies (PWAs) that receive and distribute water from the SWP.

The Compensatory Mitigation Plan (CMP) would compensate for the loss of natural communities, habitats for terrestrial and aquatic species, and aquatic resources by enhancing and creating channel margins and tidal wetland habitat for aquatic resources and special-status species on lands owned by DWR (Interstate [I-] 5 Ponds 6, 7, and 8) or partners (Bouldin Island). Appendix 3F, *Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources*, describes the CMP in detail. Strategies in the CMP also include obtaining mitigation bank credits or establishing site protection instruments (such as a conservation easement) for mitigation sites, and controlling invasive species through long-term and site-specific management and maintenance plans along with monitoring and adaptive management. The CMP is mitigation for impacts identified in the Final EIR and not part of the project description, but is mentioned here because it is referenced in multiple chapters. Chapter 4, Section 4.1.1.5, *Compensatory Mitigation Plan for Special-Status Species and Aquatic Resources,* provides a high-level summary of the approach to evaluating compensatory mitigation in resource chapters. Each resource chapter considers the potential impacts of implementing the CMP along with the impacts of other mitigation measures.

3.2 Alternatives Development Process

CEQA requires that an EIR include a detailed analysis of a range of reasonable alternatives to a proposed project that are potentially feasible and would attain most of the basic project objectives while avoiding or substantially lessening potentially significant project impacts. A range of reasonable alternatives was analyzed to define the issues and provide a clear basis for choice among the options. The CEQA analysis must also include an analysis of the No Project Alternative.

CEQA requires that the lead agency consider alternatives that would avoid or substantially lessen any of the significant impacts of the proposed project. Section 15126.6(a) of the CEQA Guidelines provides that:

> [a]n EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. (CEQA Guidelines § 15126.6[a])

Under these principles, the EIR must describe and evaluate only those alternatives necessary to permit a reasonable choice and "to foster meaningful public participation and informed decision making" (CEQA Guidelines § 15126.6[f]). Consideration of alternatives focuses on those that can either avoid or substantially reduce significant adverse environmental impacts of the proposed project; alternatives considered in this context may include those that are more costly and those that could impede to some degree the attainment of the project objectives (CEQA Guidelines § 15126.6(b)). DWR, as lead agency, will be the CEQA decision maker in determining the final form of a project if one is approved.

DWR began the alternatives development process by revisiting the scoping comments received on the Bay Delta Conservation Plan (BDCP) and California WaterFix, described in Chapter 1 of this Final EIR. During the 2009 BDCP EIR/EIS scoping process, 1,051 comments were received related to the development of alternatives. After publishing the Draft BDCP EIR/EIS, based on the Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) approach in December 2013, and after reviewing critical public and fish and wildlife agency comments on that document, the lead agencies decided to consider additional alternatives. They substantially modified three of the HCP/NCCP alternatives, including the proposed BDCP (Alternative 4 in the Draft BDCP EIR/EIS) and introduced a new proposed action called the California WaterFix (Alternative 4A) in the Partially Recirculated Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS) in July 2015.

While the BDCP and then California WaterFix had different project objectives, some of these alternative comments or suggestions were applicable to the Delta Conveyance Project. The 2020 Delta Conveyance Project NOP described a new proposed single-tunnel project and solicited additional suggestions about potential alternatives during the public scoping period. This involved input from a large group of interested parties, an extensive evaluation of various options, and analysis of the environmental impacts that goes beyond the normal scope of a CEQA review. These processes were helpful in informing the public and gathering input on a project that would affect a very complex estuary and a statewide water supply system.

Following the 2020 NOP and consideration of scoping comments, DWR screened a range of alternatives and began evaluating potential impacts from constructing, operating, and maintaining conveyance facility alternatives. Simultaneously, the engineering team continued to refine facility designs, construction approaches, and project operations to optimize the conveyance facility approach and evaluate options to further reduce environmental effects.

The alternatives screening process and results are presented in Appendix 3A, *Identification of Water Conveyance Alternatives.* The screening process involved considering a wide range of alternatives that were initially thought to meet project objectives and potentially reduce environmental effects. The alternatives that passed through two screening levels were included for further review in the Final EIR. These alternatives consisted of variations on the conveyance facility alignments, conveyance capacities, and arrangement of new north Delta intakes. Initially, two conveyance facility alignments, central and eastern, with varying diversion capacities were considered for further evaluation in this Final EIR. After early environmental results were considered and additional engineering studies and consideration of interested party and agency comments were completed, DWR decided to also evaluate the Bethany Reservoir alignment in this Final EIR.

The project alternatives evaluated in this Final EIR represent three water supply conveyance alignments combined with the proposed construction of new north Delta diversion and conveyance facilities capable of conveying a range of up to 3,000 cfs to 7,500 cfs in total. This range of

alternatives was based on developing a design that could meet project objectives with a smaller maximum conveyance capacity than the 9,000 cfs proposed under BDCP/California WaterFix and incorporated scoping suggestions for a 3,000-cfs alternative with a range of intermediate options.

Section 3.2.1 describes, in a general way, the screening process and criteria used to develop the final range of alternatives to be considered for the conveyance facilities. This process is described in detail in Appendix 3A. A detailed description of the process and steps used in identifying and refining proposed locations and design of all proposed project facilities is described in two engineering project reports—one for the central and eastern alignments, and one for the Bethany Reservoir alignment (C-E EPR and Bethany EPR) (Delta Conveyance Design and Construction Authority 2022a, 2022b).

3.2.1 Alternatives Screening Analysis

The screening process for the Delta Conveyance Project EIR focused on identifying alternatives to the proposed project as defined in the NOP; it was not a *project objective development* exercise similar to previous efforts but considered the alternatives previously developed for BDCP and California WaterFix and additional alternatives. Therefore, the screening started with the purpose and objectives of the proposed project stated in the NOP and the alternatives were screened with these specific objectives in mind. The proposed project identified in the NOP and developed to specifically meet the stated project objectives, Dual Conveyance Central Tunnel Alignment or Dual Conveyance Eastern Tunnel Alignment, operating at 6,000 cfs, was the basis against which alternatives were screened. The screening criteria were developed based specifically on the proposed project and consistent with the legal requirements of CEQA and the project objectives included in the NOP published on January 15, 2020.

3.2.1.1 Alternatives Considered

Previous alternatives that were evaluated in the *Bay Delta Conservation Plan/California WaterFix EIR/EIS* and suggested during previous public scoping meetings, and that DWR determined may be capable of meeting most of the basic project objectives or could be modified to do so, were included in the alternatives screening process. Additional alternatives identified during the Delta Conveyance Project public scoping process were also screened.

The alternatives were grouped into four categories of dual conveyance, isolated conveyance, through-Delta conveyance with proposed diversion facility, and through-Delta conveyance with no new diversion facilities. A fifth "other" category encompassed alternatives proposing other technologies, including capping the California Aqueduct, use of an aboveground "tube" to convey water, and desalination on barges in Monterey Bay. A total of 21 alternatives were generated at this stage. In some cases, multiple similar proposals were combined and evaluated as one. Each of the screened alternatives is described in Appendix 3A.

The 21 potential alternatives to the proposed project were screened through a two-level filtering process. Filter 1 assessed whether a proposed alternative could **meet the project purpose and most of the objectives based on four related criteria**. Alternatives that met two or more of the following four Filter 1 criteria were carried forward for screening under Filter 2. Appendix 3A describes the following Filter 1 criteria in more detail.

- **Climate resiliency.** Addresses anticipated sea level rise and other reasonably foreseeable consequences of climate change and extreme weather events.

- **Seismic resiliency.** Minimizes health and safety risk to public from earthquake-caused reductions in water delivery quality and quantity from the SWP.
- **Water supply reliability.** Restores and protects ability of the SWP to deliver water in compliance with regulatory limits and SWP contractual agreements.
- **Operational resiliency.** Provides operational flexibility to improve aquatic conditions and manage future regulatory constraints**.**

Filter 2 examined whether the remaining alternatives would **avoid or lessen potential significant environmental impacts** compared to the proposed project.

Of the 21 individual or grouped alternatives, 11 alternatives or groups were eliminated in Filter 1 (Appendix 3A, Table 3A-2). The remaining alternatives were screened through Filter 2 to evaluate whether they lessened environmental impacts compared to the proposed project (Appendix 3A, Table 3A-3). Only the Dual Conveyance Bethany Alignment passed Filter 2 screening for its potential to avoid or reduce impacts compared to the proposed project and has therefore been carried forward in this Final EIR as Alternative 5.

3.3 Proposed Project and Alternatives Overview

The 2020 NOP identified the proposed project as a 6,000 cfs diversion capacity alternative, to be located on either a central or eastern alignment from intakes in the north Delta to pumping facilities in the south Delta near Clifton Court Forebay. The EIR analyses and the application to USACE for authorization under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act were initiated with this concept of the proposed project, and with the knowledge that additional engineering refinements, preliminary findings about key environmental impacts, and input from the public and other interested parties may result in future changes. As the development of the EIR progressed, the evaluation provided additional information about the environmental impacts associated with the proposed project and alternatives. The preliminary impact assessment found that the Bethany Reservoir alignment had the potential to reduce environmental effects associated with the proposed project, particularly impacts on agricultural land, cultural resources, and wetlands and other waters of the United States within USACE's jurisdiction. As a result, DWR amended the permit application to USACE and now identifies the Bethany Reservoir alignment (Alternative 5) as the proposed project in the EIR. Identification of the Bethany Reservoir alignment as the proposed project for the EIR does not indicate that DWR has decided to move forward with the Delta Conveyance Project or that, if DWR does determine to move forward, the Bethany Reservoir alignment will be the project that DWR approves. DWR will not make a decision on the project until after addressing public comments on the Draft EIR, certifying the Final EIR, making all necessary findings and taking any other actions required to comply with CEQA.

The identified proposed project consists of the construction, operation, and maintenance of new SWP water diversion and conveyance facilities in the Delta that would be operated in coordination with the existing SWP facilities. The new water conveyance facilities would divert water from two new north Delta intakes via a single tunnel on an eastern alignment directly to a new pumping plant and aqueduct complex between Byron Highway and Mountain House Road near Mountain House in the south Delta and discharge it to the Bethany Reservoir for delivery to existing SWP export facilities (Figure 3-1 and Figure 3-2). This complex is called the Bethany Complex and is described in

Section 3.14, *Alternative 5—Bethany Reservoir Alignment, 6,000 cfs, Intakes B and C (Proposed Project)*.

Under the alternatives to the proposed project, Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, the tunnel would convey water from the new north Delta intakes through one tunnel on a central alignment (Alternatives 1, 2a, 2b, and 2c) or an eastern alignment (Alternatives 3, 4a, 4b, and 4c) to existing SWP conveyance facilities and potentially to existing CVP facilities (Alternatives 2a and 4a) via a new pumping plant and Southern Forebay on Byron Tract and other appurtenant facilities in the south Delta (Figure 3-1 and Figure 3-2). The new Southern Forebay would be an additional, isolated south Delta water-balancing facility that would provide flexibility for operating both the new and existing facilities. The Southern Forebay and new appurtenant facilities in the south Delta are collectively called the Southern Complex, and would be sited adjacent to Clifton Court Forebay. These alternatives are described in this Final EIR in Sections 3.6 through 3.13.

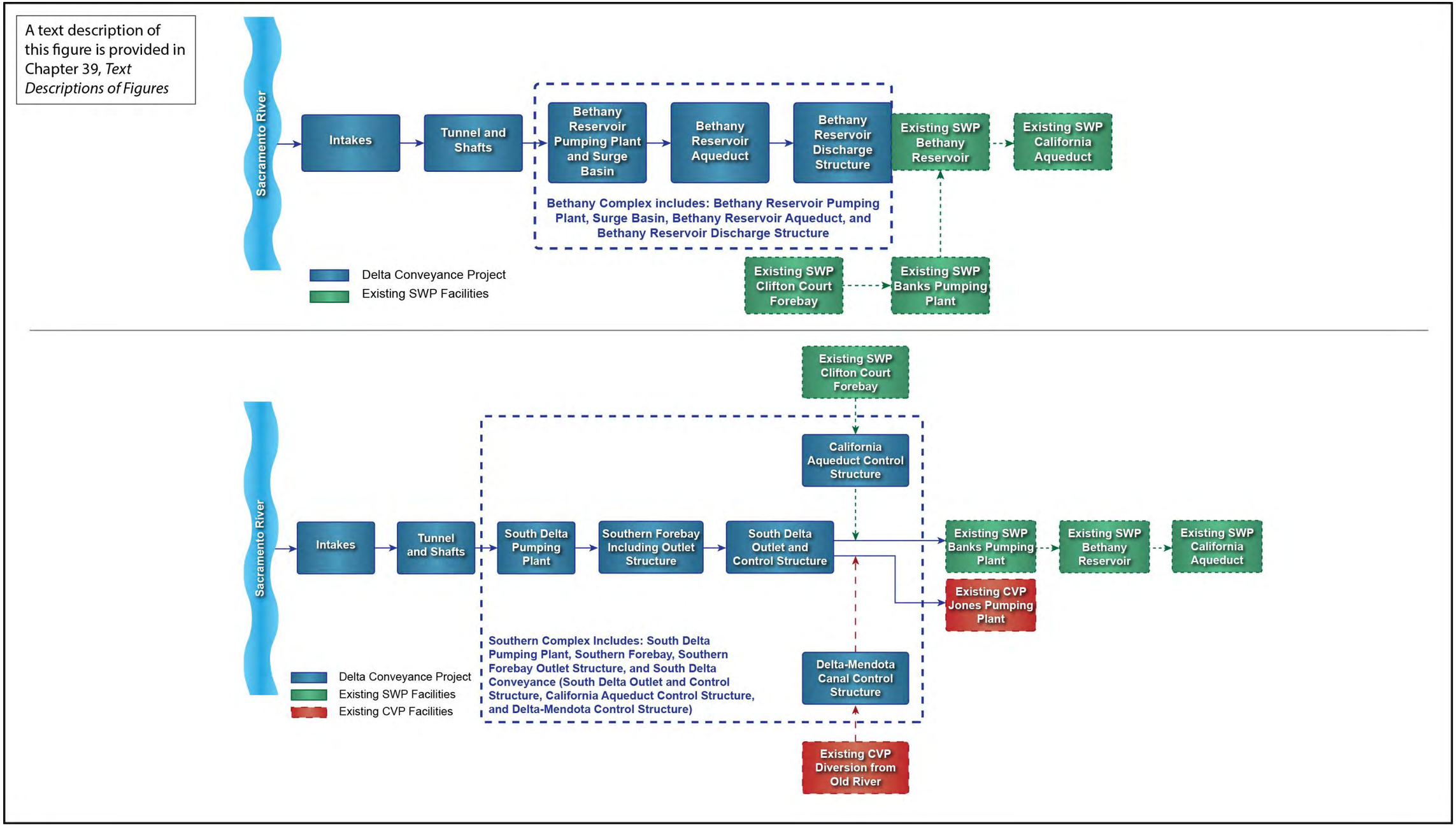
Major facilities common to multiple alternatives are detailed in Section 3.4, *Common Features of the Alternatives*. Under all alternatives, operating the new conveyance facilities in conjunction with SWP's existing south Delta export facilities, and potentially the CVP's existing facilities, would create a *dual conveyance* system.

This chapter is a summary of project design and features of the nine project alternatives. DWR directed the preparation of the C-E EPR and the Bethany EPR and associated technical memoranda (Delta Conveyance Design and Construction Authority 2022a, 2022b). The EPRs and technical memoranda detail the engineering considerations that support project alternative design decisions. The EPR for the Bethany Reservoir alignment was developed, in part, to address potential impacts associated with the Southern Complex facilities proposed under the central and eastern alignment alternatives and detailed in the C-E EPR. The Bethany EPR contains a detailed description of Alternative 5 and the technical memoranda that informed the design of that alternative. These EPRs and technical memoranda are available for review and include construction and engineering details not provided in this chapter.

Some terminology used for alternatives and project facilities and major construction features in the EPRs and technical memoranda may differ from that used in this Final EIR. The crosswalk in Table 3-1 provides a guide to the major terminology differences that may appear.

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A text description of this figure is provided in Chapter 39, *Text Descriptions of Figures*



Note: CVP facilities would be used with central and eastern alignment Alternatives 2a and 4a only.

Figure 3-1. Schematic of Delta Conveyance Project Facilities for the Bethany Reservoir Alignment (top) and Central and Eastern Alignment Alternatives (bottom).

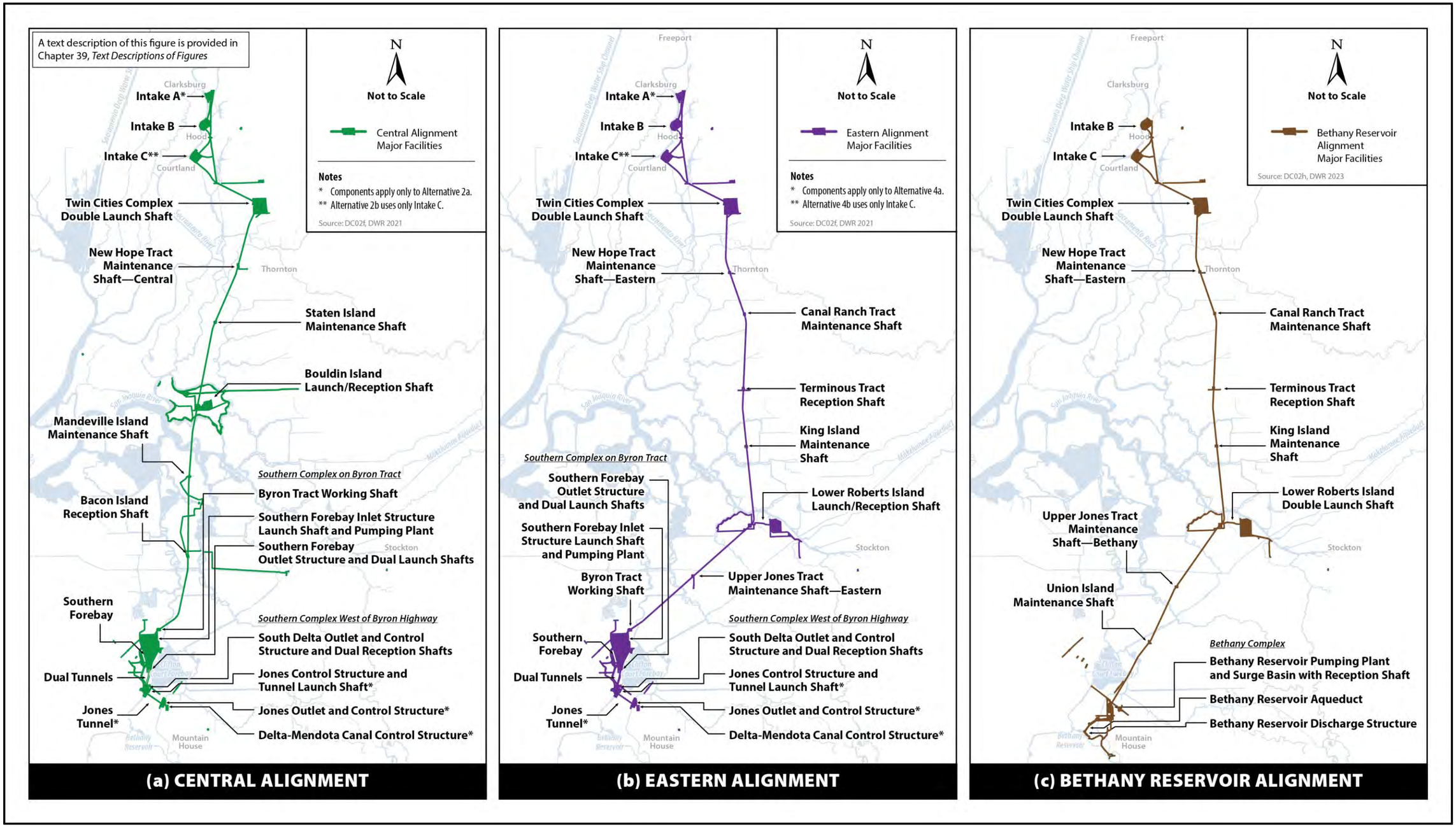


Figure 3-2. Alternative Alignments and Major Facilities

Table 3-1 Terminology Crosswalk

Engineering Project Report or Technical Memoranda	Environmental Impact Report
Central Corridor/Option	central alignment
Eastern Corridor/Option	eastern alignment
Bethany Reservoir Corridor Bethany Reservoir Alternative	Bethany Reservoir alignment; Bethany Reservoir alternative
Intake C-E-2, CE-2, 2, other variations	Intake A (1,500 cfs)
Intake C-E-3, CE-3, 3, other variations	Intake B (3,000 cfs)
Intake C-E 5, CE-5, 5, other variations	Intake C (1,500 or 3,000 cfs)
Option 1B	Alternative 1, Central Alignment, 6,000 cfs, Intakes B and C
Option 9B	Alternative 2a, Central Alignment, 7,500 cfs, Intakes A, B, C
Option 5B	Alternative 2b, Central Alignment, 3,000 cfs, Intake C
Option 7B	Alternative 2c, Central Alignment, 4,500 cfs, Intakes B and C
Option 2B	Alternative 3, Eastern Alignment, 6,000 cfs, Intakes B and C
Option 10B	Alternative 4a, Eastern Alignment, 7,500 cfs, Intakes A, B, C
Option 6B	Alternative 4b, Eastern Alignment, 3,000 cfs, Intake C
Option 8B	Alternative 4c, Eastern Alignment, 4,500 cfs, Intakes B and C
Option B2B	Alternative 5, Bethany Reservoir Alignment, 6,000 cfs, Intakes B and C
Retrieval shaft	Reception shaft

cfs = cubic feet per second.

3.3.1 Design for Climate Change and Sea Level Rise

Precipitation change, warmer temperatures, and wider variations in hydrologic conditions associated with climate change threaten the reliability of the current SWP water conveyance system. To best achieve water supply reliability and SWP climate resiliency in a cost-effective manner while meeting the needs of diverse users, conforming with operational requirements of the State Water Resources Control Board (State Water Board), and protecting species as discussed in Chapter 1, *Introduction*, the project design considers climate change and sea level rise. Historical data and projected outcomes based on changing factors, including temperature and precipitation, hydrologic conditions, sea level rise, water temperature and quality, and ecosystem health were used to model potential construction and operational conditions to inform project design and operations. Chapter 1 discusses how climate change interacts with these factors. Chapter 30, *Climate Change*, discusses global, national, and statewide climate change trends and their implications for the Delta Conveyance Project; Table 30-2 summarizes climate change projections for the study area.

Sea level rise projections used in modeling were acquired from the California Ocean Protection Council's (OPC) *State of California Sea-Level Rise Guidance Update 2018* (OPC Guidance). The OPC Guidance includes science-based methodology for state and local governments to analyze and assess the risks associated with sea level rise and to incorporate sea level rise into their planning, permitting, and investment decisions for infrastructure. The OPC Guidance provides a range of sea level rise projections and associated probabilities for future years based on accepted low and high

greenhouse gas emissions scenarios. It also provides potential sea level rise estimates for a scenario in which the melting of Antarctic ice sheet accelerates sea level rise much higher and faster than rates experienced over the last century. This scenario, called H++, has no associated probability of occurring because model predictions of the impact of ice sheet collapse on sea level rise remain uncertain and predictions about the retreat of Antarctic ice vary considerably. H++ is considered the most conservative, risk-averse scenario and OPC recommends that it be considered for projects with a lifespan beyond 2050 with extreme risk aversion and for critical assets in the coastal zone and in potentially affected inland areas. Conservatively, DWR used the H++ values of 1.8 feet of sea level rise in 2040 and 10.2 feet in 2100 at the tide gage for San Francisco in its modeling for design. Year 2100 was selected as the horizon year because there is increased uncertainty around projections beyond 2100, and making use of projections beyond 2100 would be speculative.

DWR determined the 100-year and 200-year water surface elevations (WSEs) by hydraulic modeling, using the historical 100-year and 200-year flood flows recorded at the Martinez tide gage, plus extreme sea level rise for 2040 and 2100, scaled to account for how WSE decreases with distance inland from the tide gage. These elevations were determined using Delta Simulation Model II (DSM2) with scaled 1997 flood events to represent 100-year and 200-year flows. The incremental effect of sea level rise was found to be around 1.2 feet for most locations in the south Delta, and about 0.3 feet near the proposed intake locations. The incremental effect of sea level rise is based on DSM2 modeling for flows representing the 100-year event and 1.8 feet of sea level rise. Modeling used to support analyses for environmental resource Chapters 5 through 32 also considered inflows from the Yolo Bypass and the Sacramento, San Joaquin, Calaveras, Cosumnes, and Mokelumne Rivers (California Department of Water Resources 2020a). The memorandum titled *Preliminary Flood Water Surface Elevations (Not for Construction)* (California Department of Water Resources 2020a) prepared for the project provides modeling information used for overall project analysis.

Shaft pads at reception and maintenance shafts sites (described in Sections 3.4.2 and 3.4.3) would provide a working platform for construction of shaft diaphragm walls to minimize groundwater from entering the shaft construction site. Shaft pads would also serve as a refuge for workers during construction in the event of a levee breach that inundates the surrounding land up to a 100-year WSE plus sea level rise and climate change hydrology and 2 feet of freeboard**.** These elevations should be considered a minimum to provide flood protection during site construction. During the design phase, future calculations may necessitate higher elevations as additional information related to climate change and sea level rise becomes available. At the end of construction, shaft pads would remain in place and maintenance and reception shafts themselves would be raised above the top of the shaft pads to a height determined sufficient to protect the facilities from the 200-year flood plus sea level rise at 2100 and 3 feet of freeboard. Each shaft would have a cover that could be removed by a crane if access to the shaft or tunnel is needed in the future.

At the intakes, the Southern Forebay Inlet Shaft Structure, Southern Forebay Outlet Structure, South Delta Outlet and Control Structure (and under Alternatives 2a and 4a, the Jones Control Structure and Jones Outlet Structure), the earthen shaft pads would be removed, and the tops of shafts would be protected from sea level rise and hydrologic effects within the new concrete structures. Under Alternative 5, the top of the ultimate reception shaft in the surge basin would be flush with the floor of the surge basin, 35 feet below ground surface.

Launch shaft sites at Twin Cities Complex, Bouldin Island, and Lower Roberts Island would be at higher risk from sea level rise and hydrologic climate change effects because they are much larger and involve more personnel and equipment than maintenance and reception shaft construction

sites. Accordingly, DWR proposes to build a ring levee (at Twin Cities) or improve existing levees (at Bouldin Island or Lower Roberts Island) to protect workers and facilities at those locations. After construction, the ring levee at Twin Cities Complex would be deconstructed except for a portion adjacent to the reusable tunnel material (RTM) storage area. Levee modifications at Bouldin Island or Lower Roberts Island that would bring the levees up to existing standards of flood protection would remain in place to address future flood risk. Shafts at Byron Tract would be protected by levees that have already been repaired, and the Bethany Complex would be at an elevation not subject to flooding. These facilities are described in Sections 3.4 through 3.14.

Chapter 30, *Climate Change*, discusses current climate change science and the risks to and resilience of the project in the context of climate change.

3.3.2 Alternatives Overview

The proposed project (Alternative 5) consists of a 6,000 cfs conveyance facility constructed on an eastern alignment in a corridor roughly parallel to and west of I-5 to a site south of Byron Highway and Clifton Court Forebay, adjacent to the Bethany Reservoir. Alternatives 1, 2a, 2b, and 2c consider a more central alignment. Alternatives 3, 4a, 4b, and 4c would follow an eastern alignment similar to proposed project as far as Lower Roberts Island, then turn west toward Byron Tract. The primary distinctions among the project alternatives are the tunnel alignment, size and conveyance capacities, and location of the facilities to convey the water to existing SWP facilities.

The proposed project and alternatives are as follows. Sections 3.6 through 3.14 summarize the major distinguishing features of each project alternative. Power, SCADA (supervisory control and data acquisition), road modifications, and other support facilities are discussed in Section 3.4.

- Alternative 1—Central Alignment, 6,000 cfs, Intakes B and C
- Alternative 2a—Central Alignment, 7,500 cfs, Intakes A, B, and C
- Alternative 2b—Central Alignment, 3,000 cfs, Intake C
- Alternative 2c—Central Alignment, 4,500 cfs, Intakes B and C
- Alternative 3—Eastern Alignment, 6,000 cfs, Intakes B and C
- Alternative 4a—Eastern Alignment, 7,500 cfs, Intakes A, B, and C
- Alternative 4b—Eastern Alignment, 3,000 cfs, Intake C
- Alternative 4c—Eastern Alignment, 4,500 cfs, Intakes B and C
- Alternative 5—Bethany Reservoir Alignment, 6,000 cfs, Intakes B and C (proposed project)

Different conveyance capacities of 3,000 cfs, 4,500 cfs, 6,000 cfs, and 7,500 cfs would affect the number and size of the facilities to be constructed. The alternatives with capacity of 7,500 cfs would involve additional facilities in the south Delta to convey 1,500 cfs to the CVP C. W. “Bill” Jones Pumping Plant (Jones Pumping Plant). The Bethany Reservoir alignment (Alternative 5) is only being considered at 6,000 cfs design capacity and would not require construction or operation of the Southern Complex. Rather, the single tunnel would deliver water directly to a new Bethany Complex near the Bethany Reservoir for release to the Bethany Reservoir and delivery to users.

Variations in conveyance capacity affect the size of the areas needed for construction and/or operation of the following facilities (Table 3-2).

- **North Delta intakes.** Number of intakes and the size of the fish screen and intake structure, sedimentation basin, and sediment drying lagoons, flow control structure, and inlet to tunnel.
- **Tunnel.** Tunnel length and diameter.
- **Tunnel launch shaft sites.** Site size, launch shaft diameter, material removed during shaft and tunnel construction, areas for tunnel liner segment storage, areas for RTM handling, and RTM storage.
- **Tunnel reception and maintenance shafts sites.** Shaft diameter and earth material removed during shaft construction.
- **Lambert Road Concrete Batch Plant.** Two batch plants for all alternatives except Alternatives 2b and 4b, which require only one concrete batch plant for 3,000 cfs conveyance capacity.
- **South Delta Pumping Plant.** Number and capacity of pumps and size of the pumping plant and electrical building would vary with the capacity of the alternative, but the overall pumping plant footprint would be the same under all alternatives. These facilities would not be included under Alternative 5.
- **Southern Complex.** Size of excess soil/RTM stockpile areas. This facility would not be included in Alternative 5.
- **South Delta Conveyance Facilities west of Byron Highway.** Additional facilities would be needed for 7,500-cfs alternatives to convey water to the Jones Pumping Plant approach channel. These facilities would not be included in Alternative 5.
- **Facilities for the Bethany Reservoir alignment.** Alternative 5 with 6,000-cfs capacity would require a larger Twin Cities Complex site to accommodate additional RTM drying without the use of mechanical dryers, a larger site on Lower Roberts Island to accommodate a double launch shaft, a different alignment south of Lower Roberts Island, a different shaft location on Upper Jones Tract, one additional maintenance shaft as compared to the eastern alignment, and a different southern site near Mountain House for the Bethany Complex. The Bethany Complex would include a pumping plant, surge basin with reception shaft, a buried pipeline aqueduct system, and a discharge structure to convey water to Bethany Reservoir.

3.4 Common Features of the Alternatives

Because the project alternatives have many features in common, this section describes the major facilities that are present in multiple alternatives. Not all project alternatives involve all the common features; see Table 3-2 for a comparison of key features of the alternatives and Table 3-3 for the overall temporary and permanent acres affected by each alternative. The distinctive characteristics and major features of each project alternative are described in Sections 3.6 through 3.14. Mapbooks illustrate the project route, facilities, and construction features of each alignment overlaid on aerial imagery. Mapbook 3-1 shows the central alignment, Mapbook 3-2 shows the eastern alignment, and Mapbook 3-3 shows the Bethany Reservoir alignment.

Under all alternatives, construction would generally take place Monday through Friday, sunrise to sunset, or approximately 10 hours a day, except for two processes: RTM handling, which is described in Section 3.4.4, *Reusable Tunnel Material*; and at the intakes, where construction would be continuous until the concrete pour for the tremie slab that forms the base of the cofferdam is completed, approximately 3 days per pour.

Table 3-2. Summary of Key Project Features by Alternative

Items	Alternative 1	Alternative 2a	Alternative 2b	Alternative 2c	Alternative 3	Alternative 4a	Alternative 4b	Alternative 4c	Alternative 5
Conveyance capacity (cubic feet per second)	6,000	7,500	3,000	4,500	6,000	7,500	3,000	4,500	6,000
Alignment	Central	Central	Central	Central	Eastern	Eastern	Eastern	Eastern	Bethany Reservoir (eastern alignment from intakes to Lower Roberts Island, then extending to the Bethany Reservoir Pumping Plant and Surge Basin without use of a forebay)
Intakes and capacity (cubic feet per second)	Intake B, 3,000 Intake C, 3,000	Intake A, 1,500 Intake B, 3,000 Intake C, 3,000	Intake C, 3,000	Intake B, 3,000 Intake C, 1,500	Intake B, 3,000 Intake C, 3,000	Intake A, 1,500 Intake B, 3,000 Intake C, 3,000	Intake C, 3,000	Intake B, 3,000 Intake C, 1,500	Intake B, 3,000 Intake C, 3,000
Main tunnel diameter (feet)	36 inside 39 outside	40 inside 44 outside	26 inside 28 outside	31 inside 34 outside	36 inside 39 outside	40 inside 44 outside	26 inside 28 outside	31 inside 34 outside	36 inside 39 outside
Main tunnel length (miles)	39	42	37	39	42	44	40	42	45
Lambert Road Concrete Batch Plants	Two plants. 15 acres for construction; 14 acres post-construction.	Two plants. 15 acres for construction; 14 acres post-construction.	One plant. 8 acres for construction; 7 acres post-construction.	Two plants. 15 acres for construction; 14 acres post-construction.	Two plants. 15 acres for construction; 14 acres post-construction.	Two plants. 15 acres for construction; 14 acres post-construction.	One plant. 8 acres for construction; 7 acres post-construction.	Two plants. 15 acres for construction; 14 acres post-construction.	Two plants. 15 acres for construction; 14 acres post-construction.
Bethany Complex Concrete Batch Plants	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Two plants, approximately 5 acres at Bethany Reservoir Pumping Plant and Surge Basin.

Items	Alternative 1	Alternative 2a	Alternative 2b	Alternative 2c	Alternative 3	Alternative 4a	Alternative 4b	Alternative 4c	Alternative 5
South Delta Pumping Plant at the Northern Southern Forebay Embankment	Seven pumps at 960 cfs, each, including two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Eight pumps at 960 cfs, each, including up to two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Five pumps at 960 cfs, each, including up to two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Six pumps at 960 cfs, each, including up to two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Seven pumps at 960 cfs, each, including two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Eight pumps at 960 cfs, each, including up to two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Five pumps at 960 cfs, each, including up to two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Six pumps at 960 cfs, each, including up to two standby pumps. Three pumps at 600 cfs, each, including one standby pump. Two portable pumps to dewater tunnel for inspection or maintenance.	Not applicable
Southern Forebay	Normal operating capacity: 9,000 acre-feet. Surface area: approximately 750 acres. Average surface water elevation: 11.5 feet, or approximately the halfway point within the normal operating elevation range	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Not applicable

Items	Alternative 1	Alternative 2a	Alternative 2b	Alternative 2c	Alternative 3	Alternative 4a	Alternative 4b	Alternative 4c	Alternative 5
	of 5.5 to 17.5 feet. Area: approximately 1,000 acres.								
Dual tunnels at Southern Forebay Outlet Structure, each (diameter in feet; length in miles)	38 inside 41 outside 1.7 miles	40 inside 44 outside 1.7 miles	38 inside 41 outside 1.7 miles	38 inside 41 outside 1.7 miles	38 inside 41 outside 1.7 miles	40 inside 44 outside 1.7 miles	38 inside 41 outside 1.7 miles	38 inside 41 outside 1.7 miles	Not applicable
Single Jones Tunnel (diameter in feet/length in miles)	Not applicable	20 inside 22 outside 1.5 miles	Not applicable	Not applicable	Not applicable	20 inside 22 outside 1.5 miles	Not applicable	Not applicable	Not applicable
Bethany Reservoir Pumping Plant and Surge Basin	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	14 pumps at 500 cfs, each, including two standby pumps Four 75-foot diameter by 20-feet high one-way surge tanks connected to the BRPP's discharge pipelines. Two portable 60 cfs pumps to dewater main tunnel for inspection and maintenance. Four rail-mounted 100 cfs pumps to dewater Surge Basin. One 815-foot by 815-foot, 35-foot deep surge basin with surge overflow capacity.

Items	Alternative 1	Alternative 2a	Alternative 2b	Alternative 2c	Alternative 3	Alternative 4a	Alternative 4b	Alternative 4c	Alternative 5
Bethany Reservoir Aqueduct to Bethany Reservoir Discharge Structure	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	128 acres for construction; 68 acres postconstruction. Four pipelines, each 15-feet inside diameter, 15.2 feet outside diameter. 2.8 miles long. Four tunnels (1 for each pipeline) under CVP Jones discharge pipelines. 4 tunnels (1 for each pipeline) under Bethany Reservoir Conservation Easement. Riser shafts to Discharge Structure.
Bethany Reservoir Discharge Structure	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	15 acres for construction; 13 acres postconstruction.
Park-and-Ride Lots (Temporary, for construction only)	Hood-Franklin Park-and-Ride – 4.1 acres. Rio Vista Park-and-Ride – 3 acres. Charter Way Park-and-Ride – 2.4 acres. Byron Park-and-Ride – 2.1 acres. Bethany Park-and-Ride – 2.6 acres.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Hood-Franklin Park-and-Ride – 4.1 acres. Charter Way Park-and-Ride – 2.4 acres. Byron Park-and-Ride – 2.1 acres. Bethany Park-and-Ride – 2.6 acres.	Same as Alternative 3	Same as Alternative 3	Same as Alternative 3	Hood-Franklin Park-and-Ride Lot - 4.1 acres. Charter Way Park-and-Ride – 2.4 acres.

Note: Tunnel diameter and length are from intakes to Southern Forebay, except for Alternative 5.

CVP = Central Valley Project; BRPP = Bethany Reservoir Pumping Plant.

Table 3-3. Temporary Construction and Permanent Acreage for Each Alternative

	Acres per Alternative								
Footprint	Alternative 1	Alternative 2a	Alternative 2b	Alternative 2c	Alternative 3	Alternative 4a	Alternative 4b	Alternative 4c	Alternative 5
Permanent Surface area	2,808.80	3,048.50	2,477.00	2,679.70	2,336.30	2,699.40	1,974.40	2,206.00	1,328.60
Temporary Surface area	1,309.00	1,481.00	1,134.00	1,303.30	1,341.50	1,410.30	1,160.50	1,322.00	1,190.80

Note: Acreages include all major project features, railroad and road work, power, SCADA, and construction support facilities. Geotechnical investigation zones and fault study areas are not included.

3.4.1 North Delta Intakes

All alternatives would include new intakes on the Sacramento River in the north Delta. Intakes A, B, and C (alone or in combination, depending on the alternative) on the east bank of the Sacramento River would divert water and convey it through a single main tunnel. Intake A would be south of and on the other side of the Sacramento River from Clarksburg, Intake B would be just north of Hood, and Intake C would be between Hood and Courtland (Mapbook 3-1, Sheets 1, 2, and 4). Intake A under Alternatives 2a and 4a and Intake C under Alternatives 2c and 4c would be designed to divert up to 1,500 cfs of Sacramento River water. Intakes B and C would each divert up to 3,000 cfs under Alternatives 1, 2a, 2b, 3, 4a, 4b, and 5 (Alternatives 2b and 4b use Intake C only to divert 3,000 cfs). Operated in a coordinated manner with the existing facilities, the north Delta facilities would provide flexibility to alter the location, amount, timing, and duration of diversions. A summary of intake characteristics is provided in Appendix 3D, *Intakes, Roads, and Shafts Summary Tables,* Table 3D-1.

At each intake, water would flow through cylindrical tee fish screens mounted on the intake structure to a sedimentation basin before reaching the intake outlet (tunnel inlet) shaft at each site (Figure 3-3). The intake outlet shaft would serve as the tunnel boring machine (TBM) reception or maintenance shaft during construction and as the intake outlet shaft and maintenance access during operation. These shafts would have an inside diameter of 83 feet.

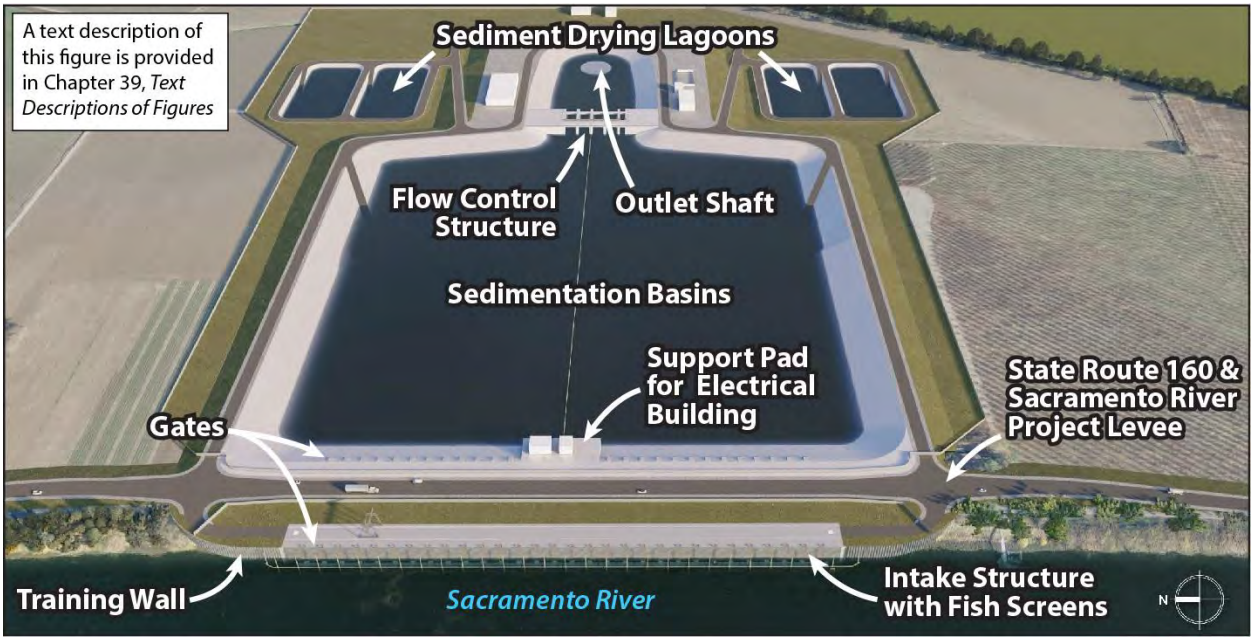


Figure 3-3. Typical Intake Configuration

From the intake outlet shaft, water would flow into a single-bore main tunnel that connects the intakes to the Twin Cities Complex, from which the tunnel route would extend south on a central, eastern, or Bethany Reservoir alignment (Figure 3-2 and Figure 3-4). The Twin Cities Complex is described in Section 3.4.3, *Tunnel Shafts*.

Intake features would include state-of-the-art cylindrical tee fish screens, intake structures, sedimentation basins, sediment drying lagoons, flow control structures, intake outlet channel and

intake outlet shaft, embankments, and other appurtenant structures. Intakes would also include associated facilities to support construction and operations of the intakes. During construction, the intake footprints would contain areas for standby engine generators, staging and management of construction equipment and materials, and ground improvement and slurry cutoff wall material preparation areas. Standby engine generators would be permanently installed at the intakes. Construction access to the intake sites would be by means of new access/haul roads (Section 3.4.7, *Access Roads*). Permanent intake footprints when construction is complete would be smaller once certain construction-related features are removed.

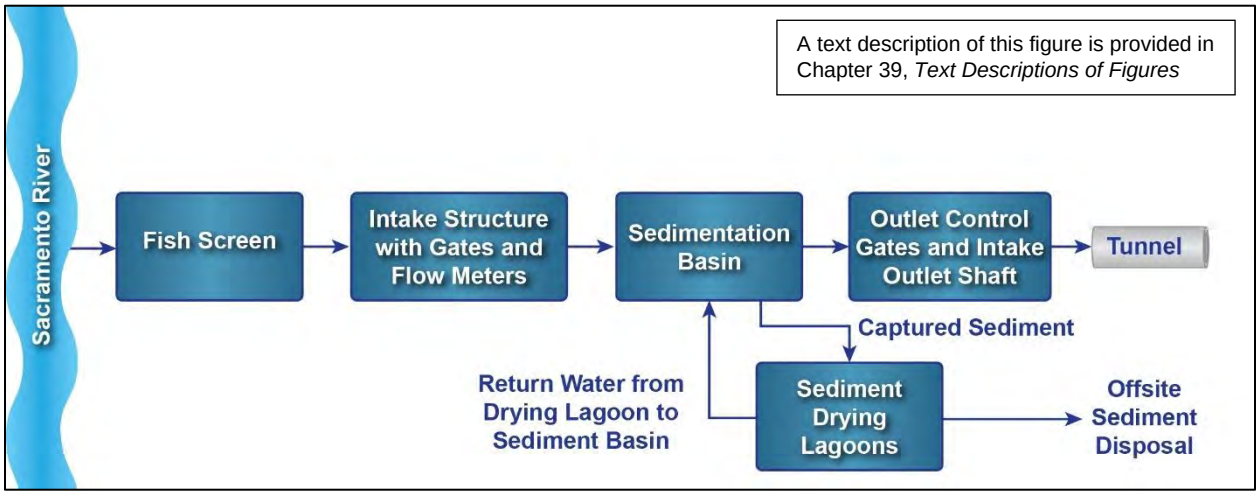


Figure 3-4. Schematic of Delta Conveyance Project Intake Facilities

Table 3D-1 in Appendix 3D summarizes the key features of the intakes for all alternatives.

3.4.1.1 Cylindrical Tee Fish Screens

Fish screens installed on intake structures minimize aquatic species from being carried into the intake facilities along with the diverted water. The intake screens are designed to draw in water at reduced velocities to reduce potential effects to the subset of fish exposed to the intake screens.

The intake fish screens are part of an overall intake system that includes the screen units and an integrated screen cleaning system, piping, and flow control features. The "tee-shaped" screen units would consist of two fish screen cylinders installed on either side of a center manifold that would be connected to the facility's intake opening. Each intake fish screen would extend about 12 feet from the vertical face of the intake structure into the river. During diversion operations, water would flow from the Sacramento River through the fish screens and a 60-inch diameter pipe and discharge into the sedimentation basins. Control gates would regulate the flow through each screen unit to the sedimentation basin (Figure 3-5).

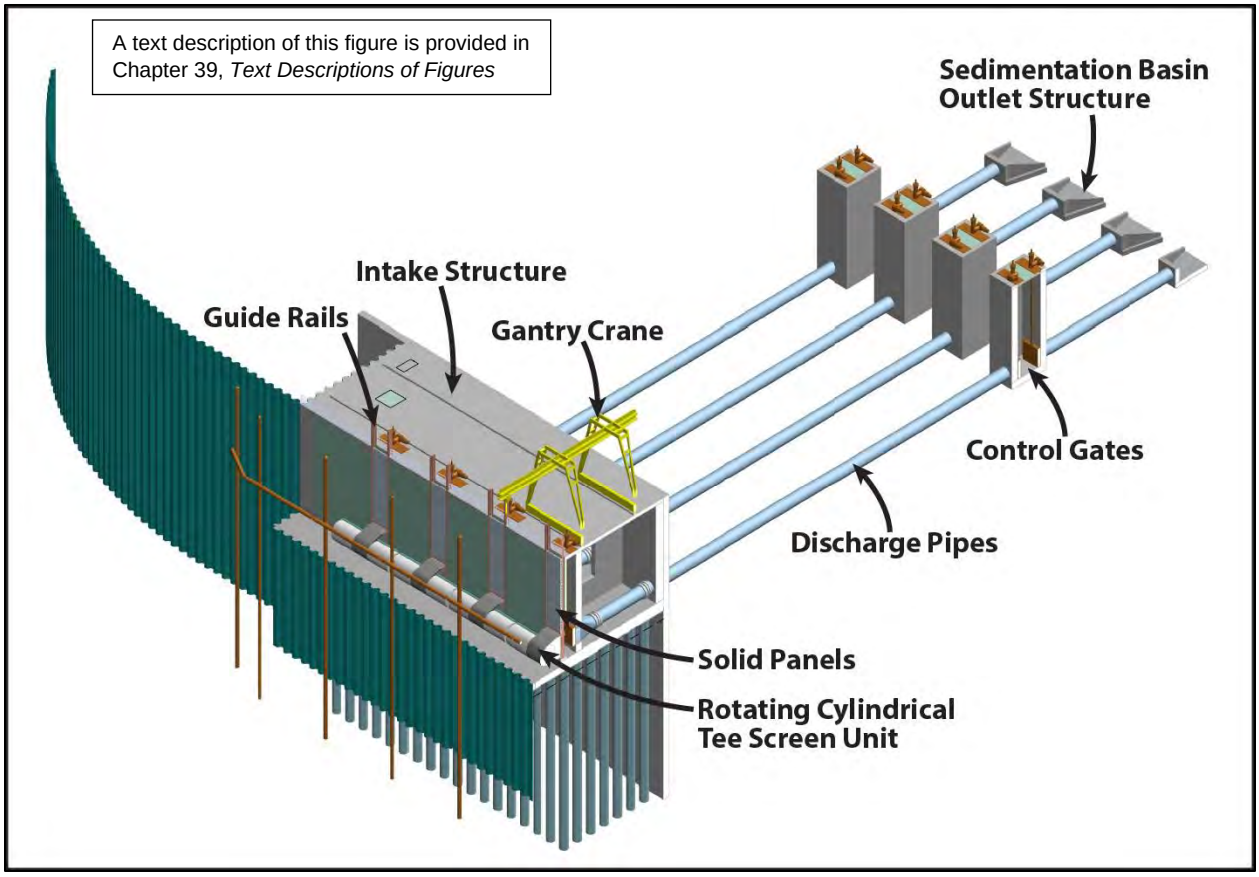


Figure 3-5. Cylindrical Tee Screen Facility

Installing the intake facility would require construction of a temporary cofferdam for in-river portions of intake construction to divert water and aquatic organisms around the work site and create a dry work area. Portions of the cofferdam would consist of interlocking steel sheet piles installed using a combination of vibratory and impact pile driving. Vibratory pile driving is a method by which the pile is vibrated into the soil beneath the site as opposed to being hammered in, as occurs in impact pile driving. Noise associated with vibratory pile driving is considerably lower than noise associated with impact hammer pile driving. To minimize noise and other disturbances from pile driving, vibratory pile driving would be used to the extent possible where supported by additional geotechnical information. All pile driving would be restricted between 7:00 a.m. and 7:00 p.m. and would not during this timeframe. It is estimated that the longest installation period (at Intake C) would be no more than 255 hours over a 5- or 6- week period, including time for handling and preliminary vibratory pile driving. Assuming 2 minutes of driving time for each sheet pile pair, impact drive time (as a subset of the total installation period) would range from a total of 9 hours at Intake A with 1,500-cfs capacity to 14 hours at Intake C with 3,000-cfs capacity, occurring over roughly 5 or 6 weeks. Each intake sheet pile construction period would be staggered by about 1 year (Delta Conveyance Design and Construction Authority 2022a).

3.4.1.2 Sedimentation Basins and Drying Lagoons

Diverted water would contain sediment suspended in the river water, a portion of which would be collected in a concrete-lined sedimentation basin. A deep soil-cement-bentonite perimeter wall (cutoff wall) would serve to isolate the sediment basins from the local groundwater and the Sacramento River. Each intake would have one sedimentation basin divided into two cells by a turbidity curtain (Figure 3-3). Water would flow from the intake through the sedimentation basin and through a flow control structure with radial gates into the outlet channel and shaft structure that would be connected to the tunnel system.

The screen and intake design would allow sufficient flow velocities in diversion pipes to sweep sediment into the sedimentation basin and prevent it from settling in the piping system. Once the diverted water enters the sedimentation basins, larger sand and silt sediment particles would settle while smaller silt and clay particles would be carried into the tunnel. A flow control structure with four large radial gates and one smaller gate would control the water level in the sedimentation basin and discharge flow into the intake outlet channel and outlet shaft. Tunnel and aqueduct velocity would be sufficient to transport these smaller particles to the Southern Forebay or Bethany Reservoir.

Each intake would have four concrete-lined sediment drying lagoons, each approximately 15 feet deep, containing an average of 10 to 12 feet of water within its embankments when in use. Once a year, during the summer months, the sedimentation basin would be dredged, one half at a time, and sediment slurry discharged to drying lagoons, dewatered, and allowed to dry naturally. The sediment is anticipated to be composed of large silt and sand particles with minimal organic material. During dredging operations, sediment is expected to accumulate to a depth of about 1 foot, distributed over the floor of the drying lagoons. Water drained from the sediment drying lagoon outlet structures and underdrains would be pumped back into the sedimentation basin. The sediment remaining would be dried for 2 to 6 days, which would reduce its moisture content to a point at which the sediment can be removed and transported without creating dust. If sediment is dried to a level that would create dust, the dust would be controlled by application of water from on-site supplies. The dried sediment would be removed by truck for disposal at a permitted disposal site or used for beneficial uses off-site. The fill and drain/dry sequence would take about 7 to 8 days, which would approximately match the dredged material filling rate so continuous operation would be possible. Each drying lagoon would be filled up to three times each year; however, generally this would happen only once per year for typical project conditions. The filling process would be part of the overall sediment removal and disposal process that would be conducted once per year. During the filling period, it would take about 2 days to move sediment from the sedimentation basin to each sediment drying lagoon, about 2 days to remove most of the water back to the sedimentation basin, and about 3 to 4 days to dry and remove sediment from the basin for a total duration of 7 to 8 days. Up to about 1,800 to 2,100 cubic yards of sediment would be removed from each lagoon each time this cycle occurs. The volume of sediment collected would depend upon the volume, suspended sediment concentration, and flow rate of water diverted at the intake. Intake maintenance activities are described in Section 3.16.5, *Intake Maintenance Activities*.

3.4.1.3 Temporary and Permanent Flood Control Levees and State Route 160

Constructing the intakes along the riverbank would require relocating the federal project levee (under USACE jurisdiction) and State Route (SR) 160 prior to building the intake structure and fish

screens. The federal ("jurisdictional" or "project") levee was constructed as part of the Sacramento River Flood Control Project Levee program established by USACE to provide flood management for surrounding lands. Altering a jurisdictional levee requires approval by USACE and the Central Valley Flood Protection Board (CVFPB) prior to undertaking any modifications and requires that conformance with flood control criteria be maintained continuously during construction of any modifications. A temporary jurisdictional levee would be built at the intake sites east of the existing levee to reroute SR 160 and maintain continuous flood protection during construction of the new intake facilities (Figure 3-6).

SR 160 is a State and County Scenic Highway that runs on top of the existing jurisdictional levee. The California Department of Transportation (Caltrans) is responsible for the state highway. DWR would collaborate with Caltrans to ensure the temporary relocation and subsequent permanent realignment of SR 160 at the intakes conform to all Caltrans highway design, construction, and safety standards. Caltrans would assist DWR with the design of the temporary and permanent relocation of SR 160. Caltrans would also provide construction oversight for activities related to SR 160 relocation. Caltrans is a CEQA responsible agency for this EIR; accordingly, Caltrans would ensure this Final EIR meets its standards of environmental documentation.

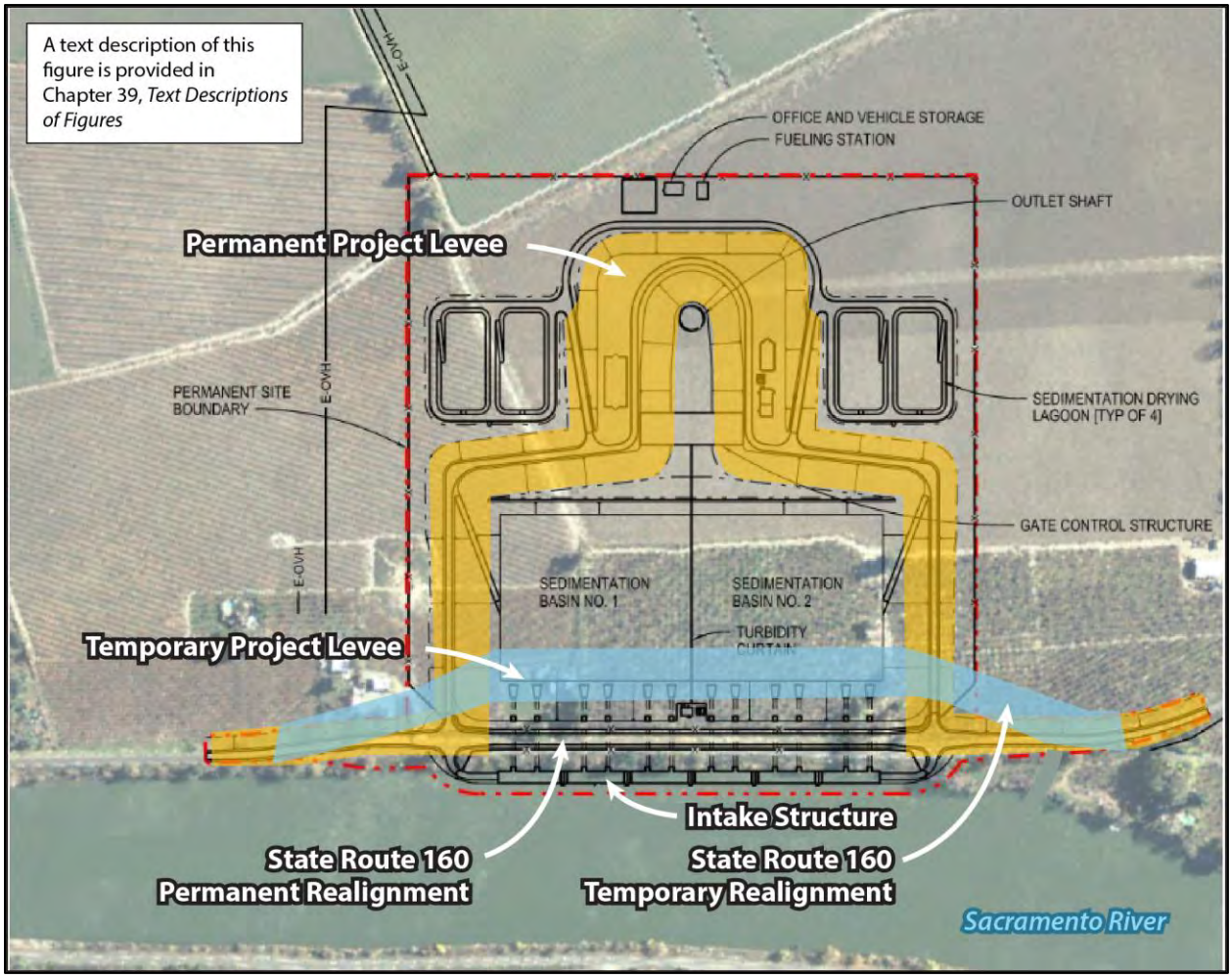


Figure 3-6. Schematic of Permanent and Temporary Levees

The temporary levee would also facilitate construction sequencing of the permanent jurisdictional levee around the perimeter of the intake shaft and sedimentation basin. The level of flood control afforded by the existing levee would be maintained during and after construction.

Between the temporary jurisdictional levee and the Sacramento River, a cofferdam would be constructed along the water side of the Sacramento riverbank adjacent to the existing SR 160 to provide a dry workspace for intake structure construction. Following construction of the intake structure and the permanent levee system on the land side of the temporary levee, the area to the east of the intake structure would be backfilled and SR 160 would be relocated on top of the backfill along the Sacramento River.

The intake structure and the temporary and permanent levees, including the sedimentation basin, radial gate structure, and intake outlet channel embankments would be designed to protect the site and surrounding area from the 200-year flood event with climate change. Modeling for design assumed the most extreme sea level rise of 10.2 feet at year 2100, scaled to how it would affect conditions in the Sacramento River, as described in Section 3.3.1, *Design for Climate Change and Sea Level Rise*, and defined in the *Preliminary Flood Water Surface Elevations* memorandum (California Department of Water Resources 2020a). This level of protection exceeds the requirements of both USACE and CVFPB. The final configuration of the levee embankment around the intake outlet channel and shaft would protect the channel and shaft opening from the 200-year peak flood elevations plus extreme sea level rise assumed for year 2100 and 3 feet of freeboard during operations (Table 3-4).

Table 3-4. Water Surface and Flood Protection Levee Elevations

Intake	River Mile	200-Year Max WSE + Climate Change + Sea Level Rise of 10.2 feet in 2100	Top of Levee (feet)
A	41.1	28.2	31.2
B	39.4	27.3	30.3
C	36.8	26.3	29.3

Source: Delta Conveyance Design and Construction Authority 2022d.
Max = maximum; WSE = water surface elevation.

3.4.1.4 On-Site Roads at the Intakes

Permanent paved roads and gravel-surfaced roads and work areas would be constructed at the intakes for use during construction and later operations (Figure 3-3).

For construction of Intake A, approximately 2 miles of roads would be constructed within the intake site. Most interior roads would be covered with gravel or gravel over geotextile material, or paved, depending upon the amount of vehicle use envisioned. Roads leading to the access road would be paved. Toward the end of construction, about 9,500 feet of 24-foot-wide paved permanent access roads would be installed. Access to the intake site would occur from SR 160 and from an access/haul road located to the west of the abandoned railroad embankment that would be installed during construction. Several internal access roads would be constructed around the base of the outlet shaft area, along the top of the embankments, and on ramps up the side of the embankments. Because these roads would receive substantial vehicle use, they would also be 24 feet wide and paved. Approximately 6,000 feet of 20-foot-wide gravel roads would be constructed around the sediment

drying lagoons, along the length of the sedimentation basin parallel to SR 160, and to provide access along the sediment loading areas.

At Intake B, approximately 8,900 feet of 20-foot-wide paved permanent roads would be installed on the intake site toward the end of construction. Several 24-foot-wide paved internal roads would be constructed around the base of the intake outlet shaft area, along the top of the embankments, and on ramps up the side of the embankments. About 6,500 feet of 20-foot-wide gravel roads with chip seal would be constructed around the sediment drying lagoons, along the length of the sedimentation basin parallel to SR 160, and to provide access along the sediment loading areas. All construction access and the primary maintenance access to the intake site would be from the intake access road.

Intake C at 3,000 cfs diversion capacity would also have approximately 6,500 feet of 20-foot-wide gravel roads with chip seal around the same facilities as at Intake B. About 8,300 feet of paved permanent roads would be installed at Intake C near the end of construction, along with 24-foot paved internal access roads around the base of the intake outlet shaft area, along the top of the embankments, and on ramps up the side of the embankments. Intake C at 1,500-cfs capacity would have 8,000 feet of 24-foot wide paved roads and 6,000 feet of 20-foot wide gravel roads. All construction access and the primary maintenance access to the intake site would be from the intake access road.

Off-site access roads are described in Section 3.4.7.

3.4.2 Tunnels

Under Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, the main tunnel would convey water from the intakes to the proposed new Southern Forebay Inlet Structure in the south Delta, to be distributed via the Southern Forebay and additional facilities composing the Southern Complex (Section 3.4.5, *Southern Complex on Byron Tract*). The bottom elevations of the main tunnel would range from -143 feet to -163 feet (North American Vertical Datum of 1988 [NAVD88]) with a top elevation near sea level. Under Alternative 5, the bottom elevations of the tunnel between the Twin Cities Complex and the Bethany Complex would range from -145 feet to -164 feet with a top elevation near sea-level. The inside diameter of the tunnel would range from 26 feet to 40 feet and the length of the main tunnel would range from 37 to 45 miles, depending on alternative, as shown in Table 3-2.

At the south end of the Southern Forebay, dual tunnels would connect the Southern Forebay to the SWP Harvey O. Banks (Banks) Pumping Plant approach channel, a distance of 1.7 miles. Two parallel tunnels are proposed to allow conveyance of the full design capacity of the Banks Pumping Plant, and secondarily so that one tunnel could be removed from service for inspection and cleaning while maintaining half-capacity service in the other tunnel (Section 3.4.6, *Southern Complex West of Byron Highway*). Alternatives 2a and 4a would require an additional single tunnel and facilities on the Southern Complex to convey water to the CVP. These are described in Section 3.7, *Alternative 2a—Central Alignment, 7,500 cfs, Intakes A, B, and C,* and Section 3.11, *Alternative 4a—Eastern Alignment, 7,500 cfs, Intakes A, B, and C.* Under Alternative 5, the main tunnel would go directly to the Bethany Reservoir Pumping Plant from Lower Roberts Island, without the Southern Complex dual tunnels, as described in Section 3.14.

3.4.2.1 Tunnel Maintenance

Tunnels would be designed to be low maintenance. An initial inspection could occur during the construction contract's warranty period, generally within about 1 year after the system is placed into operation. After the initial inspection, tunnel inspections could be completed once every 10 years for the first 50 years and every 5 years after 50 years from initial operation. The inspections could occur using autonomous underwater vehicles or remotely operated vehicles without the need to dewater the tunnel. Under the central and eastern alignment alternatives, if dewatering is required, two portable dewatering pumps would be installed within the Southern Forebay Inlet Structure launch shaft and water would be discharged directly into the Southern Forebay. Under the Bethany Reservoir alignment, two portable dewatering pumps would be installed in the Surge Basin reception shaft and discharge water directly into the Bethany Reservoir Pumping Plant discharge pipelines and ultimately to the Bethany Reservoir Discharge Structure.

3.4.3 Tunnel Shafts

Tunnel boring machines (TBMs) would be used to bore the tunnels. Tunnel shafts to launch, remove, and/or maintain the TBMs would be constructed at intakes, along the alignment, and at the Southern Complex or Bethany Complex. The TBM would be lowered into a launch shaft and would bore horizontally toward a reception shaft (Figure 3-7). Reception shafts would be used to remove the TBM from the tunnel at the end of each drive. Because the TBM cutterhead would need inspection and maintenance, maintenance shafts would be located approximately every 4 to 6 miles between launch and reception shafts to provide access for TBM maintenance, repair, access or evacuation, and logistic support in a free-air (not pressurized) environment. The northernmost intake shaft for each alternative would serve as the reception shaft during construction; shafts at downstream intakes would serve as maintenance shafts. During operations, shafts at intakes would serve as intake outlet shafts to convey water into the tunnel system as well as for maintenance access to the tunnel. All tunnel shafts would be maintained during operations to provide access, as needed.

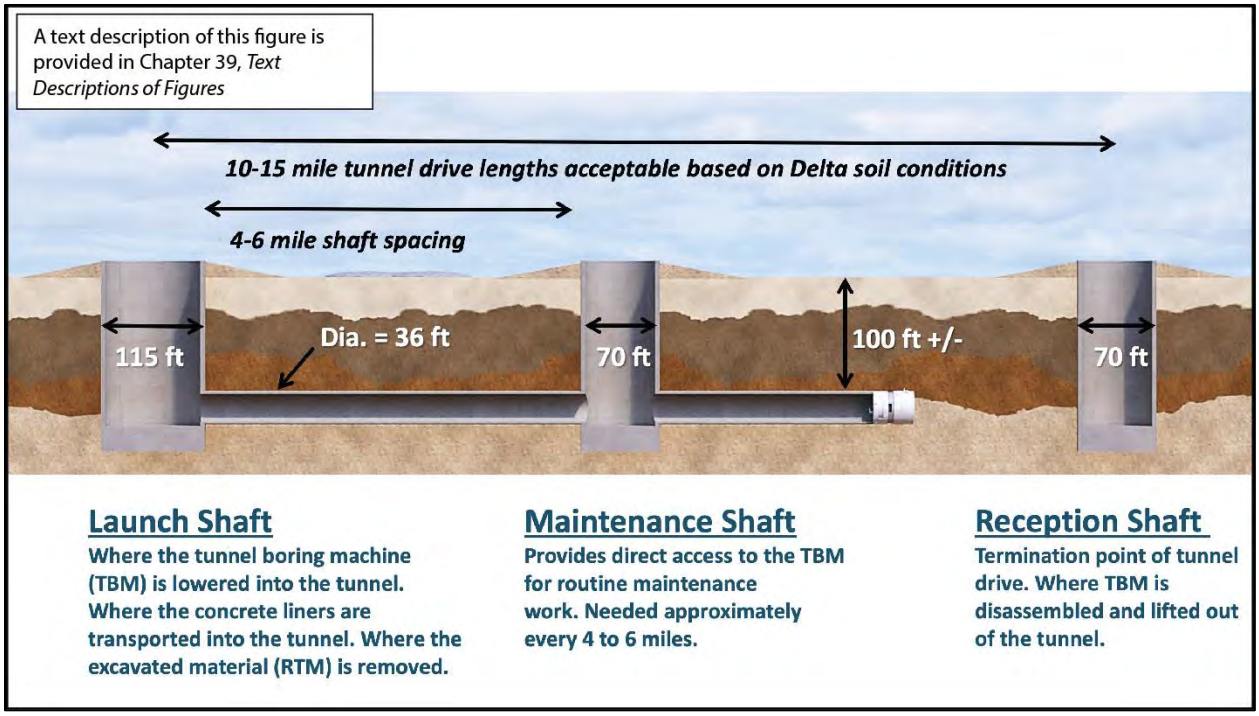


Figure 3-7. Key Components of a Tunnel Drive (6,000-cfs alternatives)

Most shafts would require construction of a shaft pad. Tunnel shaft pads would be constructed above the ground surface to an elevation approximately equal to the adjacent levee system on the island or tract. The height of the shaft pad would be sufficient to protect the tunnel and construction personnel from localized flooding but lower than the top of the shaft postconstruction to reduce the need for imported fill, which reduces related potential environmental effects. The final postconstruction shaft at the intakes would be raised above the shaft pad to an elevation above the maximum water surface in the tunnel for hydraulic surge events or the Sacramento River 200-year flood event with sea level rise and climate change hydrology for year 2100, whichever is higher, including freeboard criteria. Note that the Sacramento River flood event water level in some locations is higher than the local 200-year flood event with sea level rise and climate change hydrology for year 2100 (including wind fetch wave run-up) at all of the tunnel shaft sites, so the river flood level controls over the local flood level for setting the tops of structures. A concrete cover with air venting provisions would be placed over the top of the shaft. Cranes would be used to move the concrete cover and move any large equipment. A scaffold will be erected to allow personnel into and out of the tunnel during operations.

3.4.3.1 Tunnel Launch Shafts

Tunnel launch shafts would generally have a finished inside diameter ranging from 110 to 120 feet and 8-foot thick walls, depending on conveyance capacity. Tunnel launch shaft sites would include a shaft pad for the tunnel launch shaft with adjacent areas for equipment to excavate and support the shaft, cranes, and appurtenant items to move equipment into and out of the tunnel shaft, equipment holding areas, and areas to receive and manage the excavated RTM. Tunnel launch shaft sites would also include areas for tunnel liner segment storage, aggregate storage, slurry/grout mixing plants, electrical substation and electrical building, workshops and offices, water treatment tanks, access roads, and RTM handling, drying, and storage areas. Construction activities at the launch shafts

would continue for 7 to 9 years. Tunnel shaft characteristics for each alignment are provided in Table 3-5 (Alternative 1), Table 3-9 (Alternative 3), and Table 3-13 (Alternative 5); shaft site dimensions would vary somewhat by alternative according to conveyance capacity and amount of RTM generated; construction and permanent acreages of shaft sites on each alignment are provided in Appendix 3D.

Double Launch Shaft at Twin Cities Complex

All alternatives would include the double launch shaft at the Twin Cities Complex. The double launch shaft would be constructed in a figure eight configuration with inside diameters of 110 to 120 feet (depending on conveyance capacity) to allow TBMs to excavate in both north and south directions (Figure 3-8). This double launch shaft would be part of a larger complex that houses other construction facilities to support tunnel excavation at this site.

The Twin Cities Complex would be off Twin Cities Road approximately 0.5 mile northeast of the interchange with I-5. Its northern boundary would fall between Dierssen and Lambert Roads, its eastern boundary along Franklin Boulevard, its western boundary offset from the I-5 embankment, and a majority of the southern boundary at Twin Cities Road. During construction, depending on alternative, the Twin Cities Complex would occupy from 322 to 586 acres. Permanent site size would range from 26 to 302 acres depending on alternative, as shown on summary tables for each alternative in Sections 3.6 through 3.14 of this chapter. The construction site would be surrounded by a ring levee, with height varying from about 3.5 feet to 11.5 feet, designed to protect the facilities from the 100-year flood event with the Delta-specific Public Law 84-99 equivalent standards (i.e., 1.5 feet of freeboard above the 100-year Federal Emergency Management Agency flood elevation with 2:1 [horizontal to vertical; H:V] exterior slopes and 3H:1V interior slopes).

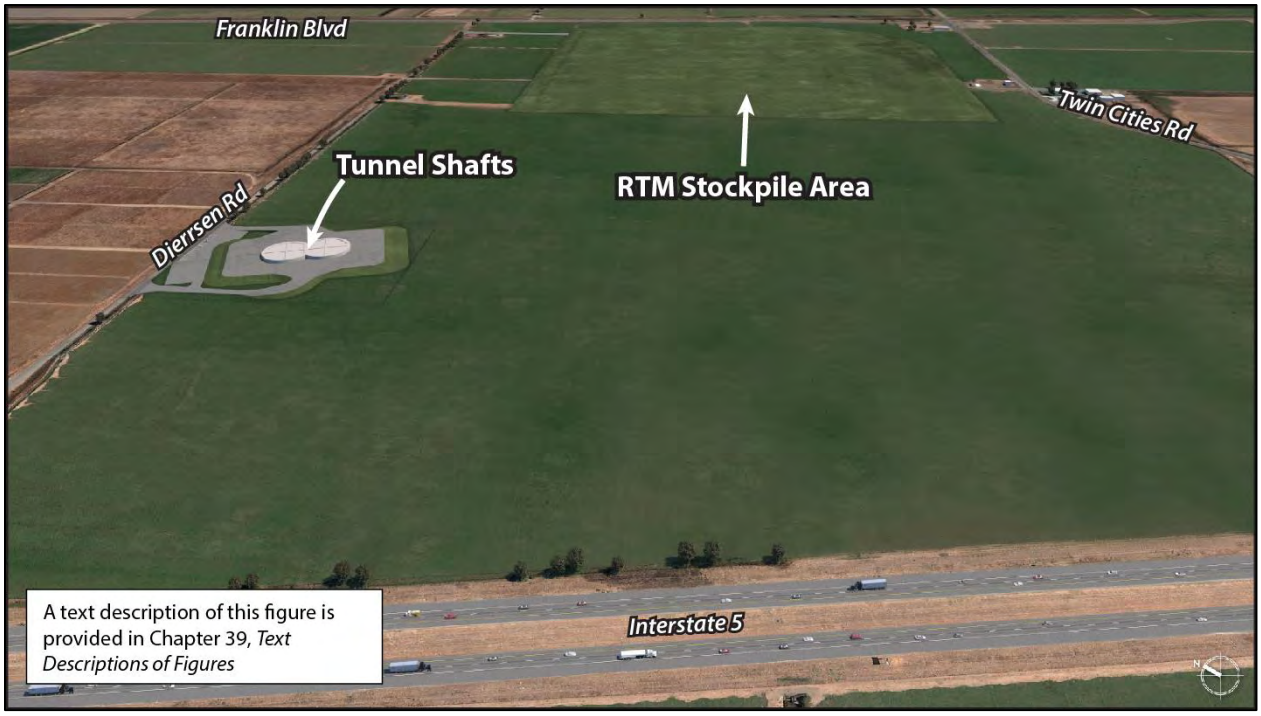


Figure 3-8. Twin Cities Double Launch Shaft Plan (permanent condition)

The Twin Cities Complex during construction would contain the double launch shaft, tunnel segment storage, a slurry/grout mixing plant, shops and offices for construction crews, parking, material laydown and erection areas, access roads, RTM conveyor and handling facilities (Section 3.4.4), a water treatment plant, emergency response facilities, and a helipad. Tunnel segments, TBM machinery, and other equipment would be delivered to the Twin Cities Complex by railroad at the rail-served materials depot in Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, and by road in Alternative 5. In Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, on-site rails would be used to move materials within the Twin Cities Complex and the railroad also would be used to transport RTM to the Southern Complex to construct portions of the Southern Forebay embankments for the central and eastern alignment alternatives. Approximately 1.3 to 1.8 million cubic yards of dry RTM would be moved to the Southern Complex for reuse.

Approximately 400,000 to 1 million cubic yards of RTM would be used to fill excavated areas at Twin Cities Complex site and provide fill to Mandeville and Bacon islands for the central alignment alternatives (Alternatives 1, 2a, 2b, and 2c). The long-term RTM storage stockpile would be planted with erosion-control seed mix to stabilize the stockpile and avoid dust generation.

Excavated soil and RTM from the Twin Cities Complex would be used for constructing the on-site ring levee and tunnel shaft pad at the Twin Cities Complex and for constructing shaft pads on New Hope Tract, Staten Island, and Bouldin Island (central alignment), or shaft pads on New Hope Tract, Canal Ranch Tract, Terminous Tract, and King Island (eastern alignment). See Section 3.4.9, *Soil Balance*.

No ground improvement would be expected for construction at the Twin Cities Complex because underlying soils appear to have low compressibility and are not anticipated to be subject to liquefaction.

Reception and Maintenance Shafts

Reception and maintenance shafts (Figure 3-9) would have finished inside diameters ranging from 53 to 83 feet, depending on conveyance capacity. Tunnel reception and maintenance shaft sites would range in size depending on location and other facilities at the site (see summary tables of physical characteristics for each alternative). Tunnel reception and maintenance shaft sites would include areas for the tunnel shaft with adjacent areas for equipment to excavate the shaft, and cranes and appurtenant items to move equipment into and out of the tunnel shaft. Reception shaft sites would be larger than maintenance shaft sites because of the area needed to disassemble the TBM equipment prior to removal from the construction site. Construction activities at the maintenance and reception shaft sites would continue for approximately 2 years.

Because they would not be used to supply tunnel segments or remove RTM, reception and maintenance shaft sites would not require areas for storing tunnel liner segments or RTM handling. The reception shaft on Bacon Island, for central alignment alternatives, would include areas for aggregate storage and a concrete batch plant during shaft construction and equipment handling. Other shafts would have ready-mix hauled in. These shafts would be powered by new power lines extending from existing, local distribution networks and would not need an electrical substation.

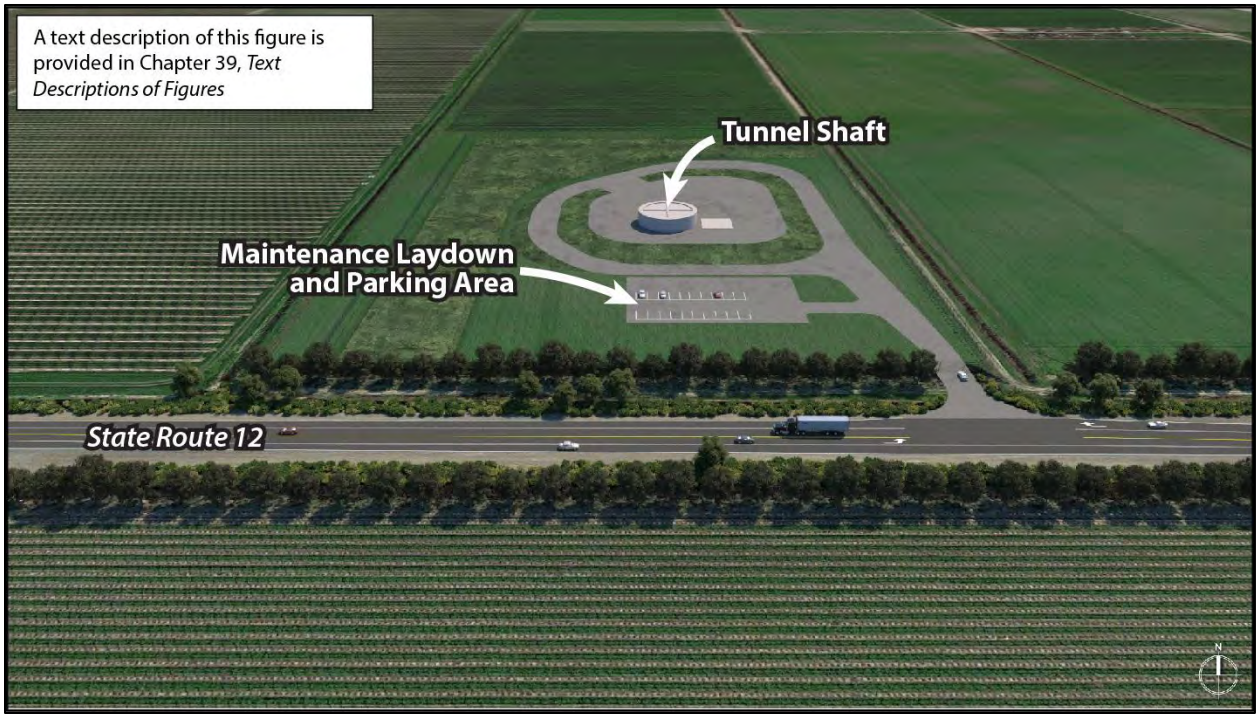


Figure 3-9. Typical Maintenance and Reception Shaft Site Postconstruction

Dual Shafts for Tunnels on the Southern Complex

In addition to the shafts required for the main tunnel, two launch shafts and two reception shafts would be required to bore dual tunnels that would convey water from the Southern Forebay Outlet Structure at the Southern Complex on Byron Tract to the South Delta Outlet and Control Structure at the Southern Complex west of Byron Highway. Those facilities, which would be present only in the central and eastern alignment alternatives (Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c) and not in Alternative 5, are detailed further in Section 3.4.5, *Southern Complex on Byron Tract*, and Section 3.4.6, *Southern Complex West of Byron Highway*.

3.4.3.2 Tunnel Shaft Maintenance

Tunnel shafts would be used for tunnel access postconstruction so that periodic inspections, repair, and maintenance activities could be performed. Design features of the gravity tunnel system should preclude the need for planned maintenance; necessary maintenance activities would be the result of inspection findings. However, it is anticipated that at some point during the service life of the system, some maintenance would be required. The maintenance work could range from cleaning out the tunnel invert with a loader or possibly patching or repairing the tunnel lining. Areas to perform inspection and maintenance activities would be provided adjacent to and on top of the shaft pads at each shaft location. Inspection and maintenance activities would comply with the confined space regulations in accordance with Occupational Safety and Health Administration requirements.

There would be daily inspection and security checks at shaft sites. Depending on the activity, grounds maintenance (i.e., mowing, weed maintenance) would take place quarterly every 1 to 2 years, and repaving every 15 years.

3.4.4 Reusable Tunnel Material

RTM would be generated at launch shafts as the TBMs bore the tunnel. RTM is the soil removed by the TBM boring the tunnel, mixed with conditioners, and lifted to the ground surface through the launch shaft. "Wet excavated RTM" refers to the bulk material, including conditioners, resulting from tunnel excavation. After RTM is removed from the tunnel, it would be tested for hazardous materials, dried mechanically or allowed to dry naturally, then stockpiled and transported for reuse or permanently stored. Volumes of RTM generated and areas for permanent storage would vary depending on tunnel diameter and length and are provided in the summary table for each alternative.

RTM removed from the tunnel through the launch shafts would be transported by conveyor to handling and storage facilities near launch shaft sites. RTM excavation, testing, drying, and movement from the tunnel launch shaft sites during tunneling operations would occur year-round, 20 hours per day Monday through Friday and 10 hours on Saturdays, allowing time for equipment maintenance. RTM movement at the Southern Complex from temporary storage to dry stockpile areas would occur 5 days per week from sunrise to sunset. Under Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, at the Twin Cities Complex and the Southern Complex, RTM could be moved by the railroad at any time of the day and on any day, depending upon the railroad schedules. Permanent RTM stockpiles would be elevated above the surrounding grades, covered with excavated topsoil, and planted with appropriate species primarily for erosion control, and potentially to create a natural habitat area when the stockpile is not being accessed for a soil material source. Recommended treatments for permanent RTM stockpiles would include spreading topsoil, cross disking, and planting native grasses. An access road would also be constructed from the existing paved road nearest to the stockpile.

3.4.4.1 Disposal of Reusable Tunnel Material

DWR would develop site-specific plans for the beneficial reuse of RTM to the greatest extent feasible for construction of the project. Excavated RTM would be placed in temporary stockpile areas and tested (generally once or twice a day) in accordance with the requirements of the Central Valley Regional Water Quality Control Board and the Department of Toxic Substances Control for the presence of hazardous materials at concentrations above their regulatory threshold criteria. The contractor(s) would conduct chemical characterization of RTM and associated decant liquid prior to reuse or discharge, respectively, to determine whether it will meet requirements of the National Pollutant Discharge Elimination System and the Central Valley Regional Water Quality Control Board. All decant liquid would be collected and treated for direct on-site reuse or on-site storage to reduce water supply needs. If the amount of treated water flows from RTM decant, dewatering flows, and site runoff exceeds the on-site water demands and on-site storage, the treated flows would be discharged to adjacent waterbodies in accordance with the stormwater pollution prevention plans, described in Appendix 3B, *Environmental Commitments and Best Management Practices*. While additives used to facilitate tunneling would be nontoxic and biodegradable, it is possible that some quantity of RTM would be deemed unsuitable for reuse and would be disposed of at a site approved for disposal of such material. This is expected to apply to approximately 1% to 5% of the total volume of excavated material.

It is anticipated that several stockpiles would be developed. Each temporary area would be generally sized to accommodate up to 1 week of RTM production to allow for testing of RTM for presence of contaminated or hazardous materials and suitability for reuse before stockpiling on-site

or transporting off-site. Each stockpile area would be lined with impermeable lining material. Additional features of the long-term material storage areas would include berms and erosion protection measures to contain storm runoff as necessary and provisions to allow for truck traffic during construction.

RTM intended for reuse as structural fill for later project construction activities would require drying. Both natural drying (evaporation) and mechanical drying were considered for the tunnel launch shaft sites. Mechanical drying was considered for Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, but not for Alternative 5 because RTM generated by the TBM is not proposed for reuse as part of Alternative 5 construction. At the Twin Cities Complex and Southern Complex, where the RTM would be reused for the project, mechanical dryers utilizing electric, natural gas, or propane heat sources would be considered. The mechanical dryers would minimize space requirements, provide for better moisture control, and avoid seasonal variation in evaporative drying rates as compared to natural drying process. The dried RTM would be piled and moved by bulldozers and motor scrapers, and then deposited in the dry stockpile areas near the tunnel launch shaft sites at the Twin Cities Complex and Southern Complex. As the RTM is required either on-site or at other locations, the RTM would be removed by wheel loaders and conveyors onto trucks or rail cars for transport to the designated points of use. RTM not removed for reuse would be graded and planted with erosion-control seed mix to avoid need for future handling and avoid dust generation.

At the Bouldin Island launch/reception shaft site (central alignment, Alternatives 1, 2a, 2b, and 2c), RTM would be naturally dried and stored on-site in permanent stockpiles. Due to the soil conditions, it is anticipated that the RTM stockpiles would consolidate and would decrease the long-term height. The long-term RTM storage stockpile would be planted with erosion-control seed mix to stabilize the stockpile and avoid dust generation.

At the Lower Roberts Island launch/reception shaft (eastern alignment, Alternatives 3, 4a, 4b, and 4c) or double launch shaft (Bethany Reservoir alignment, Alternative 5), RTM would also be naturally dried and stockpiled. A portion of the dried RTM would be used to refill the areas excavated at the launch site where soil was removed to construct tunnel shaft pads and levee modifications. Following tunnel construction, the RTM stockpile would be consolidated into a smaller area. Due to the soil conditions, it is anticipated that the RTM stockpiles would consolidate and the long-term height would decrease. The long-term RTM storage stockpile would be planted with erosion-control seed mix to stabilize the stockpile and avoid dust generation. Under Alternative 5, which would not include the Southern Forebay, RTM generated at the Twin Cities Complex and Lower Roberts Island would ultimately be moved to a single on-site long-term storage area at each launch shaft work area and planted with erosion-control seed mix to stabilize the stockpile and avoid dust generation.

RTM generated at the Southern Complex (central and eastern alignments) would be dried on-site using mechanical dryers and used for forebay embankment and forebay floor fill. A portion of the dried RTM would be used to refill the areas excavated at the Southern Forebay Inlet Structure launch shaft site where soil was removed to construct tunnel shaft pads and Southern Forebay embankments. The central alignment alternatives would not involve long-term stockpiles of RTM at the Southern Complex. For the eastern alignment alternatives, surplus dried RTM generated on-site at the Southern Complex would be stockpiled for long-term storage along with the surplus topsoil and peat stockpiles on an area north of the Southern Forebay. The long-term RTM storage stockpile would be planted with erosion-control seed mix to stabilize the stockpile and avoid dust generation.

At sites with mechanical drying, the RTM would be dried before being placed in a temporary stockpile. If the RTM generation rate is greater than the capacity of the mechanical drying equipment, the RTM would be transferred to a temporary wet stockpile area that can accommodate 1 week's worth of RTM above the average excavation rate. At sites with natural drying, RTM would be transferred to a temporary wet stockpile and tested prior to drying.

For the RTM not slated for reuse, wet RTM would be spread over a broad area in relatively thin lifts (e.g., 18 inches) and allowed to dry and drain naturally over a period of up to 1 year. Continuous spreading in thin lifts would allow RTM that is not mechanically dried to be dried naturally compacted in place without excessive earthmoving requirements.

If portions of the RTM were identified as hazardous, that material would be transported in trucks licensed to handle hazardous materials to a disposal location licensed to receive those constituents. If the RTM meets the criteria for reuse, the material would be moved by conveyor to a long-term on-site storage site or transported off-site for subsequent reuse.

Neither natural drying nor mechanical drying processes would be anticipated to create odors. It is recognized that odors typically occur in the presence of organic or sulfide constituents. Studies will be conducted during field investigations to evaluate materials for the presence of materials that could generate odors, such as organic materials. However, organic material would not be expected at tunnel depths based on preliminary understanding of regional depositional processes and available subsurface information. If sulfides were present, these constituents would probably be oxidized during the tunneling excavation and RTM soil-moving operations.

3.4.5 Southern Complex on Byron Tract

The Southern Complex would have facilities on Byron Tract east of Byron Highway and on a site west of Byron Highway. These facilities would be constructed for all alternatives except Alternative 5, the Bethany Reservoir alignment. See Section 3.14.1 for a description of Bethany Complex facilities.

The construction site for the Southern Complex on Byron Tract would vary somewhat by alternative; it would occupy approximately 1,500 acres during construction and about 1,200 acres permanently (see Figures 3-10 and 3-11, and Sections 3.6 through 3.13, for descriptions of individual alternatives). Facilities on Byron Tract east of Byron Highway would consist of the following.

- Byron Tract working shaft.
- Main tunnel terminus at the Southern Forebay Inlet Structure and tunnel launch shaft.
- South Delta Pumping Plant.
- Southern Forebay.
- Emergency spillway.
- Electrical switchyard.
- Maintenance and ancillary buildings.
- Southern Forebay Outlet Structure double launch shaft, upstream end of dual tunnels, and associated facilities to convey water in dual tunnels from the Southern Forebay to the South

Delta Outlet and Control Structure (the Southern Forebay Outlet Structure is part of the "South Delta Conveyance Facilities" on Byron Tract).

- Emergency response facilities.
- RTM handling facilities (e.g., RTM testing, drying, temporary storage areas) for RTM generated at the three launch shafts at the Southern Complex; temporary and permanent storage of excess dried RTM generated at the Twin Cities Complex.
- Concrete batch plant.
- Fencing for the Southern Complex.
- Access roads, including truck overpass over Byron Highway.
- Rail-served materials depot along the Union Pacific Railroad (UPRR) Lathrop-Byron rail line parallel to the Byron Highway to serve the Southern Complex tunnel launch shaft sites and to transport RTM from Twin Cities Complex to the Southern Complex and tunnel liner segments to the launch shaft site.
- Tunnel liner segment storage areas.

Portions of project land on Byron Tract would be reclaimed for habitat or agricultural use after construction. Land used during construction for topsoil storage, tunnel segment storage, retention ponds, railroad spurs, parking areas, access roads, and facilities/trailers for contractors and crew would be reclaimed. RTM treatment and storage areas within the permanent footprint of the Southern Forebay would not require reclamation.

Approximately 39 acres (for central alignment alternatives; 39 to about 42 acres for eastern alignment alternatives) of the site would be used for permanent topsoil stockpiles. Approximately 60 acres on the Southern Complex on Byron Tract would be used for peat storage (overtopped by topsoil) under central alignment alternatives, and 51 acres would be used for peat storage overtopped by topsoil under eastern alignment alternatives.

Conveying water from the Southern Forebay to the Banks Pumping Plant approach channel (part of the California Aqueduct) would require the following facilities.

- Southern Forebay Outlet Structure with double launch shaft to bore dual tunnels to the South Delta Outlet and Control Structure, and later to deliver water to those tunnels.
- Dual reception shafts at the South Delta Outlet and Control Structure along the Banks Pumping Plant approach channel.

Section 3.4.6, *Southern Complex West of Byron Highway,* describes the South Delta Conveyance Facilities that would provide the connection to the SWP Banks Pumping Plant.

3.4.5.1 Tunnel Shaft Sites at the Southern Forebay (Northern Embankment)

Two tunnel shaft sites would be located near the northern embankment of the Southern Forebay. Initially, a tunnel launch shaft would be located at the site of the Southern Forebay Inlet Structure and the South Delta Pumping Plant. The TBM would bore from the Southern Forebay Inlet Structure launch shaft to an intermediate working shaft site approximately 1 mile to the north. The TBM would bore through the working shaft and the tunneling support activities (segment supply,

grouting, ventilation, RTM extraction, and construction access) would be relocated to the working shaft for continued boring toward the tunnel reception shaft on Bacon Island (central alignment alternatives) or Lower Roberts Island (eastern alignment alternatives). By relocating the tunneling support activities to the working shaft, the vacated Southern Forebay Inlet Structure launch shaft would allow concurrent construction of the South Delta Pumping Plant and avoid lengthening the project schedule. As the name suggests, after construction, the Southern Forebay Inlet launch shaft would serve as the inlet to the South Delta Pumping Plant and as the gravity flow control and overflow structure for the tunnel system. Both shafts would be considered part of the Southern Complex. Figure 3-10 shows the major characteristics of the Southern Forebay Inlet Structure launch shaft and Byron Tract working shaft sites.

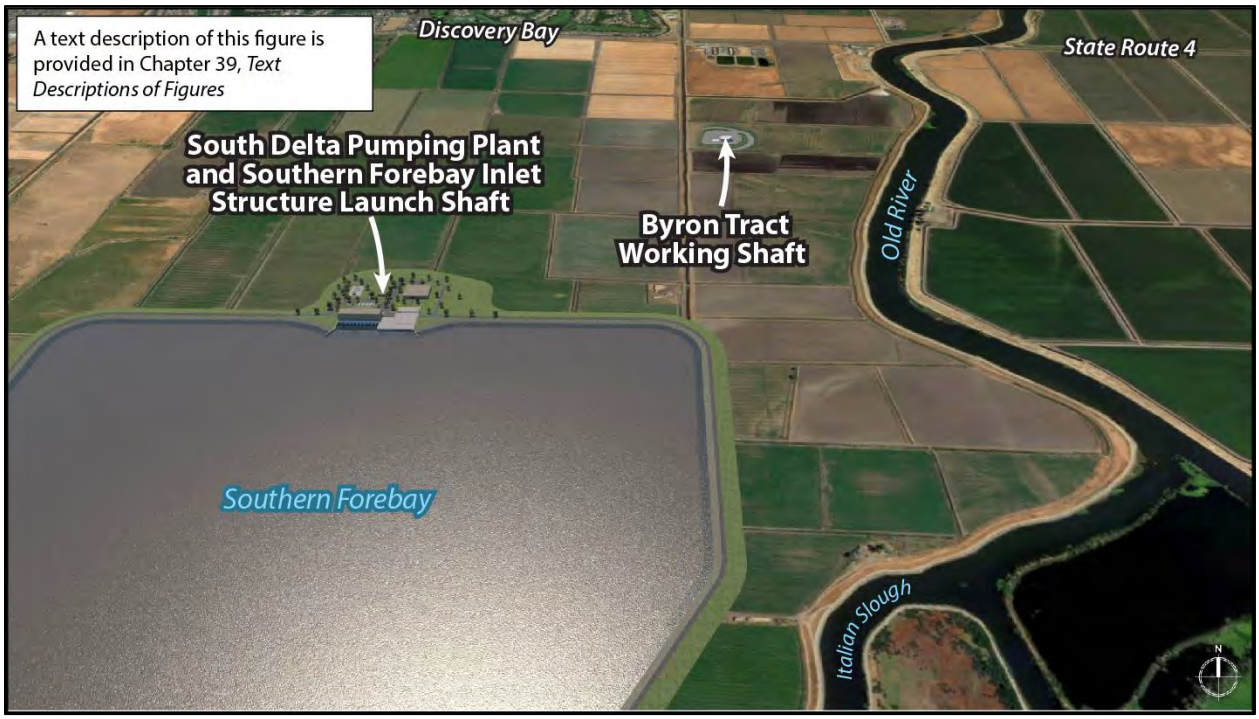


Figure 3-10. Southern Forebay Inlet Structure Launch Shaft and Byron Tract Working Shaft Site

3.4.5.2 South Delta Pumping Plant

The South Delta Pumping Plant would be situated along the northern embankment of the Southern Forebay adjacent to the Southern Forebay Inlet Structure launch shaft on Byron Tract. The Southern Forebay Inlet Structure launch shaft would become the main tunnel terminus, the pumping plant inlet, and overflow structure (Figure 3-11). The pumping plant would be the primary feature for conveying water from the tunnel system into the Southern Forebay.

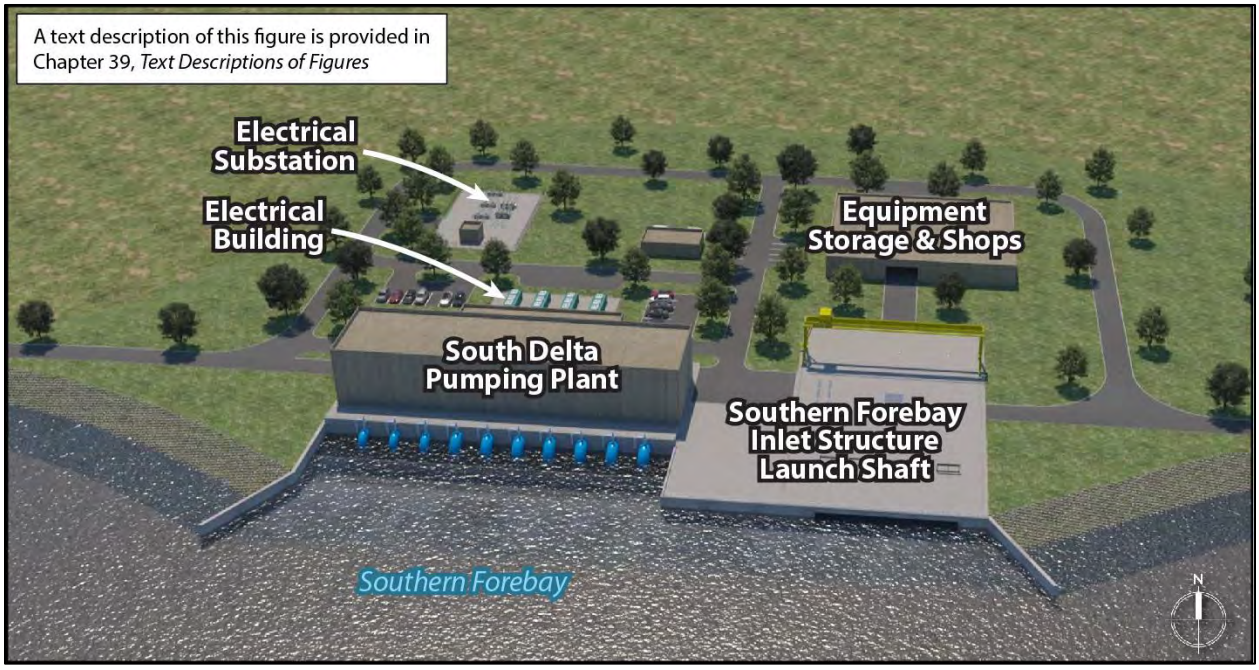


Figure 3-11. South Delta Pumping Plant Facilities

The pumping plant building would house a bank of 960 cfs primary pumps and 600 cfs secondary pumps, each with standby pumps; the number of pumps would vary by the alternatives' conveyance capacity. Two portable pumps would be available to dewater the tunnel when necessary for maintenance and inspection after the first year of operation and at 10-year intervals for the first 50 years and 5-year intervals after 50 years of operation. The primary pumps would use adjustable frequency drives to operate within a wide range of flows and surface water elevations at the intakes and the Southern Forebay.

Other pumping plant facilities would be the electrical building, electrical switchyard and substation, standby engine generator building, offices, storage, shops, and other appurtenant facilities. Gantry cranes with rail systems and other cranes would be outside of the buildings to move equipment during maintenance procedures. The site would be surrounded by security fences with three vehicle access gates.

Most South Delta Pumping Plant facilities would be placed aboveground on a raised site pad along the Southern Forebay embankment to protect the facilities from the 200-year flood event with climate change–induced hydrology, sea level rise for year 2100, freeboard criteria, and wind fetch wave run-up as modeled by DWR. The top of the pumping plant pad would be at an elevation of 28 to 29 feet.

During some operational conditions, water from the tunnel would flow into the Southern Forebay by gravity through the Pumping Plant Inlet and Overflow Structure adjacent to the South Delta Pumping Plant. The gravity operations would generally occur during periods of high river levels at the intakes concurrent with low surface water elevations in the Southern Forebay. The frequency of gravity flow would be determined during the design phase and based upon the operations of the intakes and existing SWP pumping plants. Depending on the frequency of gravity flow required, additional environmental review may be required.

3.4.5.3 Southern Forebay

The Southern Forebay would be on Byron Tract at the southern end of the main tunnel, northwest of Clifton Court Forebay and separated from it by Italian Slough. The forebay would serve as a water balancing facility to equalize the difference between Delta Conveyance Project supply, existing Clifton Court Forebay south Delta supply, and SWP Banks demand capacity. The Southern Forebay is one of the cornerstone facilities of the concept of "dual conveyance" for Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, by allowing both supply systems to be used to the maximum benefit of the new and existing projects.

Water in the forebay would flow south into a Southern Forebay Outlet Structure and be conveyed in two tunnels to the South Delta Outlet and Control Structure west of Byron Highway for release to the SWP Banks Pumping Plant approach channel. The South Delta Conveyance Facilities west of Byron Highway are discussed in Section 3.4.6, *Southern Complex West of Byron Highway*.

The Southern Forebay would have a perimeter length of approximately 4.7 miles and a footprint of approximately 1,000 acres including embankments and exterior-circumference access roads. The normal operating capacity of the Southern Forebay would be 9,000 acre-feet with a maximum surface area of approximately 750 acres. Because it would provide only temporary storage to balance flows, its size and capacity would be the same for Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c. The Southern Forebay would have an average water surface elevation of 11.5 feet, which would be approximately the midpoint within the normal operating range of elevations of 5.5 feet to 17.5 feet. The forebay floor would range from an elevation of 0 feet to -7 feet, so the average water depth would range from 11.5 feet to 18.5 feet at the average water surface elevation of 11.5 feet. A minimum water surface elevation of 5.5 feet would be required to provide gravity flow of up to 10,321 cfs to the Banks Pumping Plant. The Southern Forebay could be operated lower than elevation 5.5 feet (down to about an elevation of 0 feet), but the conveyance flow rate from the forebay would need to be reduced below the design capacity of 10,321 cfs to ensure that the water surface elevation at the Banks Pumping Plant would be maintained within the preferred operating range of the existing pumping plant.

Hydraulic surge conditions could occur in the main tunnel if there was a simultaneous shutdown of the pumps at the South Delta Pumping Plant. The tunnel shafts would provide some volume to store water during surges. The South Delta Pumping Plant and the Pumping Plant Inlet and Overflow Structure would include emergency overflow weir-type openings to convey water into the Southern Forebay if transient surge conditions should occur in the tunnel.

The Southern Forebay would be designed in accordance with the DWR Division of Safety of Dams requirements for jurisdictional dams based on the anticipated maximum embankment height and storage volume. The Southern Forebay includes an overflow emergency spillway that would be used in the unlikely condition that the forebay water level continued to rise above the design maximum elevation. The emergency spillway would discharge flow from the Southern Forebay into Italian Slough, which flows into Old River. The hydraulic design of the emergency spillway would be based on the controlling event. Potential controlling events could include mis-operation of the system (e.g., pumps on, downstream gates closed) and uncontrolled flood flow through the conveyance system (e.g., system intake gates open accompanied by power outage during high river stage leading to uncontrolled gravity flow into the Southern Forebay).

The Southern Forebay embankments would be constructed above the existing ground surface using materials from on-site excavations and dried RTM, to the maximum extent possible, and on-site soils

from the Southern Complex to balance earthwork to the extent possible (Section 3.4.9, *Earthwork Balance*). Forebay design considerations would include flood management, soil stability and seismic considerations, embankment and foundation stability, and seepage cutoff wall placement. Embankment foundation improvements would be implemented where needed (i.e., cutoff walls for seepage, or ground improvement for embankment stability) because of potentially poorly consolidated or weak foundations and seismic conditions. Seepage collectors and drainage layers would be installed within the outboard toe of the embankment. A 15-foot-wide access road and groundwater monitoring network would be installed along the perimeter of the outboard toe of the embankment (exterior slope).

Ground improvement would be implemented under portions of the embankment to minimize risk of ground subsidence, seepage-related issues, and seismic deformation. The ground improvement would include various combinations of removal of peat soils, installation of vertical wick drains, pre-loading of soils to promote ground settlement prior to construction of the embankment, *in situ* soil treatments for improving foundation strength, and installation of seepage cutoff walls.

Ground improvement would include excavation and replacement of 6 feet of the upper embankment foundation for the entire perimeter, and deeper where needed. The excavation and replacement would create a consistent embankment foundation and remove shallow foundation discontinuities. Deeper excavation and replacement could be performed, if practical, to remove unsuitable foundation materials, such as peat, highly organic soils, or loose sands. Shallow groundwater, however, may limit the depth of excavation in some areas unless dewatering is also incorporated.

3.4.5.4 Southern Forebay Outlet Structure

The Southern Forebay Outlet Structure would be in the embankment at the southern end of the Southern Forebay. Two launch shafts would be used to lower a TBM to bore each of two tunnels through which water would be conveyed 1.7 miles south to the South Delta Outlet and Control Structure at the Banks Pumping Plant approach channel (a.k.a. the California Aqueduct). These 115-foot-inside-diameter shafts would remain to feed water from the Southern Forebay into the tunnels via gravity flow during operation. Each tunnel would have an inside diameter of 38 feet under Alternatives 1, 2b, 2c, 3, 4b, and 4c. The two tunnels together would be capable of delivering the full capacity of Banks Pumping Plant when water does not flow from Clifton Court Forebay. Under 7,500-cfs Alternatives 2a and 4a, the dual tunnels would have an inside diameter of 40 feet to accommodate the additional capacity required to serve the CVP Jones Pumping Plant. Having two tunnels would also allow isolation and dewatering of one tunnel for maintenance and repair while allowing uninterrupted flow of about half of the design capacity through the other tunnel.

In accordance with DWR Division of Safety of Dams criteria, the Southern Forebay Outlet Structure would also function as the emergency outlet works capable of lowering the maximum storage depth by 10% within 7 to 10 days and fully draining the Southern Forebay within 90 or 120 days. As designed, the drawdown rate would exceed that required by DSOD.

3.4.5.5 Maintenance

South Delta Pumping Plant would have access for tractor trailer vehicles to drive through the building to transport materials and equipment. An overhead bridge crane capable of traveling the length of the building would be used to lift and place materials and equipment and for maintenance. Ultrasonic flow meters on each pump discharge piping system would be accessed through floor

hatches for periodic inspection, calibration, maintenance, and replacement. A gravity flow outlet structure would be positioned on top of the Southern Forebay Inlet Structure (the repurposed launch shaft) for use when Sacramento River levels are high enough and the water level in the Southern Forebay is low enough to achieve gravity flow through the main tunnel between the intakes and the Southern Forebay. Bulkhead panels would be used to isolate the pumping plant wet well from the main tunnel and Southern Forebay during emergencies for life safety. An overhead rail-mounted gantry crane would move the panels and lower and raise materials, personnel, and equipment in the vertical shaft when needed, for example, to install temporary submersible pumps for tunnel dewatering or to permit inspection and maintenance access to the shaft and tunnel. An equipment storage and operations maintenance building would be adjacent to the pumping plant, staffed and outfitted with a welding shop, machine shop, and ample storage for materials, pump accessories, and spare equipment.

The Southern Forebay embankment, outlet works, emergency spillway, and their appurtenances would be designed to have a useful service life of at least 100 years without requiring major repairs other than maintenance and refurbishment of the operable gates at the inlet and outlet structures once every 25 to 30 years. Riprap over filter material would be placed along the inside embankment slopes to protect against erosion and would also discourage vegetation establishment. Native grasses would be placed along the outside embankment slopes for erosion protection. During periods when diversions do not occur at the north Delta intakes, the Southern Forebay could either remain full or mostly empty; maintaining higher water elevations would reduce weed growth on the bottom of the forebay. Periodically reducing the surface water elevations could reduce vegetation on the inside slopes. Vegetation removal on the interior and exterior embankments of the Southern Forebay would be conducted quarterly and done mechanically. Landscaping and ground cover around the forebay and within the project boundary will be maintained so as to minimize attractants to wildlife.

The Southern Forebay Outlet Structure would have a trashrack to capture debris that would collect on the open surface of the Southern Forebay before it enters the conveyance system. The trashrack would be cleared using a backhoe or excavator-mounted device and/or hand-held rakes for periodic cleaning. Vegetation and other items removed from the trashrack would be stored in a bin prior to disposal.

For inspection and maintenance of the dual tunnels, a bridge crane with 50-ton hoist and trolley would operate isolation stop log gates. Stop logs would be stored in place within guide frames in the open position. A mobile safety crane would be available for installation of life safety items (ventilation and lighting) and for lowering personnel in a cage for inspection, along with a two-way radio.

Drought-tolerant plants would be used as required in landscaping and no irrigation system would be installed. Landscape maintenance is assumed to consist of weed control only.

3.4.6 Southern Complex West of Byron Highway

West of Byron Highway, the Southern Complex would consist of the South Delta Conveyance Facilities that would connect the Southern Forebay to the SWP Banks Pumping Plant approach channel downstream of the John E. Skinner Delta Fish Protective Facility (Skinner Fish Facility) and potentially to the CVP Jones Pumping Plant (central and eastern alignments only). The upstream facilities—Southern Forebay Outlet Structure and upstream portions of the dual tunnels, plus

associated facilities—would be on Byron Tract, as described in Section 3.4.5, *Southern Complex on Byron Tract*. The dual tunnels from the Southern Forebay Outlet Structure would pass under Italian Slough and Byron Highway to the downstream South Delta Conveyance Facilities west of Byron Highway. These would consist of the South Delta Outlet and Control Structure and the California Aqueduct Control Structure (Figure 3-12). Under Alternatives 1, 2b, 2c, 3, 4b, and 4c, the portion of the Southern Complex west of Byron Highway would occupy 164 acres during construction, and 112 acres postconstruction. Under Alternatives 2a and 4a, with additional facilities needed to connect to the CVP Jones Pumping Plant, the Southern Complex west of Byron Highway would occupy 293 acres during construction and 210 acres postconstruction. These facilities, which would be the same for both Alternatives 2a and 4a, are described in Section 3.7 for Alternative 2a.

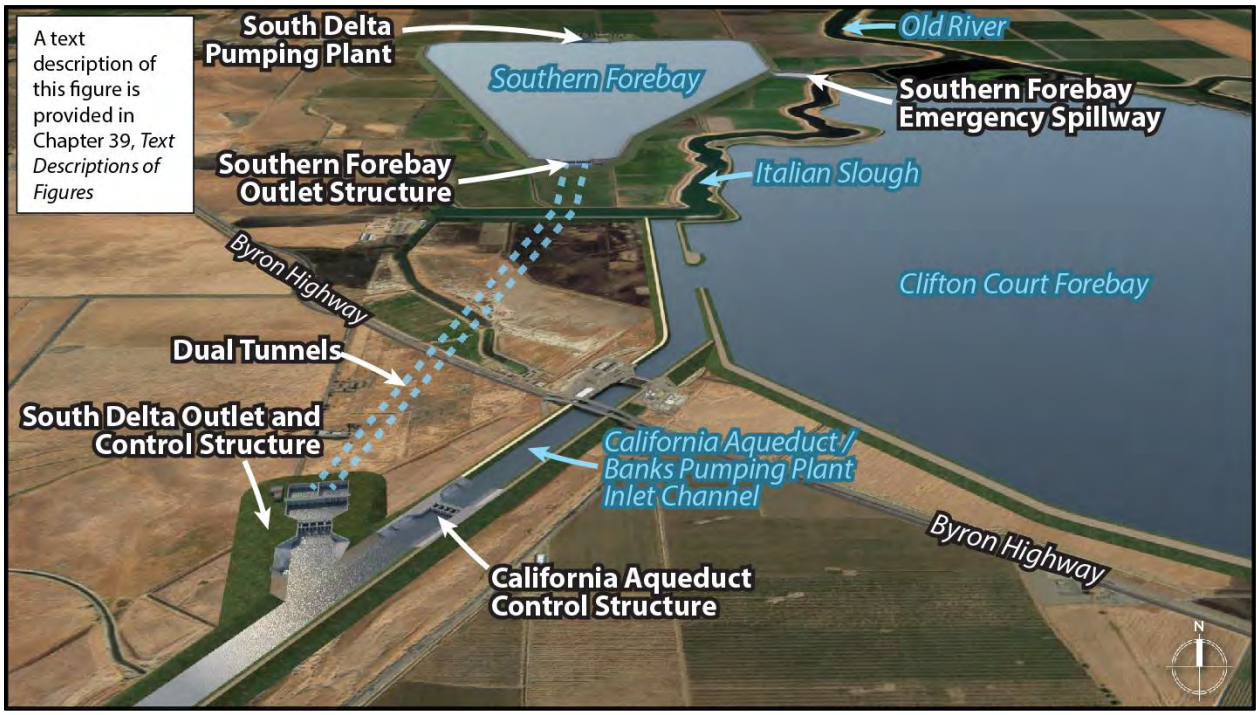


Figure 3-12. Southern Complex West of Byron Highway (Alternatives 1, 2b, 2c, 3, 4b, 4c)

The South Delta Conveyance Facilities include the California Aqueduct Control Structure, which would allow water to be delivered to the SWP Banks Pumping Plant from the new Delta Conveyance Project facilities only, from Clifton Court Forebay only, or from both systems.

Alternatives 2a and 4a would require additional facilities in the south Delta to serve the CVP with up to 1,500 cfs of conveyance, if the Bureau of Reclamation chooses to participate in the Delta Conveyance Project. These facilities are described in Section 3.7 for Alternative 2a.

3.4.6.1 South Delta Outlet and Control Structure

The South Delta Outlet and Control Structure would be alongside the Banks Pumping Plant approach channel approximately 1.4 miles upstream of the Banks Pumping Plant. The structure would be 400 feet wide by 1,250 feet long and 45 feet deep and contain the downstream end of the dual tunnels from the Southern Forebay Outlet Structure. The dual tunnels would end at two 90-foot-diameter TBM reception shafts within the South Delta Outlet and Control Structure. A series of radial gates

would control the rate of flow released into the existing SWP system. This outlet and control structure would also convey emergency releases from the Southern Forebay Outlet Structure when acting as an emergency outlet, should the Southern Forebay require drawdown from maximum storage depth.

Other construction facilities at the South Delta Outlet and Control Structure include an electrical and control building, a bulkhead gate storage facility, a mobile crane, shops and offices for construction crews, parking, material laydown and erection areas, access roads, a water treatment plant for runoff and dewatering flows, a septic system, and storage for topsoil.

3.4.6.2 California Aqueduct Control Structure

The California Aqueduct Control Structure would be on the California Aqueduct, about 500 feet upstream of the confluence of the California Aqueduct and the South Delta Outlet and Control Structure. It would use a series of six large radial gates and one small gate to control flows from Clifton Court Forebay into the California Aqueduct or to balance them with flows from the Southern Forebay for conveyance into the SWP Banks Pumping Plant. The structure and surrounding grading heights would provide protection to downstream facilities from the highest anticipated 200-year flood event plus sea level rise for year 2100 in the Clifton Court Forebay area.

3.4.6.3 Maintenance

At the South Delta Outlet and Control Structure under Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, each reception shaft would extend vertically into a collection basin from which the flow would enter an open channel system. This basin would have a separate tunnel transition compartment for each shaft to allow one tunnel to be isolated for dewatering and maintenance while the other tunnel remains in full operation. Two sets of bulkhead gates for isolation would be installed when needed to provide double isolation for worker safety during maintenance activities. Flow would proceed from the basin into a section of the facility containing radial gates. These gates would provide flow control for water being conveyed from the Southern Forebay into the California Aqueduct. Bulkhead gates installed in vertical slots in the piers between the radial gates, upstream and downstream, would allow isolation and dewatering of each gate bay as needed for gate maintenance and repair.

Under Alternatives 2a and 4a, the Jones Control Structure would have eight stop logs for isolation of all radial gates and dual isolation of Jones Tunnel. Two additional high stop logs would isolate the smaller radial gate and Jones Tunnel. Similarly, the California Aqueduct Control Structure and the Delta Mendota Control Structure would each use two sets of stop logs to isolate two sets of gate structures at each facility for inspection and maintenance. The Jones Outlet Structure would require double isolation for maintenance of the Jones Tunnel.

None of the Southern Complex structures would be present in Alternative 5, Bethany Reservoir alignment.

3.4.7 Access Roads

Constructing any of the alternatives would require substantial transportation facility improvements to serve the construction and material delivery processes and provide access to compensatory mitigation sites. Construction would require temporary relocation and realignment of SR 160 at the intakes (Figure 3-6), and new or improved access roads to intakes, tunnel shafts, the Southern

Complex, and the Bethany Complex (Figure 3-18, Figure 3-25, and 3-36). Details of road modifications under each alignment are provided in Appendix 3D, Tables 3D-2, 3D-3, and 3D-4.

Pavement conditions on existing county and local roads in the project area are predominantly classified as marginal to unacceptable.[1] State Routes are generally in good condition although pavement condition data were not available for all State Routes at the time of the needs assessment. DWR will conduct preconstruction pavement and roadway analyses of access roadway segments on local and county roads to determine whether the following access roads that are identified in the conceptual design of the project alternatives need improving: Lambert Road, Dierssen Road, Franklin Boulevard, Twin Cities Road, West Lauffer Road, SR 12, West Lower Jones Road, Bacon Island Road, Bacon and Mandeville Islands farm roads, Blossom Road, West Fyffe Street, West House Road, Lower Roberts Island Road, Western Farms Ranch Road, Clifton Court Road, Byron Highway, Lindemann Road, Mountain House Road, and Kelso Access Road (Delta Conveyance Design and Construction Authority 2022a, 2022b). Road improvement activities would include pavement remediation (e.g., fill potholes, asphalt cracking, and slurry seals), widening to a minimum of 12 feet, roadway design to serve construction traffic with new roads, and constructing new bridges or widening existing bridges. Where road and bridge improvements are undertaken, wider shoulders would be considered to meet bicycle lane standards; design standards for each state or local entity that operates roads and bridges would be followed for all proposed improvements on the existing respective roadways. Some project-area bridges rated as structurally deficient or functionally obsolete are scheduled to be replaced or rehabilitated by their respective jurisdictions. DWR would issue communications regarding roadway conditions and construction biweekly and post on the project information website in the multiple languages spoken in the Delta (see Section 3.20.1, *Point of Contact*, regarding project website and communications during construction). This would inform residents, business owners, and farmers of daily road construction and high-volume construction traffic events (e.g., during hours of materials deliveries).

Modifications to existing roadways during project construction would be completed in accordance with Caltrans or county criteria, depending upon the owner of the roadway. Future roadway projects under consideration by local or state agencies were reviewed to potentially coordinate road improvements. The preconstruction pavement and roadway analysis will be included as part of the Geometric Approval Drawings submittal for review, comment, and refinement, in consultation with the applicable transportation entities, including Caltrans for state highways and intersection facilities and local agencies for local roadway and intersection facilities. Improvements to State Routes would be designed and constructed in collaboration with Caltrans. Project roadway improvements to existing State Routes, local roadways, and bridges would remain after construction.

Roads used for material hauling, construction equipment access, and employee access would consist of existing State Routes and two-lane roadways in the Delta, new gravel (with chip seal except on Mandeville and Bacon Islands) or paved roadways constructed from existing roads to construction sites, and new roads within facility construction sites. Project logistics studies identified Lambert Road, portions of SR 4, SR 12, Byron Highway, and I-5 and I-205 as the core road access for trucks to haul equipment and materials to and from the project work sites. Current conditions of nonstandard

[1] Each county and the California Department of Transportation use different pavement management systems for classifying pavement conditions. For ease of interpretation, the separate condition categories were mapped into a single classification with two categories: acceptable and not acceptable (Delta Conveyance Design and Construction Authority 2022c:15).

shoulders and lane widths, combined with a lack of parallel streets and roads for detour, contribute to congestion on some of these routes. Truck routes were evaluated for existing and project truck volumes and would be improved where project truck traffic warrants improvement, based on the duration of work and expected commodities to be carried. Minimum requirements for truck routes are 12-foot-wide lanes and 4-foot-wide shoulders. SR 99, Twin Cities Road, and more than 30 local roads would also provide direct access to project work sites. Construction access roads would remain postconstruction for maintenance access to the facilities.

In all alternatives, SR 160 near the proposed north Delta intakes would be temporarily rerouted east of its existing alignment during the intake construction process and then relocated through the intake facility in the vicinity of the current SR 160 alignment (Figure 3-6), in collaboration with Caltrans for design and construction oversight, as described in Section 3.4.1.3, *Temporary and Permanent Flood Control Levees and State Route 160.*

Approximately 3.2 miles of Lambert Road from Franklin Boulevard to the new intake haul road and various portions of SR 12 near tunnel shaft sites would be widened under all alternatives. Tunnel crossings under I-5, SR 4, and SR 12 (applicable to all alternatives), and addition of turn lanes to SR 12 (applicable to eastern and Bethany Reservoir alignments) would be designed by DWR under Caltrans oversight and constructed through the Caltrans encroachment permit process with Caltrans oversight of construction activities.

A new 3.8-mile paved intake access/haul road would be constructed along the west side of the abandoned railroad embankment, to a new dedicated haul road east of the intakes to access Intakes B and C. Approximately 180 feet of the existing bridge over Snodgrass Slough at Hood-Franklin Road would be widened. The haul road would eliminate the need for construction traffic to travel through the main portion of the Town of Hood and on SR 160; it would not be a public road. All access for construction, plus most operations-phase access, would use the haul road to enter the intake sites (Figure 3-18 and Figure 3-25).

For alternatives involving Intakes B and/or A, the new intake haul/access road would be extended north by another 0.7 mile from Intake C past Hood-Franklin Road to a new 0.25-mile access road connecting to Intake B for all alternatives except 2b and 4b, and by an additional approximately 2.2 miles to Intake A. At Intake A, access would be provided by a 2.54-mile extension of the paved intake access road from Intake B. The paved road would be 32 feet wide with two 12-foot lanes and 4-foot shoulders. This access road also would include a 350-foot long by 32-foot wide bridge over a drainage channel.

For truck access to the Twin Cities Complex, approximately 1.4 miles of Twin Cities Road would be widened from Franklin Boulevard east of I-5 to I-5, and Dierssen Road would be widened for approximately 1 mile from Franklin Boulevard to I-5. Franklin Boulevard would be relocated and widened for approximately 0.6 mile between Twin Cities Road and just north of Dierssen Road for Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c to accommodate the railroad connection to the Twin Cities Complex.

For central alignment Alternatives 1, 2a, 2b, and 2c, 0.8 miles of West Lauffer Road would be widened for access to the New Hope Tract maintenance shaft (central alignment location). For access to the Bouldin Island launch/reception shaft site, a new interchange and bridge would be constructed over SR 12 connecting to 2.1 miles of new access road constructed on Bouldin Island. Eight miles of SR 12 between I-5 and the new Bouldin Island interchange would be widened, including bridges over Farm Road and Little Potato Slough. The SR 12 widening would likely be

designed with Caltrans assistance and Caltrans would oversee construction. To reach Bacon and Mandeville Islands shaft construction sites, a new bridge would be constructed at Holt over the East Bay Municipal Utility District (EBMUD) Mokelumne Aqueducts and BNSF railroad. To access these shafts, new or upgraded roads would be constructed for 15.5 miles along West Lower Jones Road, Bacon Island Road, and farm roads on Bacon and Mandeville islands, including a new bridge over Connection Slough (Mapbook 3-1).

For eastern alignment Alternatives 3, 4a, 4b, and 4c, a new 0.3-mile access road to the shaft site on New Hope Tract maintenance shaft (eastern alignment location) would be constructed from Blossom Road. To access the Terminous Tract maintenance shaft site, a new uncontrolled interchange with longer acceleration and deceleration lanes along SR 12 would be built and 2.3 miles of SR 12 from Interstate 5 to the tunnel shaft site would be improved. Access to the Lower Roberts Island launch/reception shaft would involve building a new 1.2-mile access road from West Fyffe Street to a new bridge; a new road and railroad bridges over Burns Cut from Port of Stockton; new 3.2-mile access road and rail lines along West House Road from the new bridge; and a new 1.6-mile access road on Lower Roberts Island.

Road improvements proposed under Alternative 5 would be the same as described above for intake access and for the eastern alignment maintenance shafts north of Lower Roberts Island. For Twin Cities Complex access under Alternative 5, 1 mile of Dierssen Road between Franklin Boulevard and I-5 would be widened, and 0.48 mile of Franklin Boulevard would be widened between locations 0.22 miles north of Dierssen Road and 0.25 miles south of Dierssen Road. Twin Cities Road would be widened for 1 mile from a location 0.83 miles west of Franklin Boulevard to a location 0.17 miles east of Franklin Boulevard. Access to the Lower Roberts Island double launch shaft site under Alternative 5 would involve 1.2 miles of new paved road on Rough and Ready Road on Port of Stockton, a new bridge over Burns Cut from Port of Stockton, 2 miles of new paved road to West House Road with widening 1.2 miles of West House Road, and 1.3 miles of new paved road from West House Road to North Holt Road with a new bridge over Black Slough.

In Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, Byron Highway near the Southern Complex would be realigned west of the current alignment to accommodate construction activities associated with the Southern Complex facilities. The modification would include a dedicated overpass over Byron Highway as a truck bypass. New 0.8 miles of road (extension of Discovery Bay Boulevard) would provide access from SR 4 to the Southern Complex on Byron Tract. For access to the Southern Complex west of Byron Highway, Clifton Court Road would be extended 0.1 mile and widened for 0.6 mile. North Bruns Way would be widened for 0.7 mile. Byron Highway would be relocated with a new roundabout to the east of existing Byron Highway, and two new bridges would cross the new alignment.

The modifications related to the Southern Complex would not be necessary under Alternative 5. For Alternative 5 downstream of Lower Roberts Island, road and bridge improvements would be needed for access to the Bethany Complex. These are described in more detail in Section 3.14.2 of this EIR.

Proposed transportation improvements are based on construction traffic analyses to reduce the daily effect of truck trips on local roadways. In addition to proposed new or improved roads for construction access, construction traffic management plans would include measures to reduce construction-related traffic congestion and enhance public safety on Delta roadways. This is discussed in more detail in Chapter 20, *Transportation*, Section 20.3.3.3, *Impacts of the Project Alternatives on Transportation*. Construction traffic would be restricted to I-80 in Yolo County and to

I-80 and SR 12 between I-80 and the Sacramento River in Solano County. Construction traffic would only be allowed on SR 160 between SR 12 and Cosumnes River Boulevard, where the highway would be realigned at the intake locations. Only employee shuttle buses and small pickup trucks would be allowed on Hood-Franklin Road, although construction traffic would cross Hood-Franklin Road west of the Snodgrass Slough bridge to access Intakes A and/or B. No trucks with three or more axles would be allowed on SR 4 across Victoria Island.

Hauling certain construction material by rail where rail is potentially available was also evaluated. Construction of rail spurs and rail-served materials depots would involve realigning or closing certain roads and railroad crossings. Construction traffic on these routes and local access roads would be minimized by construction sequencing of project facilities and incorporating construction material hauling by rail; limited use of barges at intakes only, restricted to daytime hours Monday through Friday; and park-and-ride facilities for employee trips into the construction traffic management plans.

Construction would start with clearing, grubbing, and moving utilities. Existing drainage facilities either within the construction site or adjacent to construction sites would be rerouted to not affect overland drainage flows or groundwater seepage flows prior to construction. After completion of construction at a project site, the condition of the pavement of access roads would be analyzed and remediation would be completed as necessary to return the facility to the condition that DWR constructed.

3.4.8 Rail-Served Materials Depots

Rail access to serve major construction sites would reduce truck use of local roads and highways. The UPRR and BNSF Railroad serve the Delta Conveyance Project area. Rail-served materials depots with rail sidings would be constructed and used to transport certain large volume construction materials, such as tunnel liner segments, to tunnel launch shaft sites and sometimes to convey RTM from the tunnel launch shaft sites to the Southern Complex to form the Southern Forebay embankments. The rail siding would be designed to allow the train to leave or pick up rail cars, hold the rail cars, and off-load or load the rail cars. The depot would include areas where trains would move off the main line to deposit the rail cars and areas to transfer the materials to trucks.

Central and eastern alignment alternatives (Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c) would have rail-served material depots serving the Twin Cities Complex and the Southern Complex.

- Along the UPRR Sacramento-Lathrop rail line near Franklin Boulevard and Twin Cities Road to serve the Twin Cities Complex double launch shaft site.
- Along the UPRR Lathrop-Byron rail line parallel to the Byron Highway to serve the Southern Complex tunnel launch shaft sites and to transport RTM from the Twin Cities Complex to the Southern Complex.

The eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c) and Bethany Reservoir alignment (Alternative 5) would have a rail-served materials depot at Lower Roberts Island. Under the eastern and Bethany Reservoir alignment alternatives (Alternatives 3, 4a, 4b, 4c, and 5), rail access to Lower Roberts Island would be provided from an extension of an existing short haul line at the Port of Stockton. Rail access would be extended over a new bridge over Burns Cut and continue to the launch shaft site and RTM storage area. This facility is described in Section 3.10, *Alternative 3—Eastern Alignment, 6,000 cfs, Intakes B and C*.

Construction of the rail-served materials depot at the Twin Cities Complex would require realignment of Franklin Boulevard and elimination of one private-road crossing of the UPRR because that land would become part of Twin Cities Complex. No other existing railroad/road crossings would be affected. Road modifications are described in Section 3.4.7, and detailed for the central and eastern alignments in Sections 3.6 and 3.10, respectively. Other road modifications for the Bethany Reservoir alignment are described in Section 3.14.2, *Access Roads*.

At the Southern Complex, 30 miles of UPRR track would be rehabilitated and 14.4 miles of new track would be installed. New track would be installed on existing pilings of existing railroad bridge over the California Aqueduct to the east of Byron Highway. Use of the UPRR Lathrop-Byron rail line for the Southern Complex would require reestablishing operation that has not been fully utilized between Tracy and Byron for over 20 years. This would not include changes of any existing at-grade railroad or road crossings between Tracy and Byron.

3.4.9 Soil Balance

Project construction would require large amounts of fill material at facility sites and would also generate extensive amounts of excavated soils and RTM. Roads and compensatory mitigation would require imported materials from commercial sources. Construction would occur over a period of years at most sites, but not simultaneously at all sites. For example, tunnel launch shaft sites would require soil fill material several months before tunneling operations would produce large volumes of RTM. Once tunneling is underway, RTM volume would be more than what is required to construct the launch shaft sites north of the Southern Forebay Inlet Structure. RTM from tunnel boring on the Southern Complex would be used in construction of the Southern Forebay. To optimize the movement of fill material and reduce the need for import, disposal, and stockpiling, an earthwork model was prepared to understand the total amount of soil fill required and produced at the various construction sites relative to the project schedule. The earthwork model analyzed soil fill material including structural and nonstructural fill, topsoil, peat, and imported specialty materials such as gravel and aggregate base. Model results provided estimates of the volume of fill material that could be produced on-site from excavation (including both RTM and surface soils), the volume needed on-site as structural fill, where import material would be sourced from if a deficit occurs, or where excess material would be stockpiled or disposed of if a surplus occurs.

It is expected that soils excavated on-site at intakes would balance on-site soil needs and no significant import or export of structural fill would be necessary. However, some imported fine-grained levee embankment core material may be required if on-site soils do not meet regulatory requirements for construction. RTM generated at launch shafts at the Twin Cities Complex and Lower Roberts Island would be used for backfilling borrow areas on-site. Soil excavated at the Twin Cities Complex would be used for the on-site ring levee and shaft pad at Twin Cities Complex; the shaft pads on New Hope Tract, Staten Island, and Bouldin Island; and levee repairs on Bouldin Island for central alignment alternatives (Alternatives 1, 2a, 2b, and 2c). (Soils on Bouldin Island are generally not suitable for tunnel shaft pad or levee construction, requiring import from the Twin Cities Complex.) For eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c) and the Bethany Reservoir alignment (Alternative 5), soil excavated at the Twin Cities Complex would be used for shaft pads on New Hope Tract, Canal Ranch Tract, Terminous Tract, and King Island. Under the eastern alignment alternatives, soils excavated at the Lower Roberts Island launch shaft site would be used for the shaft pads on Lower Roberts Island and Upper Jones Tract and RTM generated on-site would be used to backfill borrow areas on Lower Roberts Island. Under the Bethany Reservoir

alignment, soils from Lower Roberts Island would also be exported for use in shaft pads on Upper Jones Tract and Union Island. Earthwork balance at the Bethany Complex is explained under Alternative 5 (Section 3.14.1.3, *Bethany Reservoir Aqueduct*).

RTM from Twin Cities Complex would be used to backfill excavations on Twin Cities Complex to generally raise the soil to previous ground surface elevation. RTM material from Twin Cities Complex would also be used to develop the tunnel shaft pad at Mandeville and Bacon Islands (central alignment alternatives [Alternatives 1, 2a, 2b, and 2c]) and exported to use on the Southern Forebay embankments. RTM generated at launch shafts on the Southern Complex would also be used for Southern Forebay embankments. On-site soil excavations and RTM generated at the launch shaft sites on the Southern Complex would be used in the Southern Forebay embankments including construction of the pad for the South Delta Pumping Plant. Excavated soils and RTM from the Southern Complex on Byron Tract would be used for the South Delta Conveyance Facilities.

At the Southern Complex, excavated material generated on-site would be usable as structural fill to construct portions of the pumping plant pad, South Delta Conveyance Facilities, forebay embankments, and forebay floor grading. Additional on-site material would be expected to be usable as nonstructural fill to complete grading of the Southern Forebay floor. Peat soil unsuitable for use as fill would be placed in the permanent stockpile immediately north of the Southern Forebay.

Topsoil stripped from beneath the Southern Forebay embankments, inundation area, and other construction areas would be temporarily stockpiled in an area to the north of the Southern Forebay construction area. Approximately 41,000 cubic yards (compacted volume) of topsoil would be reused to cover the outboard slopes of the Southern Forebay embankments and emergency spillway channel embankments. Approximately 458,000 cubic yards (loose volume) of topsoil would be placed in a 5-foot-thick cover layer over the permanent peat stockpile. Remaining topsoil would be stockpiled with surplus RTM in an area to the north of the South Delta Pumping Plant. Approximately 74,000 cubic yards of clay material from on-site excavation of the initial 6 feet of soil would be used to construct the core of most of the Southern Forebay embankments. If fine-grained materials are not available, they would be imported from commercial sources.

3.4.10 Electrical Facilities

Power supplies would be needed at construction sites for the intakes, tunnel shaft sites, Southern Complex facilities including the South Delta Pumping Plant, Bethany Complex facilities, concrete batch plants, and park-and-ride lots. Power supplies would also be needed during operations of the intakes, Southern Complex control structures, South Delta Pumping Plant, Bethany Reservoir Pumping Plant and Bethany Reservoir Discharge Structure, and lights, security, and minor operations and maintenance (O&M) loads at all permanent locations.

Power demand during construction would include support for large equipment, such as cranes and ground improvement machines, tunnel boring machines and associated equipment including ventilation, conveyors and pumps, small tools, and construction-support facilities. Support facilities would include, but not be limited to, construction trailers, temporary lighting, and electric vehicle charging stations. Some of this equipment could be powered by on-site generators or internal combustion engines; however, electrical grid service to the sites, if available, would be more efficient, use less diesel fuels, and produce fewer emissions. In addition, Appendix 3B includes Environmental Commitment EC-7: *Off-Road Heavy-Duty Engines*, which states that DWR will consider use of electric or hybrid-electric off-road equipment (including generators) over diesel

counterparts to the extent that they become commercially available, earn a track-record for reliability in real-world construction conditions, and become cost effective. Appendix 3B includes Environmental Commitment EC-13: *DWR Best Management Practices to Reduce GHG Emissions*. Best management practices under Environmental Commitment EC-13 include the following:

- **BMP 1.** Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether the specifications for the use of equipment with repowered engines, electric drive trains, or other high-efficiency technologies are appropriate and feasible for the project or specific elements of the project.
- **BMP 3.** Confirm that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane, or solar power, to power generators to the maximum extent feasible.
- **BMP 11.** Reduce electricity use in temporary construction offices by using high efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business.

Other strategies under Environmental Commitment EC-13 would achieve reductions in particulate matter and criteria pollutants. In addition, under Environmental Commitment EC-17, *Pursue Solar Electric Power Options at Conveyance Facility Sites*, DWR would pursue and evaluate options for solar power generation at shaft sites and pumping plant sites for operating the conveyance and appurtenant facilities.

Power for construction and operation of the conveyance facilities would use existing power lines to the extent possible, but the location or required load of some facilities would require either new aboveground power towers with lines or underground conduit to serve those specific areas (Figure 3-13). Some existing lines would require adding new towers to extend service to conveyance facilities. Some power would also be abandoned or relocated, and some overhead lines, such as those crossing the intake haul road, would be moved underground to address overhead height constraints. For any aboveground power lines that are new, non-specular materials would be used.

DWR is coordinating electric power transmission modifications with electricity providers: Sacramento Municipal Utility District (SMUD), Western Area Power Administration (WAPA), and Pacific Gas and Electric Company (PG&E). These companies own and maintain high-voltage transmission lines in the project area.

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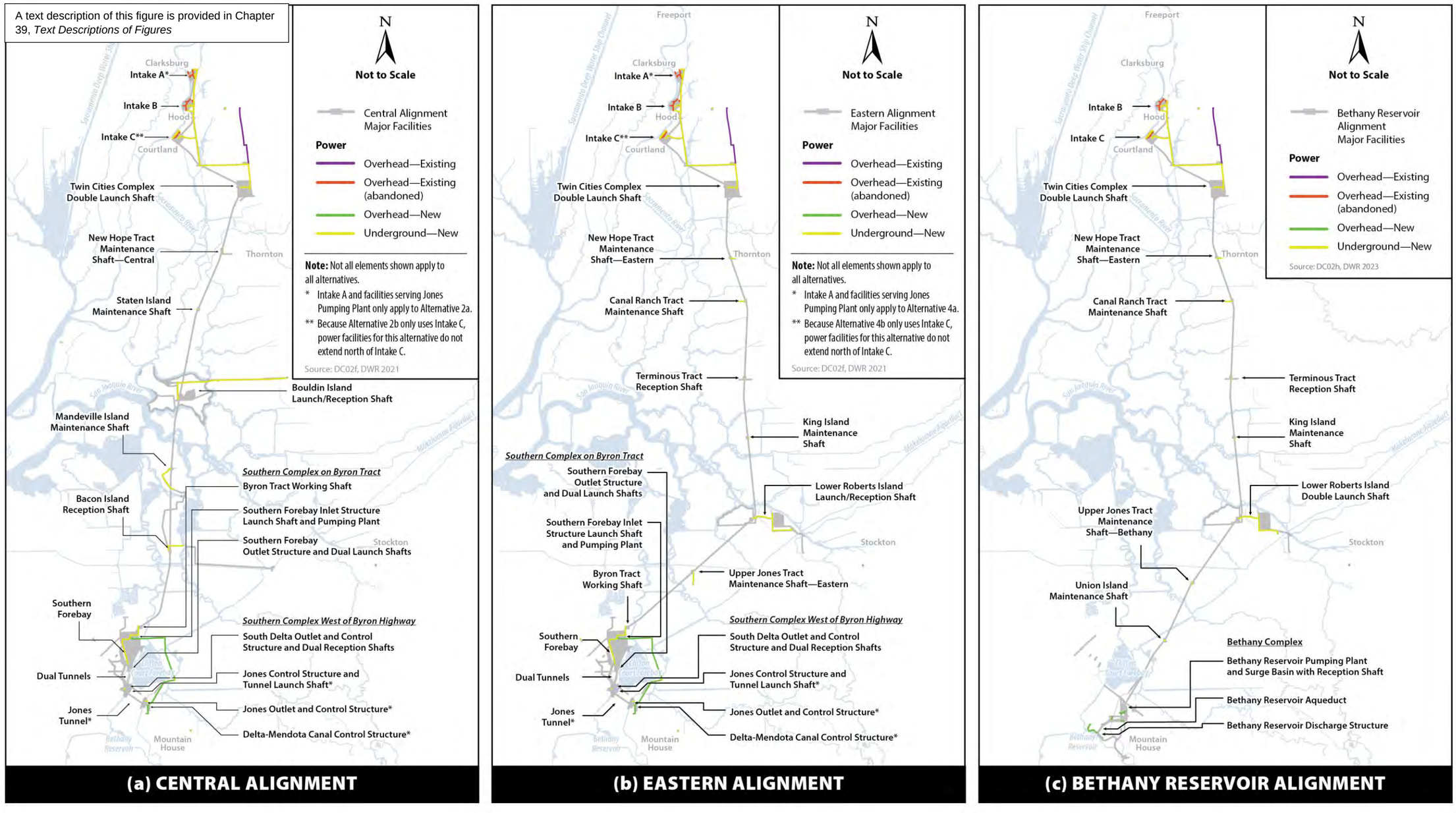


Figure 3-13. Power Lines

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3.4.11 SCADA Facilities

SCADA (supervisory control and data acquisition) systems and associated data communication systems are common features of water infrastructure that enable remote monitoring and control of the performance and operation of the system, including video security cameras. The new Delta Conveyance Project facilities would need to be integrated into SWP's existing SCADA system to allow for coordinated operations (Delta Conveyance Design and Construction Authority 2023a, 2023b). The communications network for the project would connect three major data centers, up to three intakes (depending on alternative) and up to three remote data sites for the central alignment and four remote data sites for the eastern alignment. It would connect three major data centers, two intakes, and four remote data sites for the Bethany Reservoir alignment. The major data centers would be at the existing DWR Project Control Center, DWR Operations and Maintenance Area Control Center at the Delta Field Division, and the new South Delta Pumping Plant or Bethany Reservoir Pumping Plant. During operation, SCADA would provide real-time performance data at intakes, tunnel launch shafts, and the Southern Complex or Bethany Complex facilities. A SCADA connection point would be included at the Terminous Tract maintenance shaft for the Eastern alignment alternatives and Bethany Reservoir alignment. No SCADA connection would be included at maintenance or reception shafts for the Central alignment alternatives. The communications aspects of the SCADA system would be used during construction to facilitate internet applications at the launch shaft sites, the intakes, and the Bethany Reservoir Pumping Plant.

The SCADA system would consist of SCADA equipment and communications links based upon fiber-optic cables that would be installed within and connecting to new structures. Whenever possible, the construction of fiber-optic based communications systems for the project would use existing telecommunications infrastructure, dedicated conduits within project road modifications, and termination panels installed inside or on the buildings or structures. Wherever possible, underground routes would be located along existing roads and project access routes (Figure 3-14). Overhead fiber installation would be limited to alignments with existing power pole corridors. The fiber cables would look similar to cable television cables.

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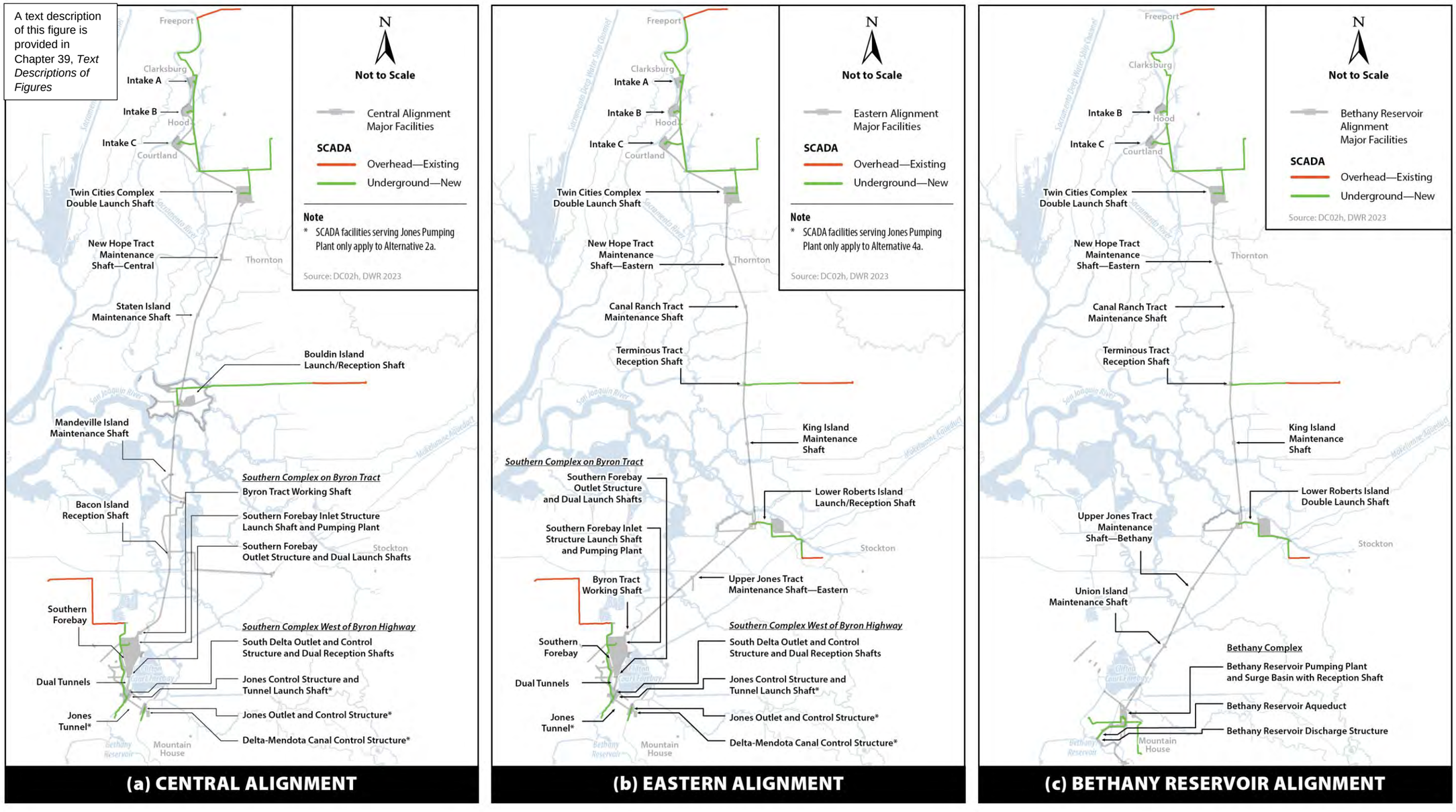


Figure 3-14. SCADA Fiber Routes

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3.4.12 Fencing and Lighting

Construction site security for major work sites would include security guards stationed at the main entry and exit gates for 24-hour site access management and surveillance. Security personnel would be on-site with regular inspection rounds. Cameras would also be used at key locations. Once construction is complete, permanent security fencing would be in place, and cameras would be installed with either local recording devices or transmission capabilities. These cameras would be located at sites where permanent power and SCADA facilities are proposed. Security personnel would monitor the site periodically.

During construction, park-and-ride lots would have downcast lighting. Permanent lighting at facility sites would be downcast, cut-off type fixtures with non-glare finishes and controlled by photocells and motion sensors, depending on the location. Construction and maintenance lighting would be similar except for a few necessary nighttime work activities that would require higher-illumination safety lighting of the work sites. Lights would provide good color with natural light qualities and minimum intensity with adequate strength for security, safety, and personnel access. The lights would comply with the Illuminating Engineering Society industry standards for light source and luminaire measurements and testing methods.

During construction, night lighting at park-and-ride lots would be controlled by motion detectors. During operations, the lights at the intakes, tunnel shafts, Southern Complex, and Bethany Complex would be motion activated to minimize light and glare to adjacent properties.

3.4.13 Park-and-Ride Lots

Park-and-ride lots would be established near major commute routes, where workers could park and ride shuttle buses or vans to construction sites. The employee shuttles would be electric-powered, and the park-and-ride lots would be equipped with electric vehicle charging stations. Trucks arriving late at night could also use these lots to park overnight to minimize nighttime deliveries to construction sites. Lots would be lighted with nighttime security lighting with motion detectors. Park-and-ride lots would be removed after construction unless local communities are interested in maintaining these lots in the future through the Community Benefits Program. Lots would be at the following sites.

- **Hood-Franklin Park-and-Ride Lot.** (Central, eastern, and Bethany Reservoir alignment alternatives.) Parking for employees at intakes. This lot would be located along the south side of Hood-Franklin Road immediately east of I-5. The total construction area would be 4.1 acres. The land is currently mostly agricultural land; a Caltrans construction yard occupies a small portion.
- **Charter Way Park-and-Ride Lot.** (Central, eastern, and Bethany Reservoir alignment alternatives.) Parking for employees at tunnel shafts on Lower Roberts, New Hope Tract, Staten Island, Bouldin Island, Mandeville Island, and Bacon Island on the central alignment, or New Hope Tract, Canal Ranch Tract, Terminous Tract, and King Island on the eastern and Bethany alignments. This lot would be located along the south side of Charter Way at the southwest corner of the I-5 overpass, on the south side of SR 4, just west of I-5. The total construction area would be 2.4 acres. The land is currently a private truck parking lot and would only require upgrade or replacement of pavement and lighting systems.
- **Rio Vista Park-and-Ride Lot.** (Central alignment alternatives.) Parking for employees at the Bouldin Island Tunnel Shaft. This lot would be located along the south side of SR 12 immediately

east of SR 160. The total construction area would be 3.0 acres. The land is currently agricultural land.

- **Byron Park-and-Ride Lot.** (Central and eastern alignment alternatives.) Parking for employees at the Southern Complex. This lot would be located near the northwest corner of Camino Diablo Road and Byron Highway. The total construction area would be 2.1 acres. The land is currently in an industrial area.
- **Bethany Park-and-Ride Lot.** (Central and eastern alignment alternatives.) Parking for employees at the Southern Complex. This lot would be located along the north side of Bethany Road to the east of the intersection of Henderson Road. The total construction area would be 2.6 acres. The land is currently agricultural land.

3.4.14 Land Reclamation

The alternatives would include some areas that would be temporarily disturbed but not needed for long-term operations of the proposed Delta Conveyance Project (e.g., construction staging areas). DWR would transfer this land to interested parties to be consistent with local land uses, including agricultural production or open space/natural habitat. To be able to use land for these purposes after construction, the alternatives include activities to reclaim this land.

Areas included in the construction boundary and not included in the postconstruction (permanent) project operations boundary at the intakes, tunnel launch shaft sites, and Southern Complex or Bethany Complex would undergo reclamation (Figure 3-15). Lands to be reclaimed would be those areas used during construction for material and equipment laydown and staging, material stockpiles, slurry/grout mixing plants, parking areas, and facilities/trailers (Figure 3-16). DWR would acquire the land for construction and would conduct agronomic testing to help determine whether the temporarily disturbed site could be reclaimed and final reclamation methods. The main goal of the land reclamation efforts would be to restore the soil health and condition, to the extent practical, in these temporary construction areas.

Construction activities, equipment, and material stockpiles could compact near-surface native soils or leave soils less suitable for agriculture or habitat. Initial reclamation tasks would include removal of all construction equipment and materials, demolition and removal of concrete slabs from temporary material storage areas, removal of temporary stockpiles/embankments, removal of temporary haul routes, and grading and leveling of the site to generally meet adjacent lands.

Initial soil treatments would depend on the actual disturbance, but for soils with more than minimal impact, the work would be expected to include ripping the soil and incorporating amendments (e.g., gypsum) to reduce compaction. This would be followed by spreading topsoil, cross disking, and fine grading/leveling to prepare the soil surface for future use. If the land transition would not occur in a relatively short period of time after construction, the areas would be drill seeded to provide erosion and dust control using a grass seed mix appropriate for the desired end use. Areas to be reclaimed to grassland would be seeded with a native grass and flowering forb mix, whereas areas to be reclaimed to agricultural use could be seeded with an erosion control seed mix.

Areas excavated to create borrow soil materials would be refilled to existing grade with soil or RTM from existing stockpiles at the end of construction. Treatments for reclamation using RTM base soil would be similar to those recommended for reclamation with native soils; however, additional treatments could be required to address soil conditions (for example, high or low pH). Lime and soil

sulfur could be appropriate amendments for addressing soil pH; however, the actual amendments used would be based on soil tests performed at each of the sites postconstruction. Selection of amendments to address nutrient deficiencies would be made in consultation with the end user. Topsoil would be spread to a depth of 1 foot over the RTM base soil. For agricultural uses, the top 1 foot of soil is typically most important and is where fertilizer application would be focused to address the specific needs of the crop. Cultivated lands that are used for borrow and RTM sites that cannot be reclaimed following disturbance because of topographic alteration may be reclaimed as grasslands.

Permanent RTM stockpiles would be expected at some tunnel launch sites. These stockpiles would be elevated above the surrounding grades and would be planted with native grasses primarily for erosion control, for habitat enhancement, and to blend with the surrounding area when the stockpile is not being accessed for a soil material source. Recommended treatments for permanent RTM stockpiles would include spreading topsoil, cross disking, and planting native grasses.

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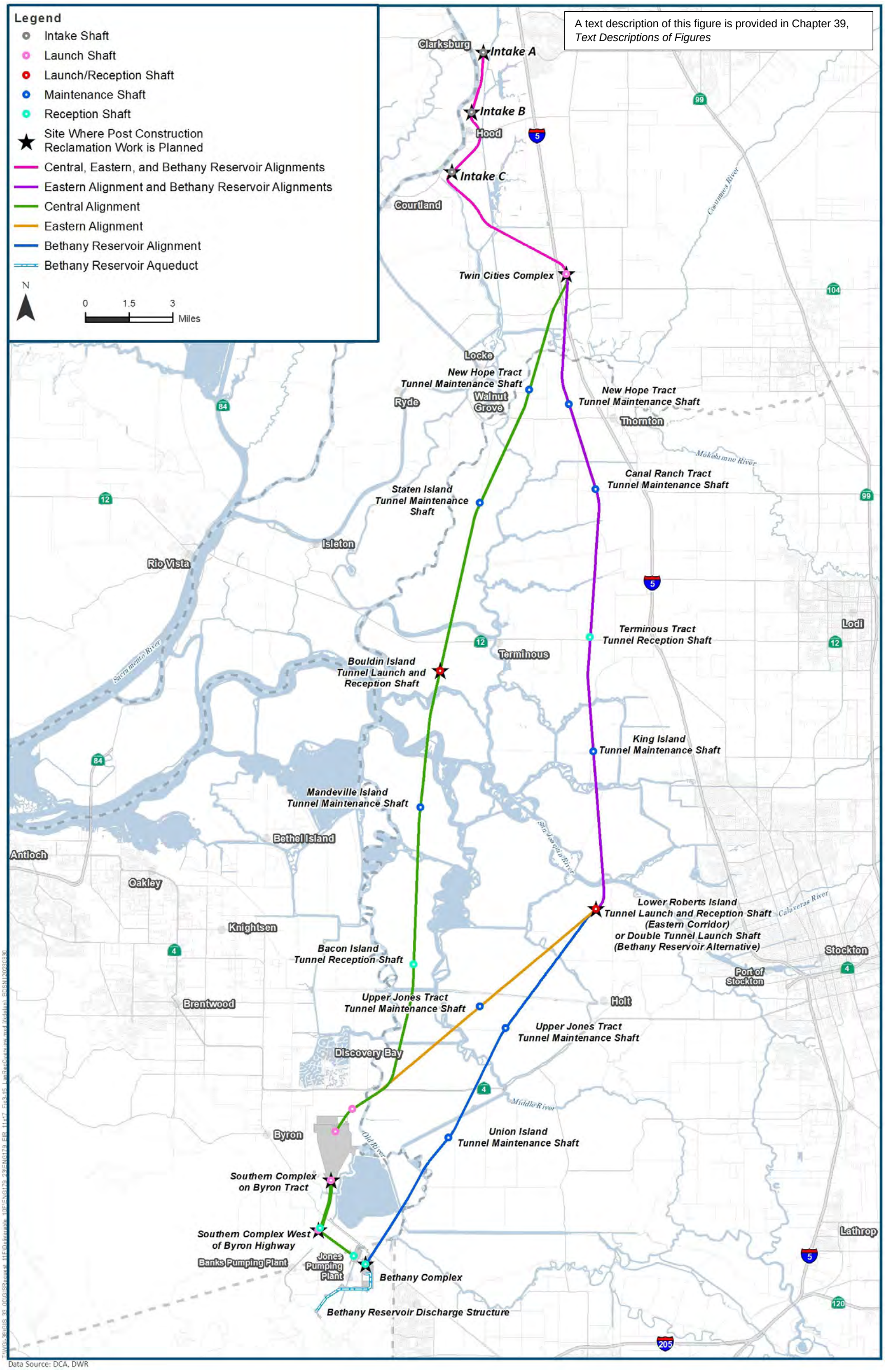


Figure 3-15. Land Reclamation Areas Overview

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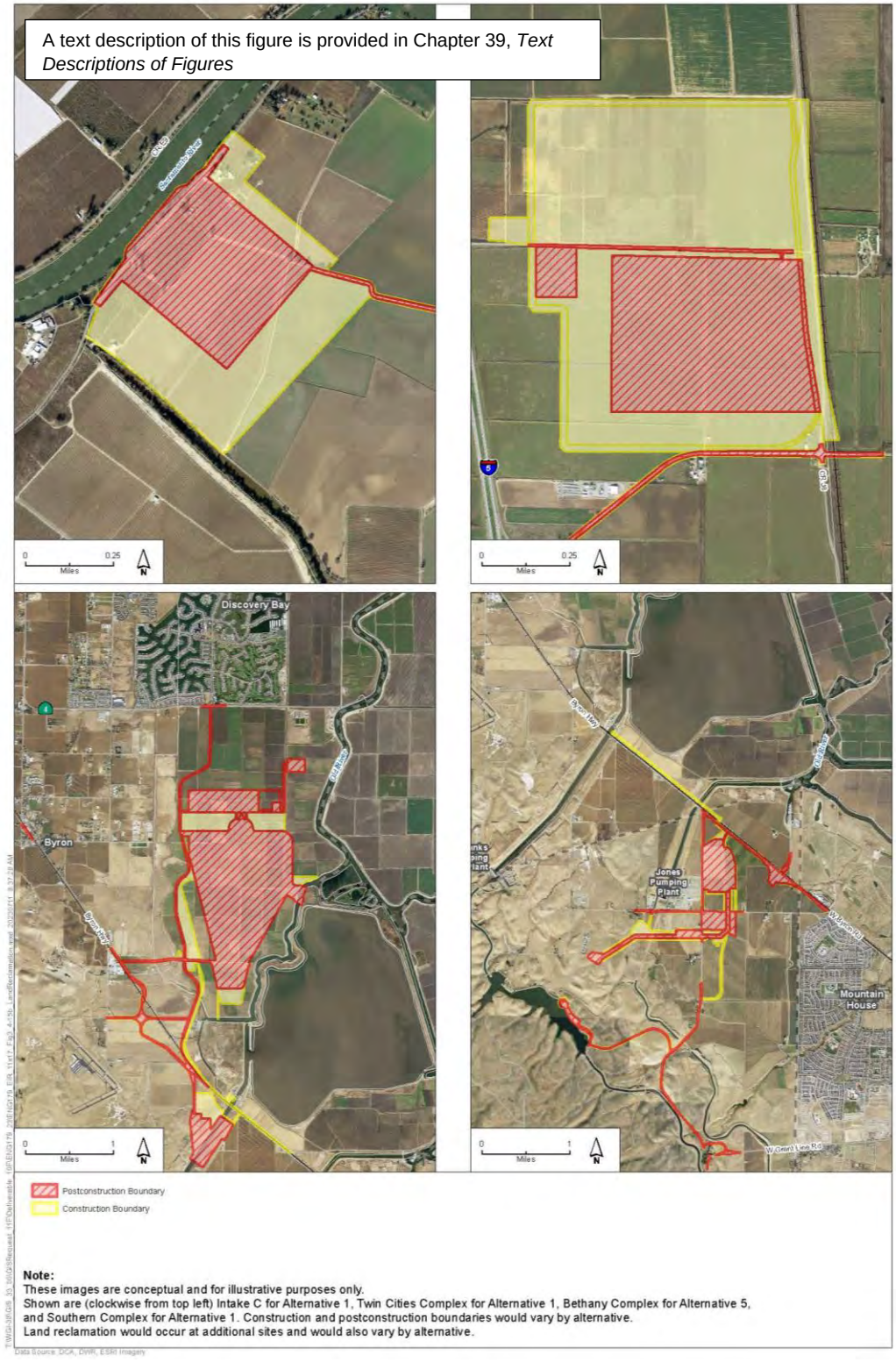


Figure 3-16. Potential Land Reclamation Areas

3.4.15 Other Construction Support Facilities

3.4.15.1 Concrete Batch Plants

Concrete batch plants would be located at Lambert Road at the intersection with Franklin Boulevard (all alternatives), Bacon Island (for central alignment alternatives only), and the Southern Complex near the South Delta Pumping Plant (all central and eastern alignment alternatives). The Lambert Road batch plant would be used for concrete delivery to the intakes, the Twin Cities Complex, and the other tunnel shafts north of SR 12. The Lower Roberts Island Launch/Reception shaft site would not require a dedicated concrete batch plant because it is close enough to a commercial plant to allow deliveries within an acceptable time after loading. The Lambert Road site would house two batch plants under all alternatives except Alternatives 2b and 4b (3,000-cfs capacity), which would require only one concrete batch plant at Lambert Road. Placing batch plants at Lambert Road would help minimize construction traffic and site sizes at intakes. The Southern Complex would have two dedicated batch plants located at northwest corner of Southern Complex site.

Alternative 5 would also utilize the two concrete batch plants at Lambert Road. Under Alternative 5, however, additional concrete batch plants would be at the Bethany Reservoir Pumping Plant and Surge Basin construction site instead of the Southern Complex, to provide concrete to all portions of the Bethany Complex. The two concrete batch plants would be north of Kelso Road and the new Bethany access road east of Mountain House Road. These batch plants were sited to allow a central delivery location for cement and aggregate and allow a centrally positioned site for distribution of the concrete around the Bethany Complex area.

A typical concrete batch plant site would be approximately 600 feet wide by 600 feet long with a 50- to 75-foot-tall batch plant with three bulk cement storage silos; a portable cement silo (trailer 10 feet tall by 60 feet long); a 500-square-foot batch trailer; four propane tanks; a 6,800-square-foot concrete block casting area; a 2,000- to 4,000-gallon diesel fuel tank; a 120,000-gallon water system consisting of six 20,000 gallons storage tanks and related collection facilities for stormwater and wash water; an admixing area that would include a pump house, admixture storage tanks, and secondary containment barriers; an aggregate storage area; a wash area for concrete mixing trucks and related returned concrete collection facilities; and parking for concrete trucks and employee vehicles. The concrete batch plant would include batcher, silo, and truck mixer dust collectors to minimize particulates in the surrounding air. Materials collected in the air filter bags would be hauled to licensed off-site disposal locations or added to the raw materials used to produce concrete. Concrete batch plant structures and equipment would be removed following construction.

3.4.15.2 Fuel Stations and Fuel Storage

Under Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, three or four fuel stations with multiple tanks for diesel and gasoline would be constructed throughout the Southern Forebay site. Fuel stations would also be constructed at the intakes, the South Delta Pumping Plant site, and the South Delta Outlet and Control Structure site. Fuel would also be stored at all tunnel shaft sites and at the intakes in accordance with stormwater pollution prevention plan and hazardous waste management criteria, as described in Appendix 3B, Environmental Commitments EC-2: *Develop and Implement Hazardous Materials Management Plans*; EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans*; and EC-4b: *Develop and Implement Stormwater Pollution Prevention Plans.* The fuel tanks would be aboveground and would be surrounded by protective bollards to protect against collisions. Double-walled tanks with built-in secondary containment or external secondary

containment beneath/around the tanks would protect surroundings from fuel leaks. A protective containment would be beneath each of the fuel tanks and a protective area would be constructed beneath the refueling area to help contain leaks that may occur during fueling. Spill containment kits would be placed at each of the fueling locations.

Under Alternative 5, fuel stations and fuel storage at intakes and tunnel shaft sites would be the same as under the eastern alignment alternatives. Two fuel stations with multiple tanks would also be constructed at the Bethany Reservoir Pumping Plant and Surge Basin. All fuel stations and storage would be removed following construction.

3.4.15.3 Emergency Response Facilities

In general, it is expected that primary emergency response services would be provided by the construction contractors. The contractor will be required to prepare a Project Emergency Response Plan with detailed information regarding emergency services, access to construction sites, and emergency response times to Delta communities. The Project Emergency Response Plan requires on-site emergency response facilities and services at primary work sites during construction. Evaluations and discussions with local agencies would be conducted to determine the most appropriate method to coordinate between project contractor-provided emergency response services at the construction sites and integration with local agencies. Additionally, DWR would enter into mutual aid agreements with emergency services agencies in the project area.

Under all alternatives using both Intakes B and C (including the 7,500-cfs alternatives that also use Intake A), emergency response facilities would be located at the Intake B construction site. Resources would include fire, rescue and medical equipment, personnel, and a helipad. Emergency personnel could include construction-phase staff that would be cross-trained. For alternatives with a single intake, temporary emergency response facilities would be established at the Intake C work site.

Intakes B and C, tunnel launch shaft sites, and the Southern Complex under central and eastern alignment alternatives or the Bethany Reservoir Pumping Plant and Surge Basin under Alternative 5 would each have a helipad for emergency evacuations. Intakes would also have a rescue boat. The Twin Cities Complex under all alternatives and the Lower Roberts Island double launch shaft site under Alternative 5 would have two ambulances during construction because there are two launch shafts.

Emergency response facilities at construction sites could be removed during construction demobilization depending on DWR's decision for need during operations.

3.4.15.4 Standby Engine Generators

Engine generators would be expected to be used during construction at the intakes. Standby engine generators would be used in the event of power outages. The Twin Cities Complex, Bouldin Island, and Lower Roberts Island launch shaft sites would each have a standby engine generator with fuel tanks during construction to provide essential services to the tunnel and TBM, including ventilation, lighting, lift, and sump pumps. Under Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, the Byron Tract working shaft site, the Southern Forebay Inlet Structure tunnel launch shaft, and Southern Forebay Outlet Structure dual tunnel launch shafts would each have two standby engine generators during construction. The South Delta Outlet and Control Structure and the California Aqueduct Control Structure would share one portable standby engine generator.

Under Alternative 5, standby engine generators would be used during construction at the intakes, the Twin Cities Complex, Lower Roberts Island shaft site, each of the Bethany Reservoir Aqueduct tunnel portals, and the Bethany Reservoir Discharge Structure.

During operations, intakes would each have two permanent standby engine generators under all alternatives. The standby engine generators would be installed inside a fenced area on the top of site embankments, with the fuel tank. The fuel would be provided by a diesel tank with suitable containment or a propane tank set aboveground. The permanent standby engine generators would provide energy to operate the valves and gates, including the ability to stop diversions at the intake structure.

The Bethany Reservoir Pumping Plant and the Bethany Reservoir Discharge Structure sites would each have a permanent standby engine generator with an isolated and fully contained fuel tank, as described in Section 3.4.15.2.

3.4.15.5 Local Water Supply, Drainage, and Utilities

Delta Conveyance Project construction and operation would require services of power, water, telecommunications, and SCADA utilities. At several locations power distribution lines (Section 3.4.10, *Electrical Facilities*), irrigation, and drainage lines would be modified to maintain existing service and provide service to the project facilities. Gas wells and infrastructure are addressed in Chapter 27, *Minerals*. Levees are addressed in Chapter 7, *Flood Protection*. The following is a summary of project features as related to drainage and water supply utilities.

All Delta Conveyance Project features would be designed to not increase peak runoff flows into adjacent storm drains, drainage ditches, or rivers and sloughs. At the intakes, tunnel shafts, and Southern Complex, all water from dewatering activities and stormwater runoff on the construction site would be collected, treated, and stored on-site to reduce the need for off-site water sources. On-site reuse and storage would be maximized to reduce peak runoff rate from the site and the need to purchase potable water. If additional stored water is not needed, the treated stormwater runoff flows would be discharged to adjacent waterbodies in a manner that would not increase peak flow rates. Use of the treatment and storage facilities would avoid increased peak stormwater runoff flow rates from project construction sites.

Water supplies in the vicinity of the construction sites are provided by on-site groundwater, import from local sources, exchanges, existing riparian diversions, new temporary appropriations, or existing SWP appropriations. None of the potential construction sites are served by local or regional water agencies. Existing groundwater supplies occur at all of the project construction sites. Existing surface water right diversions occur on parcels at the intake sites, Lower Roberts Island tunnel shaft site (eastern and Bethany Reservoir alignments), and Byron Tract (central and eastern alignments).

Construction activities may require various amounts of water depending on the activity and location. The water supply needed for construction will be satisfied through a combination of the following: import from local sources, exchanges, use of existing riparian diversions, new temporary appropriations, or existing State Water Project appropriations. Any use of diversions will be screened, as appropriate, and additional authorizations addressed following development of detailed construction engineering. Self-contained trailers (size of freight trailers used for tractor-trailer rigs) would be used to contain the water treatment plant and for water storage. Approximately 20 to 50 containers would provide water treatment and storage at each construction site based upon the amount of water to be provided from site runoff, dewatering activities, and

water hauled to the site. In some cases, temporary water tanks would be provided in lieu of multiple trailers. Water would be stored in specific facilities for firefighting at the intakes and tunnel launch shaft sites.

Most construction sites contain local irrigation and drainage facilities installed by existing or previous private landowners or reclamation districts. These systems may serve parcels that would be acquired for the project and adjacent parcels. Most of these existing facilities are buried and therefore not visible on aerial photographs. When the project can acquire access to specific parcels, irrigation and drainage facilities would be mapped for each site. If the facilities used by adjacent properties to move water from the existing diversion are located on a parcel to be used for a project feature, pipelines or canals would be installed to maintain service to the adjacent properties.

Wastewater service for structures near the project construction sites consist of individual septic systems with septic tanks and leach fields. Regional wastewater facilities are provided to the communities of Courtland and Walnut Grove by the Sacramento Area Sewer District. Interceptor pipelines extend between these communities and a regional pumping plant at the Rio Cosumnes Correctional Center (RCCC) (near the Franklin Field along Bruceville Road). The RCCC pumping plant lifts the wastewater into another interceptor that extends to the Sacramento Regional County Sanitation District wastewater treatment plant near the community of Elk Grove.

The project facilities would include widening of Lambert Road and installation of underground power cables along Lambert Road at a depth of about 5 feet. The New Hope Tract tunnel maintenance shaft along the central alignment would be located to the north of the interceptor alignment near West Lauffer Road. These facilities would be designed to not affect the wastewater interceptors. The main tunnel would be bored at a depth of almost 100 feet below the interceptors at Lambert Road and near West Lauffer Road.

Wastewater facilities for all of the project construction sites would be provided with portable restrooms. Septic systems would also be constructed at the intakes (all alternatives), Twin Cities Complex (all alternatives), Bouldin Island tunnel launch shaft (central alignment alternatives), Lower Roberts Island (eastern and Bethany Reservoir alignment alternatives), Southern Complex (central and eastern alignment alternatives), and at Bethany Reservoir Pumping Plant and Surge Basin site (Bethany Reservoir alignment). Because of high groundwater and/or low soil permeability at these sites, the leach fields would be sized larger than for locations with more favorable soil conditions, in accordance with the applicable county regulations.

3.5 No Project Alternative

Under CEQA, an EIR is required to analyze the No Project Alternative. As directed by the CEQA Guidelines, the No Project Alternative is not the baseline for assessing the significance of impacts of the proposed project. Rather, the "environmental setting" as it exists at the time of issuance of a Notice of Preparation "will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant" (CEQA Guidelines § 15125(a)).

CEQA Guidelines Section 15126.6 directs that an EIR shall evaluate a specific alternative of "no project" along with its impact. This Guideline section states that "the purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project…. [this analysis] shall discuss the existing conditions at the time the notice of preparation is published … as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved." For a "development project" such as the proposed Delta Conveyance Project, the no project alternative is the "circumstance under which the project does not proceed … if disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed ... [and] where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval …" Section 15126.6 goes on to direct that, "after defining the no project alternative … the lead agency should proceed to analyze the impacts of the no project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved …."

CEQA Guidelines Section 15126.6, Subdivision (e)(2) indicates that No Project conditions may include some reasonably foreseeable changes in existing conditions and changes that would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. For purposes of this analysis, the No Project is considered at two timeframes. The first timeframe considered for the No Project Alternative is at 2020, which is the same timeframe as the project alternatives (in light of comparison to the 2020 environmental setting, which is the baseline for determining impacts under CEQA). Generally, the No Project Alternative at 2020 is identical to existing conditions found within the study areas and therefore is not separately discussed in the resource chapters.

The Final EIR analysis also considers a No Project Alternative under future conditions, when the Delta Conveyance Project is anticipated to be fully constructed and operational. This condition is represented by the year 2040 for resources that consider modeling to help characterize the alternatives. Under the No Project Alternative, DWR would continue to operate the existing SWP facilities to divert, store, and convey SWP water consistent with applicable laws, regulations, and permit conditions, and SWP contractual obligations for water deliveries. A description of the environmental conditions that may change under the No Project Alternative under future conditions is included in each resource assessment that is fully or partially dependent on the 2040 modeled condition. However, under the No Project Alternative, DWR would not make any changes to the SWP facilities in the Delta to address water supply reliability and related objectives identified in Chapter 2, *Purpose and Project Objectives*.

Under the No Project Alternative, DWR would remain subject to the current take limits for listed species and other current ESA and California Endangered Species Act (CESA) requirements. For this

analysis, the No Project Alternative assumptions are limited to existing conditions, programs adopted during 2020 (i.e., what was known during the early stages of development of the Draft EIR), facilities that are permitted or under construction during the early stages of development of the Draft EIR, projects that are permitted or are assumed to be constructed by 2040, annual actions that vary each year, and changes resulting from climate change and assumed extreme sea level rise that would occur with or without the project (Appendix 3C, *Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions*). These assumptions represent continuation of existing plans, policies, and operations by governmental and nonprofit entities, and conditions that represent continuation of trends in nature.

Among the ongoing programs by governmental entities that are included in the No Project Alternative are actions required by the 2019 USFWS and NMFS Biological Opinions (BiOps) on Coordinated Long-Term Operations of the CVP and SWP and the California Department of Fish and Wildlife (CDFW) 2020 Incidental Take Permit (ITP) for Long-Term Operations of the SWP. The following summarizes which actions are reflected in the No Project Alternative.

- The anticipated effects of actions required by the 2019 BiOps and 2020 SWP ITP that have already occurred or are expected to be implemented prior to project approval are assumed in the No Project Alternative.
- The anticipated effects of actions required by the 2019 BiOps and 2020 SWP ITP that change water operations in the project area or upstream were assumed in the No Project Alternative if they were reasonably certain to occur and enough was known about the effects of the project in early 2020.[2]
- Examples of effects assumed in the No Project Alternative include the effects of operations of the Delta Cross Channel gates, those related to measures to reduce entrainment at the south Delta export facilities, and the Fremont Weir big notch (more formally known as the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project).

The detailed elements of the No Project Alternative are presented in Appendix 3C.

As noted above, the assumptions for the No Project Alternative as they relate to ongoing operation of the SWP are limited to what is reasonably foreseeable under existing and adopted programs in light of expected conditions reflecting ongoing climate change. The inherent challenge in envisioning long-term No Project conditions has required DWR, for purposes of defining the No Project Alternative in this Final EIR, to make some informed judgments about what might happen outside the immediate SWP context during such an extended time period. The analysis of the No Project Alternative in this Final EIR includes the possible actions of California water suppliers other than DWR under a long-term scenario in which the Delta Conveyance Project is not approved or implemented. In this scenario, SWP supply reliability would be expected to continue to degrade, and water agencies that receive SWP supplies would need to take additional actions to address local shortages that likely go beyond those actions that agencies are planning with or without the Delta Conveyance Project. These actions could include pursuing additional water conservation programs, water recycling projects, groundwater recovery projects, desalination of seawater or brackish

[2] For a detailed explanation about these modeling assumptions, see Appendix 5A, *Modeling Technical Appendix*.

groundwater, surface water storage, groundwater management, or water transfers and exchanges.[3] Constraints and regulations imposed by implementation of groundwater sustainability plans in response to the Sustainable Groundwater Management Act of 2014 could increase the need for reliable SWP surface water supplies over time.

More detail about which agencies would pursue which types of projects is provided in Appendix 3C, Section 3C.3.2.5, *No Project Alternative Assumptions for Water Agency Actions*.

As is explained throughout this Final EIR, such conditions would likely entail continuing uncertainty of SWP south Delta exports, increasing vulnerability in the south Delta to long-term reductions in water quality resulting from sea level rise, and continuing vulnerability to a major seismic event that could harm Delta facilities and potentially temporarily halt export operations. Further discussion of these risks and their potential consequences is incorporated in Chapter 30, *Climate Change*, and Appendix 5A, *Modeling Technical Appendix,* regarding climate change assumptions.

The No Project Alternative at 2040 includes ongoing and reasonably foreseeable projects and programs that are assumed to occur in the absence of the Delta Conveyance Project. The No Project Alternative includes the actions Delta Conveyance Project participants may take if the Delta Conveyance Project was not constructed and the resulting environmental effects of those actions. The other project and programs occurring within the Delta Conveyance Project study areas are included in the cumulative effects analyses in each resource chapter.

[3] It is acknowledged that water agencies are already exploring these types of actions as outlined in their water management plans. However, the No Project Alternative focuses on the added level of these actions that would be needed in order to replace any water reliability that would be gained through implementation of the Delta Conveyance Project.

3.6 Alternative 1—Central Alignment, 6,000 cfs, Intakes B and C

This section summarizes the distinctive characteristics of Alternative 1, which includes the major features described in Section 3.4 that are common to most central alignment alternatives (Alternatives 1, 2a, 2b, and 2c). Each central alignment alternative is then described relative to Alternative 1 in the respective sections that follow. As explained in Section 3.3, features vary among alternatives mainly in size (based on conveyance capacity), intakes utilized, and elements included at the South Delta Conveyance Facilities. Figure 3-2a, Mapbook 3-1, and Figure 3-17 show locations of project facilities and major construction features for the central alignment with 7,500 cfs conveyance capacity (Alternative 2a) in order to represent the potential maximum extent of the alignment. Alternatives with 6,000 cfs conveyance capacity would use only Intakes B and C; alternatives with 3,000 cfs conveyance capacity would use only Intake C.

Alternative 1 would follow a central alignment to convey 6,000 cfs of water diverted at Intakes B and C. Each intake would have a maximum diversion capacity of 3,000 cfs. To convey up to 6,000 cfs, the tunnel under Alternative 1 would have an inside diameter of 36 feet and an outside diameter of 39 feet and extend 39 miles from the intakes to the Southern Forebay. Figure 3-2a depicts the central alignment alternatives and major facilities.

Beyond the Twin Cities Complex double launch shaft, central alignment alternatives would also have shafts along the main tunnel route at the following locations, as shown on Figures 3-2a and 3-17.

- New Hope Tract maintenance shaft (central)
- Staten Island maintenance shaft
- Bouldin Island reception and launch shaft
- Mandeville Island maintenance shaft
- Bacon Island reception shaft
- Byron Tract working shaft (launch shaft)
- Southern Forebay Inlet Structure (launch shaft)
- Southern Forebay Outlet Structure and dual launch shafts (Section 3.4.5.4)
- Dual reception shafts at the South Delta Outlet and Control Structure along SWP Banks Pumping Plant approach channel (Section 3.4.6.1)

Alternatives 1, 2a, 2b, and 2c would have a reception and launch shaft on Bouldin Island between Twin Cities Complex and the Byron Tract working shaft. The tunnel launch shaft on Bouldin Island would launch the TBM south toward the tunnel reception shaft on Bacon Island. The same shaft would also be used to recover the TBM launched from Twin Cities Complex. This facility on Bouldin Island would also contain a gantry crane, RTM storage, tunnel liner segment storage, offices, emergency response facilities, water treatment facilities, and other appurtenant facilities and structures.

The Bouldin Island site is potentially vulnerable to flooding because portions of the existing perimeter levee have insufficient freeboard or slopes that do not comply with the Public Law 84-99 Delta-specific levee design standard. Targeted repairs would primarily involve levee widening and

crown raises to provide 1.5 feet of freeboard above the 100-year flood elevation, minimum 16-foot crest width, exterior slopes of 2H:1V, and interior slopes ranging between 3H:1V and 5H:1V depending on levee height and peat thickness. All of the modifications would occur on the landside of the levees. Levee modifications would occur at several areas for about 51,000 feet of levees. The total size of the construction site and postconstruction site for the Bouldin Island levee modifications would be approximately 251 acres, with an additional 90 acres for temporary levee modification access roads. To account for ongoing work by levee maintenance agencies, the extent of levee repairs would be coordinated with the local levee maintenance agency.

After construction is completed, portions of shaft sites not included in the postconstruction boundaries would be reclaimed for potential uses such as natural habitat or agriculture to the extent practical. See Section 3.4.14, *Land Reclamation*.

Under all central alignment alternatives, the construction site for the Southern Complex on Byron Tract would occupy 1,457 acres and the permanent footprint would cover 1,189 acres.

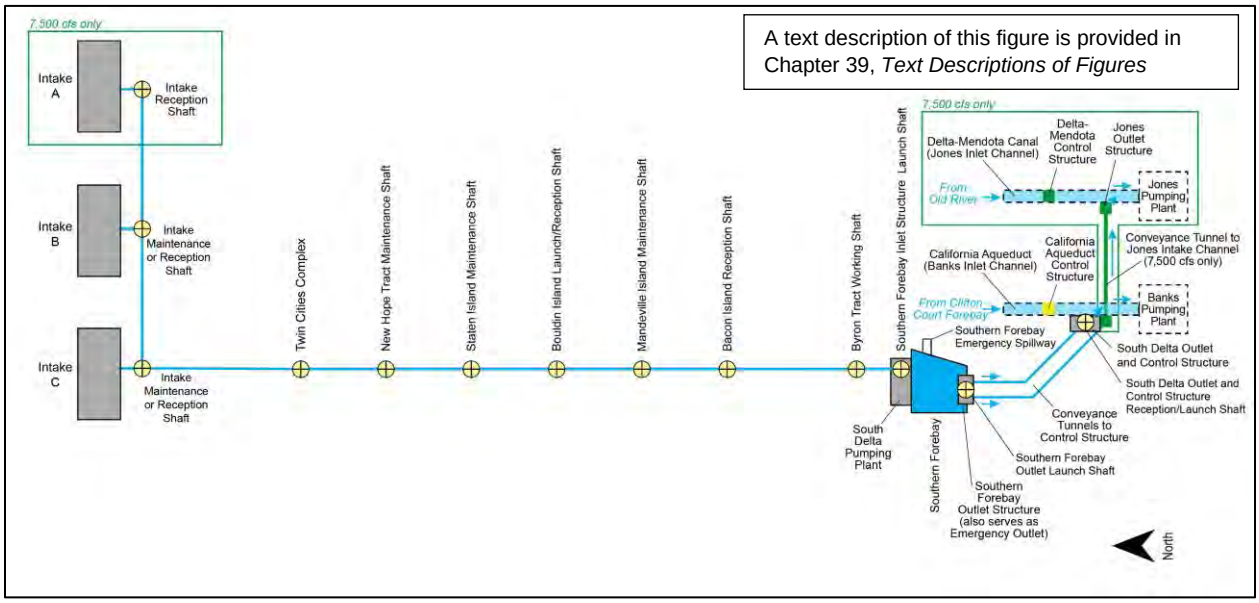


Figure 3-17. Project Schematic Central Alignment Alternatives

Table 3-5. Summary of Distinguishing Physical Characteristics of Alternative 1

Characteristic	Description [a]
Alignment	Central
Conveyance capacity	6,000 cubic feet per second
Number of Intakes	2; Intakes B and C at 3,000 cfs each
Tunnel from Intakes to Southern Forebay	
Diameter	36 feet inside, 39 feet outside
Length	39 miles
Number of tunnel shafts [b]	10
Launch shaft diameter (including each shaft at double launch shafts and combined launch/reception shafts)	115 feet inside
Reception and maintenance shafts diameter	70 feet inside

Characteristic	Description [a]
Twin Cities Complex	Construction acres: 479 Permanent acres: 141
Bouldin Island Launch/Reception Shaft	Construction acres: 615 Permanent acres: 507
Southern Complex	
Byron Tract working shaft diameter	115 feet inside
Southern Forebay Inlet Structure launch shaft diameter	115 feet inside
Pumping plant building	378 feet x 99 feet (approximately 0.86 acre)
Pumps	7 pumps at 960 cfs each, including 2 standby pumps 3 pumps at 600 cfs each, including 1 standby pump 2 portable pumps to dewater tunnel
Southern Forebay Outlet Structure Dual Launch Shafts diameter	115 feet inside, each
Dual tunnels to South Delta Outlet and Control Structure	38 feet inside diameter 41 feet outside diameter 1.7 miles long
Facilities on Byron Tract	Construction acres: 1,457 Permanent acres: 1,189
Facilities west of Byron Highway	Construction acres: 164 Permanent acres: 112
South Delta Outlet and Control Structure	400 feet wide x 1,250 feet long x 43 feet high
South Delta Outlet and Control Structure Dual Reception Shafts diameter	90 feet inside
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	130 acres x 15 feet high
Bouldin Island long-term RTM storage (approximate)	196 acres x 6 feet high
Southern Forebay long-term RTM storage	0
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	13.9 million cubic yards

cfs = cubic feet per second; RTM = reusable tunnel material. The long-term height of the RTM storage stockpiles would be lower as the RTM subsides into the ground.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

[b] Number of shafts for the main tunnel from intakes to Southern Forebay, counting the double shaft at Twin Cities Complex as one shaft.

Electrical facilities and SCADA facilities would be similar to those described in Section 3.4.10, *Electrical Facilities*, and Section 3.4.11, *SCADA Facilities*.

Boring the tunnel 39 miles from the intakes to the Southern Forebay and dual tunnels 1.7 miles from the Southern Forebay Outlet Structure to the South Delta Outlet and Control Structure is expected to

generate approximately 13.9 million wet excavated[4] cubic yards of RTM. Drying and compaction would reduce the final volumes of RTM for reuse and storage.

RTM handling facilities would include RTM temporary wet storage; RTM mechanical dryers at Twin Cities Complex and Southern Complex; and RTM natural drying and long-term storage areas at Twin Cities Complex and Bouldin Island. Material would be tested for hazardous substances, stockpiled, and reused as much as possible. Excess suitable RTM remaining after project completion would be stockpiled at Twin Cities Complex. Stockpiles of RTM at Bouldin Island would only be used on-site, such as for restoring topography; it would not be transported for use at other construction sites. The Southern Complex would have two temporary RTM storage areas with a total maximum of 50 acres with stockpiles up to 10 feet high. It is not expected that there would be any permanent long-term RTM stockpiles at the Southern Complex under Alternative 1. Peat soils (51 acres) and topsoil and other soil materials (39 acres) would be stored in an area north of the Southern Forebay.

All central alignment alternatives would involve construction of the new South Holt Road Overpass over BNSF tracks. This construction would be coordinated with BNSF railroad to avoid traffic issues. There would be a minimum of 23 feet 4 inches of clearance between the top of the BNSF tracks and the bottom of the bridge deck, in accordance with BNSF requirements. Figure 3-18 shows roads specific to the central alignment alternatives.

[4] Excavated RTM would be in a less compact state than it is in the ground and with the addition of water and conditioners during the tunneling process, could be expected to occupy a greater volume. After drying and compaction, the RTM's volume would be approximately 99% of the pre-excavated volume.

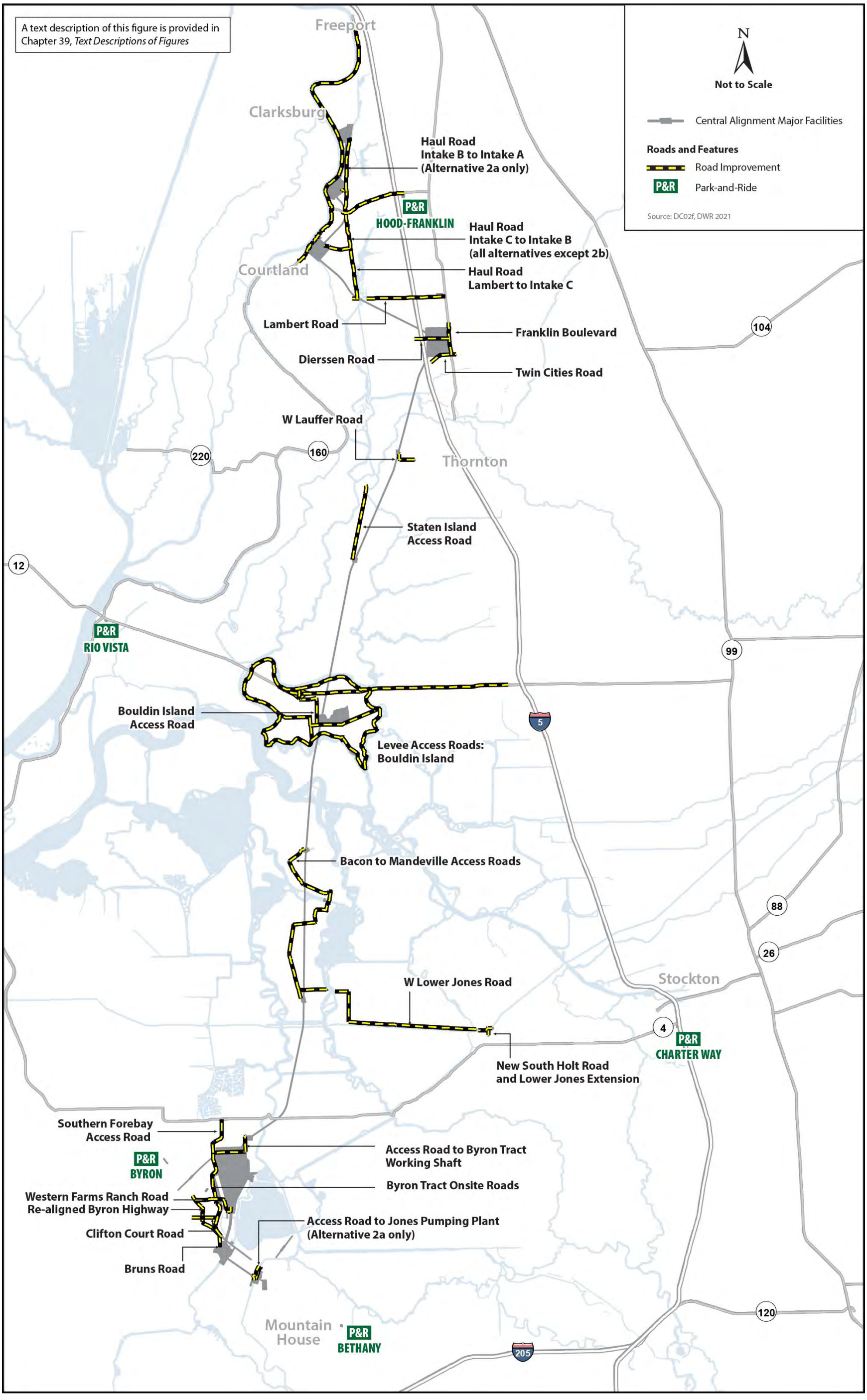
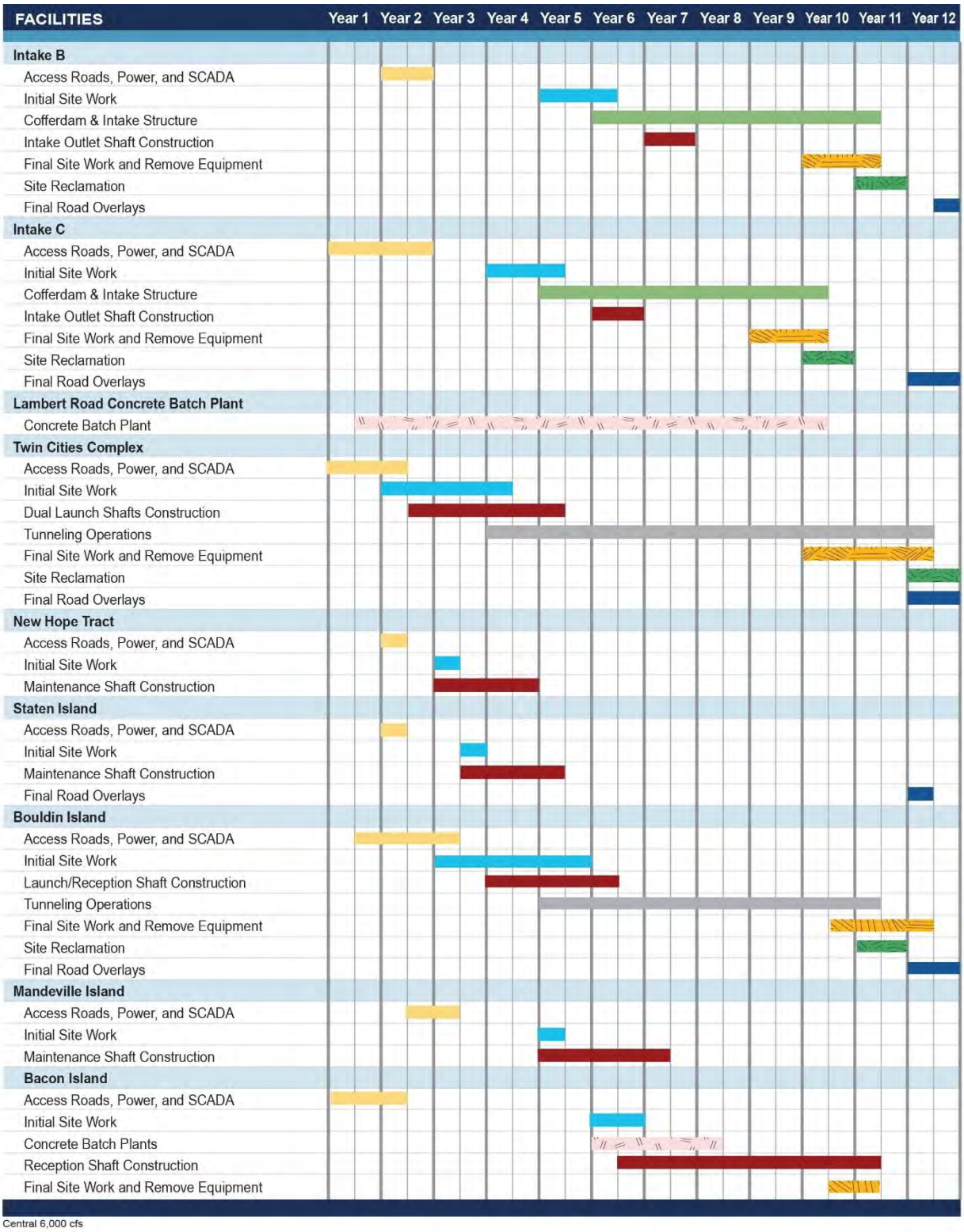


Figure 3-18. Road Modifications under Central Alignment Alternatives

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3.6.1 Construction Schedule

Construction of Alternative 1 would take approximately 12 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts. Most shafts would be completed in 2 to 3 years. Equipment decommissioning, site reclamation, and road overlays would occur in the final years, as shown in Figure 3-19.



Central 6,000 cfs

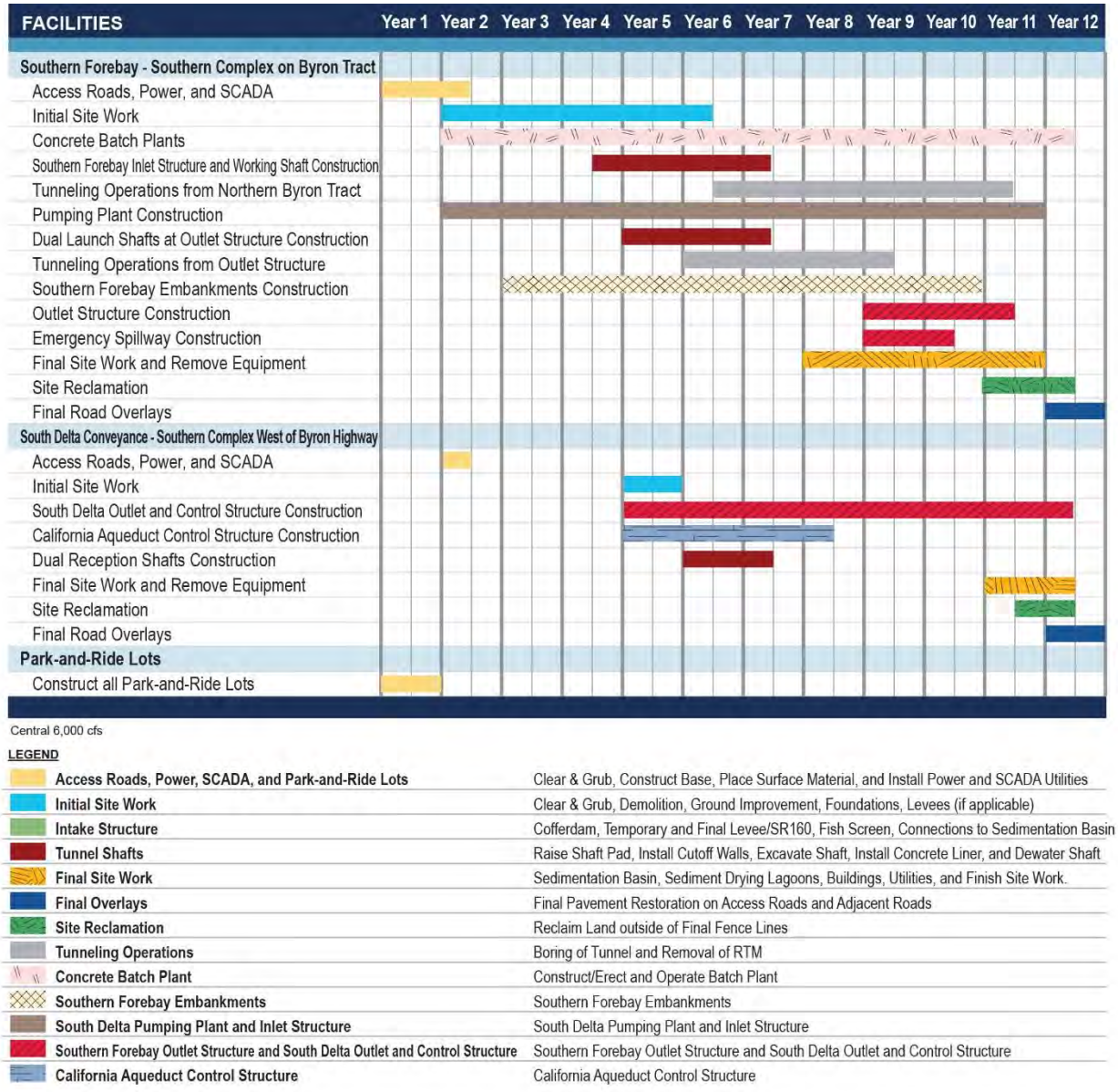


Figure 3-19. Alternative 1 Construction Schedule

3.7 Alternative 2a—Central Alignment, 7,500 cfs, Intakes A, B, and C

Alternative 2a would follow the same central alignment and involve the same facilities as Alternative 1, except that it would use three intakes and have additional facilities in the south Delta to connect to the CVP. Alternative 2a would have a design capacity of 7,500 cfs to provide 1,500 cfs of water delivery to the CVP Jones Pumping Plant in addition to 6,000 cfs of SWP deliveries. Accordingly, sizes of some facilities would be larger than under Alternative 1 to accommodate the larger conveyance capacity (Table 3-6). This alternative is considered to address the potential that the Delta Conveyance Project could be operated to provide water supply conveyance capacity for the CVP in coordination with the Bureau of Reclamation (Reclamation). Reclamation has not indicated an interest in participating in the Delta Conveyance Project, but this alternative is included to provide a comparison of potential impacts and benefits.

Figures 3-2 and 3-17 provide, respectively, a map and schematic diagram of the conveyance facilities associated with the central alignment including Alternative 2a. Mapbook 3-1 depicts the locations of project facilities and major construction features for all central alignment alternatives (Alternatives 1, 2a, 2b, and 2c).

The larger conveyance capacity would require the use of Intakes A, B, and C, described in Section 3.4.1, *North Delta Intakes*. While Intakes B and C would have a design capacity of 3,000 cfs, as they would under Alternative 1, Intake A would provide an additional 1,500 cfs of diversion capacity to achieve a total of 7,500 cfs. Intake A would have the same features and structures as Intakes B and C, but with a diversion capacity of 1,500 cfs it would have a smaller footprint. The Intake A site would cover approximately 166 acres during construction, and approximately 78 acres postconstruction. Under Alternative 2a, the Intakes B and C tunnel shafts would have an inside diameter of 83 feet and be used as TBM maintenance shafts; the northernmost tunnel reception shaft with an inside diameter of 83 feet would be at Intake A.

The cylindrical tee fish screen assembly would be the same as at Intakes B and C, except Intake A would require only 15 screen units at 100 cfs each.

The tunnel length from Intake A to the Southern Forebay would be 41.5 miles. To accommodate 7,500 cfs flow, the main tunnel and the dual tunnels from the Southern Forebay Outlet Structure to the South Delta Outlet and Control Structure would have an inside diameter of 40 feet (44-foot outside diameter), larger than that required under Alternative 1.

Tunnel shafts along the main tunnel alignment would be in the same locations as for Alternative 1, but larger. Launch shafts along the main tunnel alignment would have an inside diameter of 120 feet (including each shaft of the double launch shaft at Twin Cities Complex); maintenance and reception shafts would have inside diameters of 76 feet. The dual launch shafts at the Southern Forebay Outlet Structure would have a 115-foot inside diameter and the dual reception shafts at the South Delta Outlet and Control Structure would each have 90-foot inside diameters. Additionally, Alternative 2a would have a 90-foot inside diameter launch shaft to a single 20-foot-diameter tunnel originating in the Jones Control Structure adjacent to the South Delta Outlet and Control Structure. This tunnel would terminate at a reception shaft (55 feet inside diameter) at the Jones Outlet Structure at the CVP Jones Pumping Plant approach channel. Section 3.7.1, *Southern Complex West of Byron Highway,* explains these facilities further.

Launch shaft sites at Twin Cities Complex and Bouldin Island would be larger than under Alternative 1 because of the larger shafts required for the larger TBMs and the need to store additional RTM generated by larger tunnels (Table 3-6). Levee improvements at Bouldin Island would be the same as under Alternative 1. The Southern Complex would have two temporary RTM storage areas with a total maximum of 79 acres with stockpiles up to 10 feet high. It is not expected that there would be any permanent long-term RTM stockpiles at the Southern Complex for Alternative 2a. However, peat soils and excess topsoil and other soil materials would be stored at an area north of the Southern Forebay.

The Southern Forebay and the South Delta Conveyance Facilities would be the same as under Alternative 1, except that under Alternative 2a the pumping plant building would be 99 feet wide by 413 feet long and hold eight pumps at 960 cfs (including two standby pumps), three pumps at 600 cfs (including one standby), and two portable pumps for dewatering the tunnel.

Alternative 2a would also involve constructing the Jones Control Structure, the Jones Tunnel, the Jones Outlet Structure, and the Delta-Mendota Control Structure on the Southern Complex west of Byron Highway. These facilities are described in Section 3.7.1.

Alternative 2a would include the same access roads as shown on Figure 3-18 (Section 3.6, *Alternative 1—Central Alignment, 6,000 cfs, Intakes B and C*). In addition, this alternative would require an approximately 2.5-mile extension of the access road from Intake B to Intake A. This would be a 32-foot-wide paved road, with 12-foot lanes and 4-foot shoulders and include a 350-foot-long, 32-foot-wide bridge over a drainage channel. Toward the end of construction, about 9,500 feet of 24-foot-wide paved and 6,000 feet of 20-foot wide gravel permanent access roads would be installed at Intake A. Access to the Jones Outlet Structure and Delta-Mendota Control Structure would be provided along existing roads, including Herdlyn Road and an access road to the CVP Jones Pumping Plant. Alternative 2a would require additional electrical power supplies for Intake A, the Jones Control Structure, Jones Outlet Structure, and the Delta-Mendota Control Structure. Approximately 2.1 miles of new 69-kV electrical transmission lines would be installed underground adjacent to the Intake A site access route and intake haul road, traveling south to a double-circuit, low-profile switching station on the southwest quadrant of the intersection of the haul road and the site access road to Intake B. This new underground power serving the intake would be routed to a new on-site substation at the intake. Approximately 1.3 miles of existing overhead power lines at Intake A would be abandoned. To maintain power to the adjacent residences and agricultural facilities currently powered by these power lines, 0.6 mile of underground power would be installed adjacent to the existing access road, connecting to the existing overhead power line where the Intake A site access road enters the intake haul road.

To provide construction and operational power to the Delta-Mendota Control Structure, a connection to the existing PG&E line on Mountain House Road would be established. A new overhead line would be installed from an existing pole on the east side of the road to a 25-foot by 25-foot metering area on the west side of the roadway, and the new line would continue underground for approximately 650 feet to the new facility. Because of the critical control nature of this facility, a generator would be provided for backup power in case of a power outage. This alignment would temporarily affect approximately 0.6 acre and result in a permanent dedicated easement and metering area of roughly 0.4 acre. The relocation of non-project power would temporarily affect 2.9 acres and permanently affect 1.8 acres in a dedicated utility easement.

The SCADA facilities would be similar to those described in Section 3.4, with the addition of connections to Intake A and the new Jones Outlet Structure and Delta-Mendota Control Structure.

Table 3-6. Summary of Distinguishing Physical Characteristics of Alternative 2a

Characteristic	Description [a]
Alignment	Central
Conveyance capacity	7,500 cubic feet per second
Number of Intakes	3; Intake A at 1,500 cfs; Intakes B and C at 3,000 cfs each
Tunnel from Intakes to Southern Forebay	
Diameter	40 feet inside, 44 feet outside
Length	41.5 miles
Number of tunnel shafts [b]	11
Launch shaft diameter	120 feet inside
Reception and maintenance shafts diameter	76 feet inside
Twin Cities Complex	Construction acres: 546 Permanent acres: 285
Bouldin Island Launch/Reception Shaft	Construction acres: 657 Permanent acres: 544
Southern Complex	
Byron Tract working shaft diameter	120 feet inside
Southern Forebay Inlet Structure launch shaft diameter	120 feet inside
Pumping plant building	413 feet x 99 feet (approximately 0.94 acres)
Pumps	8 pumps at 960 cfs each, including two standby pumps 3 pumps at 600 cfs, each, including one standby pump 2 portable pumps to dewater tunnel
Southern Forebay Outlet Structure Dual Launch Shafts diameter	115 feet inside, each
Dual tunnels to South Delta Outlet and Control Structure	40 feet inside diameter 44 feet outside diameter 1.7 miles long
Facilities on Byron Tract	Construction acres: 1,457 Permanent acres: 1,189
Facilities west of Byron Highway	Construction acres: 293 Permanent acres: 210
South Delta Outlet and Control Structure	Includes Jones Control Structure
Dual tunnel reception shafts	2 shafts, each 90 feet inside diameter
Jones Tunnel Launch Shaft at the South Delta Outlet and Control Structure	90 feet inside diameter
Facilities to serve Jones Pumping Plant	
Jones Control Structure	222 feet wide x 370 feet long x 45 feet high
Single Jones Tunnel from Jones Control Structure to Jones Outlet Structure	20 feet inside diameter 22 feet outside diameter 7,900 feet (1.5 miles) long Maximum flow: 1,500 cfs
Jones Outlet Structure	Varies, 220 feet to 450 feet wide x 350 feet to 500 feet long x 32 feet high
Tunnel Reception Shaft at Jones Outlet Structure	55 feet inside diameter Top of shaft pad: at or near ground level Top of shaft pad elevation: 38 feet
Delta-Mendota Control Structure in Jones Pumping Plant approach channel	312 feet wide x 1,031 feet long

Characteristic	Description [a]
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	275 acres x 15 feet high
Bouldin Island long-term RTM storage (approximate)	225 acres x 7 feet high
Southern Forebay long-term RTM storage	0 acres
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	18.4 million cubic yards
Wet excavated RTM volume for Jones Tunnel between South Delta Outlet and Control Structure and Jones Outlet Structure	0.15 million cubic yards

cfs = cubic feet per second; RTM = reusable tunnel material. The height of the RTM storage stockpiles would decrease as the RTM subsides into the ground over time.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

[b] Number of shafts for the main tunnel from intakes to Southern Forebay, counting the double shaft at Twin Cities Complex as one shaft.

3.7.1 Southern Complex West of Byron Highway

To deliver water to the CVP facilities, Alternative 2a would require additional facilities west of Byron Highway in addition to those described in Section 3.4.6, *Southern Complex West of Bryon Highway*. A new Delta-Mendota Control Structure would also be built under Alternative 2a; together these facilities would convey water to the Jones Pumping Plant approach channel (a.k.a. Delta-Mendota Canal).

3.7.1.1 Jones Control Structure and Jones Tunnel

The Jones Control Structure would be a reinforced concrete structure with radial control gates. It would be connected directly to the west side of the South Delta Outlet and Control Structure (Figure 3-12 and Figure 3-20). It would contain a 90-foot inside diameter TBM launch shaft that would become the inlet shaft to a single new 20-foot-diameter, 1.5-mile-long Jones Tunnel, connecting to a new Jones Outlet Structure adjacent to the Jones Pumping Plant approach channel. The Jones Control Structure would be used to control flow from the Southern Forebay into the Jones Tunnel and ultimately to the Delta-Mendota Canal.

3.7.1.2 Jones Outlet Structure

The Jones Outlet Structure would be located along the Delta-Mendota Canal approach channel. The Jones Outlet Structure would contain a 55-foot-diameter reception shaft from which to remove the TBM. At the reception shaft, the flows would transition from the tunnel to an open channel discharge into the Delta-Mendota Canal. The structure would be a flow-through facility with no operational control and would have no electrical or control systems (Figure 3-20).

3.7.1.3 Delta-Mendota Control Structure

The Delta-Mendota Control Structure would be located in the Jones Pumping Plant approach channel (Figure 3-20). The main feature of this structure would be motorized radial gates that control the flow in the Delta-Mendota Canal. One smaller gate would be provided to allow control of the flow rate to match what would be needed at the Jones Pumping Plant. The height of the structure and surrounding grading would protect the downstream side of the structure from the 200-year flood plus sea level rise for 2100 in the vicinity of the Clifton Court Forebay. The Jones Outlet Structure and Delta-Mendota Control Structure would be located on land owned by the federal government; excess excavated materials would be stockpiled on nonfederal land.

Figure 3-20 depicts these additional facilities.

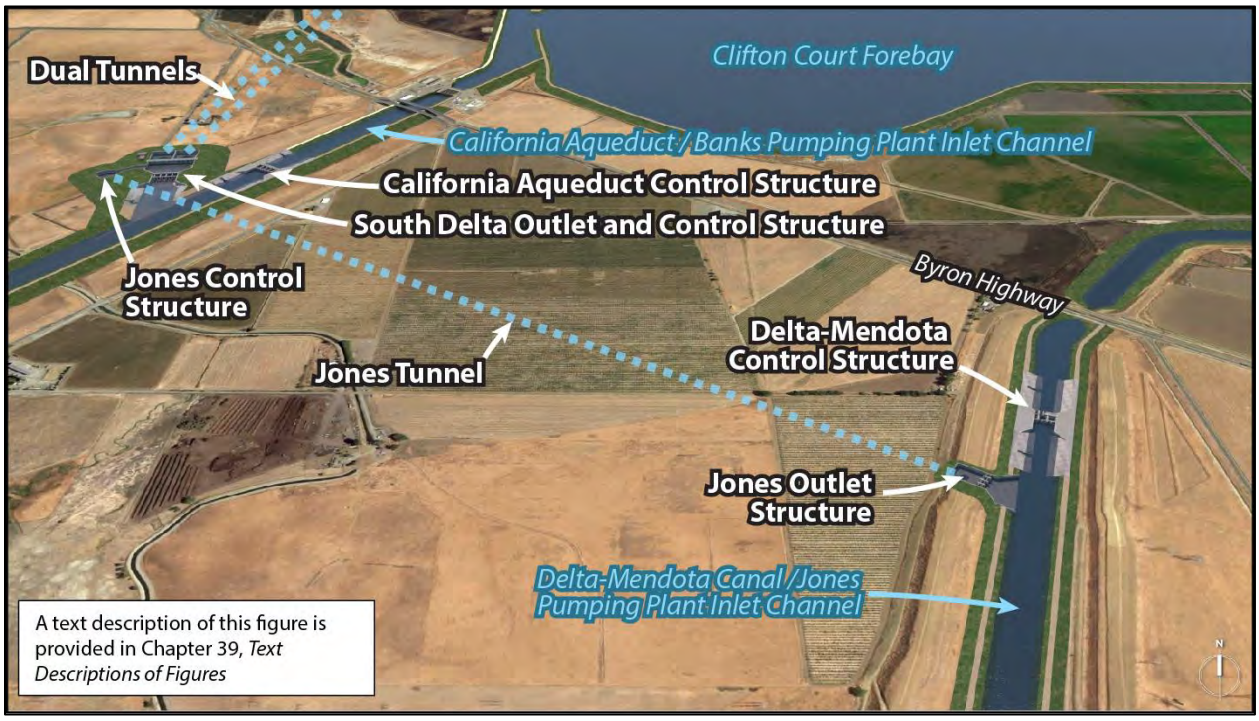
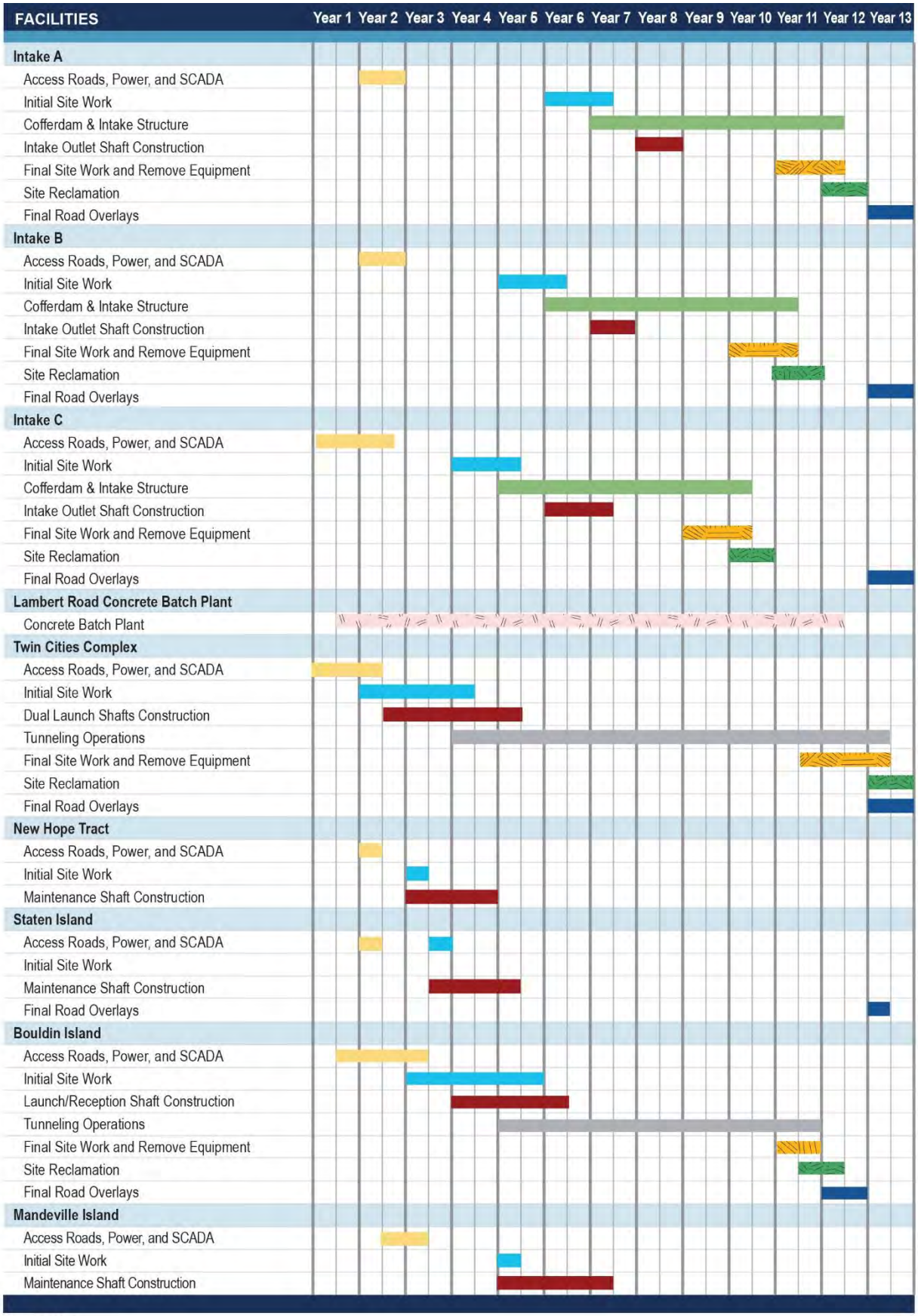


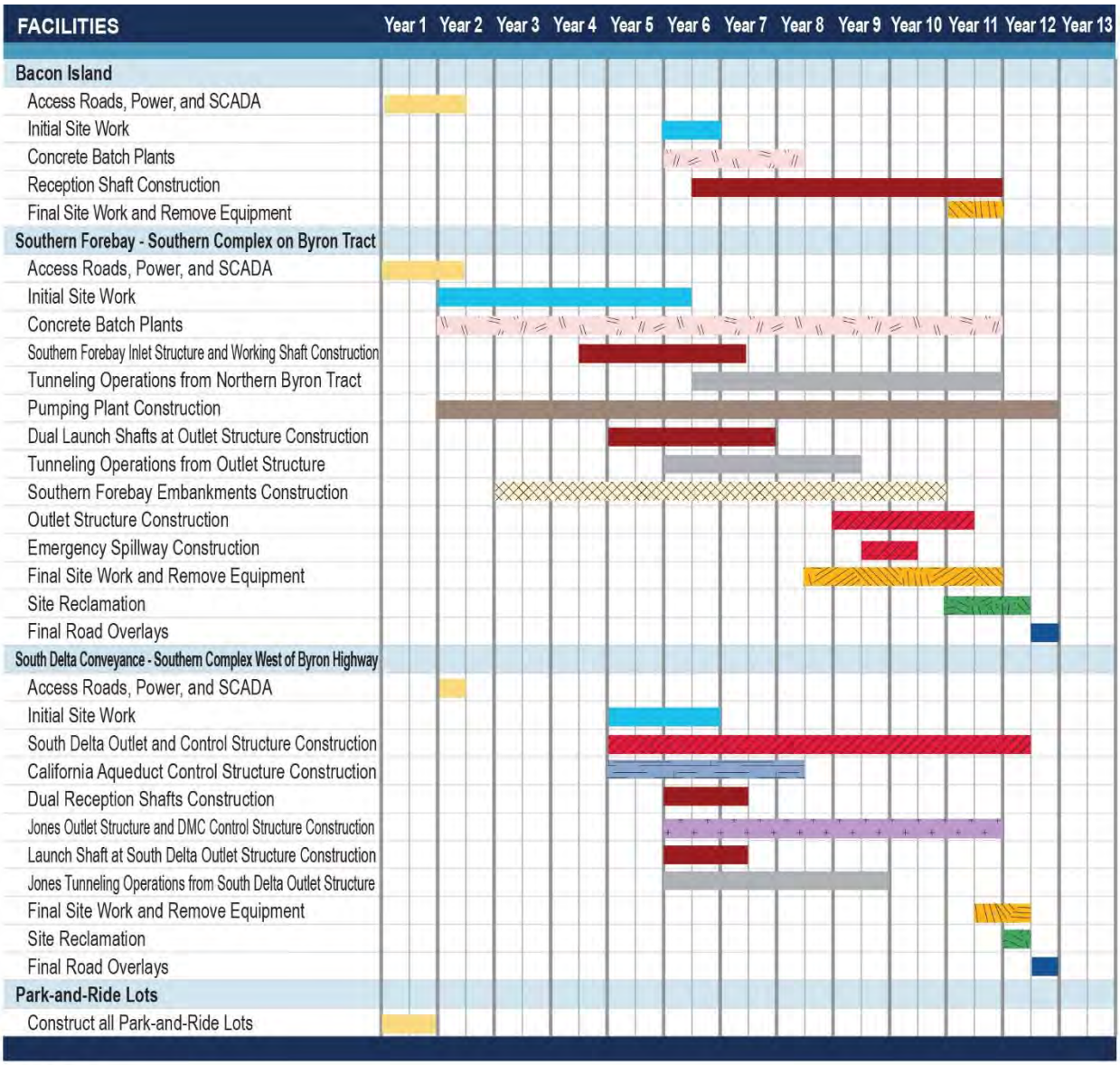
Figure 3-20. Facilities to Serve Jones Pumping Plant

3.7.2 Construction Schedule

Construction of Alternative 2a would take approximately 13 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown in Figure 3-21.



Central 7,500 cfs



Central 7,500 cfs

LEGEND

Access Roads, Power, SCADA, and Park-and-Ride Lots	Clear & Grub, Construct Base, Place Surface Material, and Install Power and SCADA Utilities
Initial Site Work	Clear & Grub, Demolition, Ground Improvement, Foundations, Levees (if applicable)
Intake Structure	Cofferdam, Temporary and Final Levee/SR160, Fish Screen, Connections to Sedimentation Basin
Tunnel Shafts	Raise Shaft Pad, Install Cutoff Walls, Excavate Shaft, Install Concrete Liner, and Dewater Shaft
Final Site Work	Sedimentation Basin, Sediment Drying Lagoons, Buildings, Utilities, and Finish Site Work.
Final Overlays	Final Pavement Restoration on Access Roads and Adjacent Roads
Site Reclamation	Reclaim Land outside of Final Fence Lines
Tunneling Operations	Boring of Tunnel and Removal of RTM
Concrete Batch Plant	Construct/Erect and Operate Batch Plant
Southern Forebay Embankments	Southern Forebay Embankments
South Delta Pumping Plant and Inlet Structure	South Delta Pumping Plant and Inlet Structure
Southern Forebay Outlet Structure and South Delta Outlet and Control Structure	Southern Forebay Outlet Structure and South Delta Outlet and Control Structure
California Aqueduct Control Structure	California Aqueduct Control Structure
Jones Outlet Structure and DMC Control Structure	Jones Outlet Structure and DMC Control Structure

Figure 3-21. Alternative 2a Construction Schedule

3.8 Alternative 2b—Central Alignment, 3,000 cfs, Intake C

Under Alternative 2b, all conveyance facilities and operational features would be the same as described under Alternative 1 (Section 3.6), except that only Intake C would be constructed, and the maximum diversion capacity would be 3,000 cfs. With the smaller diversion capacity, the tunnel diameter would be 26 feet inside and about 28 feet outside, and its length from Intake C to the Southern Forebay would be 37 miles (Table 3-7).

The Intake C tunnel shaft would have an inside diameter of 83 feet and would also serve as the TBM reception shaft. Intake C would also include the emergency response facilities and the wastewater facilities that would instead be located at Intake B under Alternative 1.

Tunnel shaft locations would be the same as under Alternative 1. Launch shafts for the main tunnel would have inside diameters of 110 feet and reception and maintenance shafts would have an inside diameter of 53 feet. Launch shaft sites would be somewhat smaller than under Alternative 1 because the smaller tunnel and shorter length would generate less RTM. The Southern Complex would have two temporary RTM storage areas with a total maximum of 35 acres with stockpiles up to 10 feet high. It is not expected that Alternative 2b would require permanent stockpiles of surplus RTM at the Southern Complex. However, peat soils and topsoil and other soil materials would be stored at an area north of the Southern Forebay.

Table 3-7. Summary of Distinguishing Physical Characteristics of Alternative 2b

Characteristic	Description [a]
Alignment	Central
Conveyance capacity	3,000 cubic feet per second
Number of Intakes	1; Intake C at 3,000 cfs
Tunnel from Intakes to Southern Forebay	
Diameter	26 feet inside, 28 feet, 4 inches outside
Length	37 miles
Number of tunnel shafts*	9
Launch shafts diameter	110 feet inside
Reception and maintenance shafts diameter	53 feet inside
Twin Cities Complex	Construction acres: 322 Permanent acres: 26
Bouldin Island Launch/Reception Shaft	Construction acres: 540 Permanent acres: 436
Southern Complex	
Byron Tract working shaft diameter	110 feet inside
Southern Forebay Inlet Structure launch shaft diameter	110 feet inside
Pumping plant building	345 feet x 99 feet (approximately 0.78 acre)
Pumps	5 pumps at 960 cfs each, including 2 standby pumps 3 pumps at 600 cfs each, including 1 standby pump 2 portable pumps to dewater tunnel

Characteristic	Description [a]
Southern Forebay Outlet Structure Dual Launch Shafts diameter	115 feet inside, each
Facilities on Byron Tract	Construction acres: 1,457 Permanent acres: 1,189
Facilities west of Byron Highway	Same as Alternative 1
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	15 acres x 15 feet high
Bouldin Island long-term RTM storage (approximate)	129 acres x 5 feet high
Southern Forebay long-term RTM storage	0
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	7.5 million cubic yards

cfs = cubic feet per second; RTM = reusable tunnel material. The long-term height of the RTM storage stockpiles would be lower as the RTM subsides into the ground.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

All facilities at the Southern Complex would be the same as described in Sections 3.4.5 and 3.4.6, and under Alternative 1 (Section 3.6), except with a reduced diversion capacity, the South Delta Pumping Plant would have a maximum capacity of 3,000 cfs, fewer pumps, and the pumping plant building and electrical building would be smaller. The pumping plant building would be 99 feet wide by 345 feet long and hold five pumps at 960 cfs (including two standby pumps), three pumps at 600 cfs (including one standby), and two portable pumps for dewatering the tunnel.

Access roads would be the same as under Alternative 1, except that Alternative 2b would not require the access road between Intake C and Intake B.

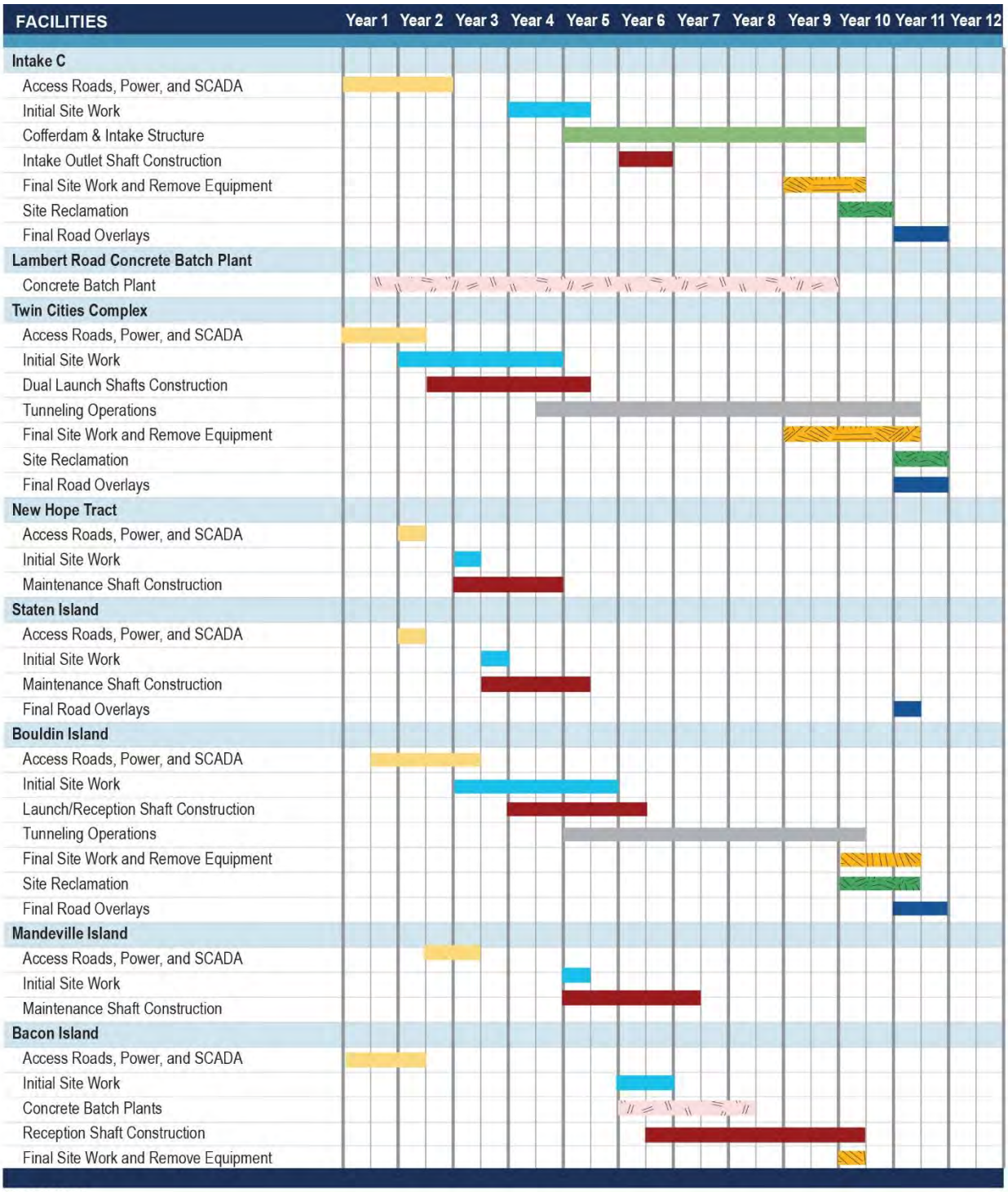
Locations of temporary and permanent electrical lines and substations would be the same as described in Section 3.4.10, *Electrical Facilities*, except that these facilities would not include power supplies to Intake B or a double-circuit, low-profile switching station at Intake C.

The SCADA facilities would be the same as under Alternative 1, except that this alternative would not include SCADA facilities to Intake B. The length of the underground SCADA lines would be the same as under Alternative 1 except without the 0.5 mile from Intake B to the intake haul road.

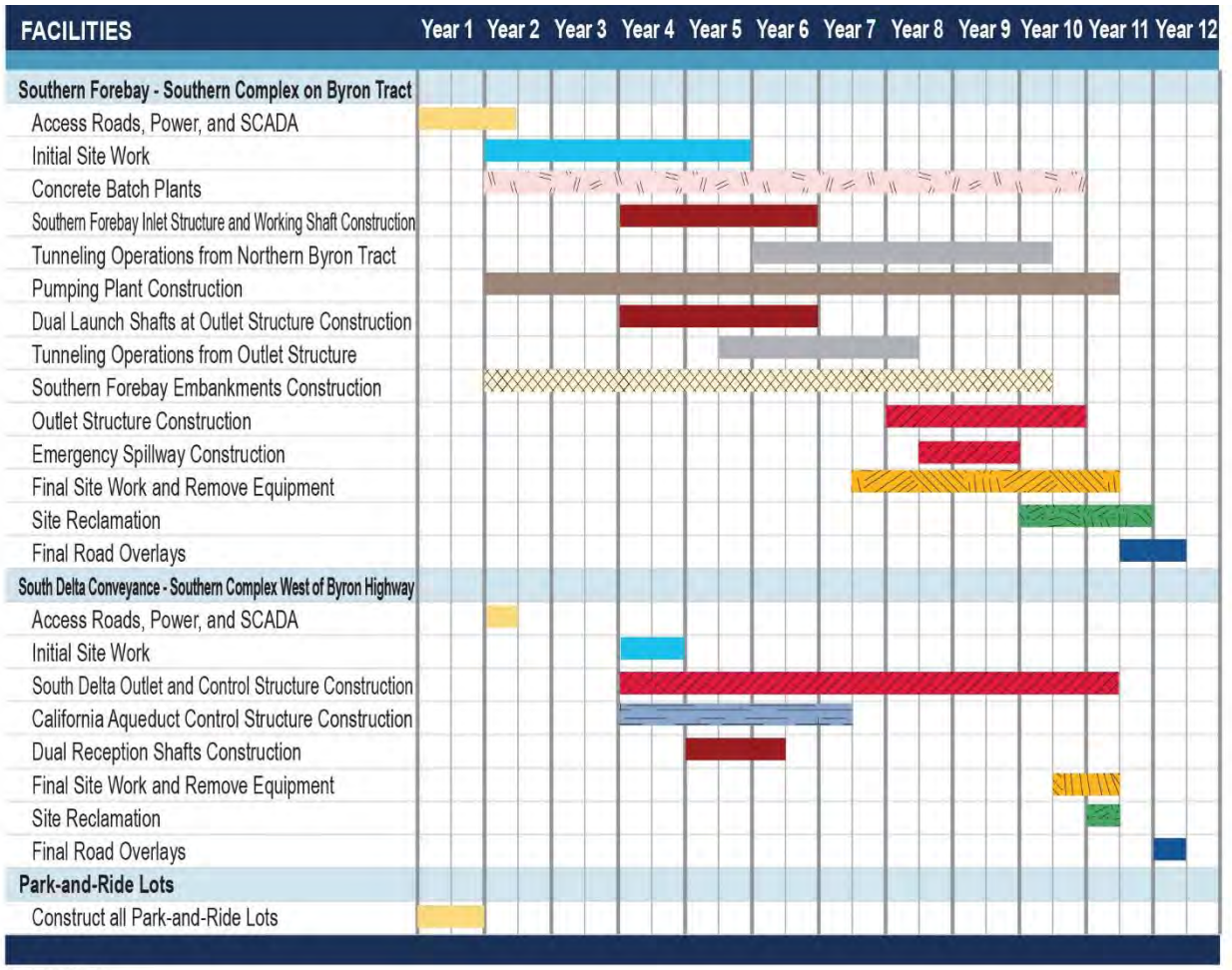
The goals and activities of land reclamation would be the same as described in Section 3.4.14, *Land Reclamation*.

3.8.1 Construction Schedule

Construction of Alternative 2b would take approximately 12 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intake and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown in Figure 3-22.



Central 3,000 cfs



Central 3,000 cfs

LEGEND

Access Roads, Power, SCADA, and Park-and-Ride Lots	Clear & Grub, Construct Base, Place Surface Material, and Install Power and SCADA Utilities
Initial Site Work	Clear & Grub, Demolition, Ground Improvement, Foundations, Levees (if applicable)
Intake Structure	Cofferdam, Temporary and Final Levee/SR160, Fish Screen, Connections to Sedimentation Basin
Tunnel Shafts	Raise Shaft Pad, Install Cutoff Walls, Excavate Shaft, Install Concrete Liner, and Dewater Shaft
Final Site Work	Sedimentation Basin, Sediment Drying Lagoons, Buildings, Utilities, and Finish Site Work.
Final Overlays	Final Pavement Restoration on Access Roads and Adjacent Roads
Site Reclamation	Reclaim Land outside of Final Fence Lines
Tunneling Operations	Boring of Tunnel and Removal of RTM
Concrete Batch Plant	Construct/Erect and Operate Batch Plant
Southern Forebay Embankments	Southern Forebay Embankments
South Delta Pumping Plant and Inlet Structure	South Delta Pumping Plant and Inlet Structure
Southern Forebay Outlet Structure and South Delta Outlet and Control Structure	Southern Forebay Outlet Structure and South Delta Outlet and Control Structure
California Aqueduct Control Structure	California Aqueduct Control Structure

Figure 3-22. Alternative 2b Construction Schedule

3.9 Alternative 2c—Central Alignment, 4,500 cfs, Intakes B and C

Under Alternative 2c, all conveyance facilities and operational features would be the same as described under Alternative 1 (Section 3.6), but Intake C would be constructed with a maximum diversion capacity of 1,500 cfs instead of 3,000 cfs, for a total diversion capacity of 4,500 cfs. This would allow the permanent intake site to be smaller than under Alternative 1, with a slightly different layout. The main tunnel diameter would be 31 feet inside, 34 feet outside, and the tunnel length would be 39 miles from the intakes to the Southern Forebay.

Intake C with 1,500-cfs capacity would have a cylindrical tee fish screen with 15 units of 100-cfs capacity each instead of 30 units. Other key items would also have different dimensions than under Alternative 1, because of the smaller capacity of this alternative (Table 3-8).

Intake shafts would have an inside diameter of 83 feet. The Intake B tunnel shaft would also serve as the tunnel's TBM reception shaft. Shaft locations would be the same as under Alternative 1, but shaft diameters would be smaller. Launch shafts along the main tunnel alignment would have inside diameters of 110 feet; reception and maintenance shafts would have inside diameters of 63 feet. Alternative 2c would generate less soil material and RTM for on-site reuse, export, or storage. Launch shaft sites at Twin Cities Complex and Bouldin Island would be smaller than under Alternative 1 because the volume of RTM generated by boring the smaller tunnel would be less and would require smaller RTM storage areas at TBM launch shaft sites. The Southern Complex would have two temporary RTM storage areas with a total maximum of 39 acres with stockpiles up to 10 feet high. No surplus RTM would be permanently stockpiled at the Southern Complex.

The Southern Complex would be the same as described in Sections 3.4.5 and 3.4.6, and under Alternative 1 (Section 3.6), except the South Delta Pumping Plant building would be 99 feet wide by 345 feet long and hold six pumps at 960 cfs (including two standby pumps), three pumps at 600 cfs (including one standby), and two portable pumps for dewatering the tunnel. Facilities west of Byron Highway would be the same as under Alternative 1.

Temporary construction access, permanent facility access, and locations of temporary and permanent electrical transmission lines and substations would be the same under Alternative 2c as described under Alternative 1.

Table 3-8. Summary of Distinguishing Physical Characteristics of Alternative 2c

Characteristic	Description [a]
Alignment	Central
Conveyance capacity	4,500 cubic feet per second
Number of Intakes	2; Intake B at 3,000 cfs and Intake C at 1,500 cfs
Tunnel from Intakes to Southern Forebay	
Diameter	31 feet inside
Length	39 miles
Number of tunnel shafts [b]	10
Launch shaft diameter (including each shaft of double launch shafts)	110 feet inside
Reception and maintenance shafts diameter	63 feet inside

Characteristic	Description [a]
Twin Cities Complex	Construction acres: 392 Permanent acres: 63
Bouldin Island Launch/Reception Shaft	Construction acres: 585 Permanent acres: 479
Southern Complex	
Byron Tract working shaft diameter	110 feet inside
Southern Forebay Inlet Structure Launch Shaft diameter	110 feet inside
Pumping plant building	378 feet x 99 feet
Pumps	6 pumps at 960 cfs, each, including 2 standby pumps. 3 pumps at 600 cfs, each, including 1 standby pump. 2 portable pumps to dewater tunnel.
Southern Forebay Outlet Structure Dual Launch Shafts diameter	115 feet inside, each
Facilities on Byron Tract	Construction acres: 1,457 Permanent acres: 1,189
Facilities west of Byron Highway	Same as Alternative 1
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	52 acres x 15 feet high
Bouldin Island long-term RTM storage (approximate)	168 acres x 5.5 feet high
Southern Forebay long-term RTM storage	0
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	10.7 million cubic yards

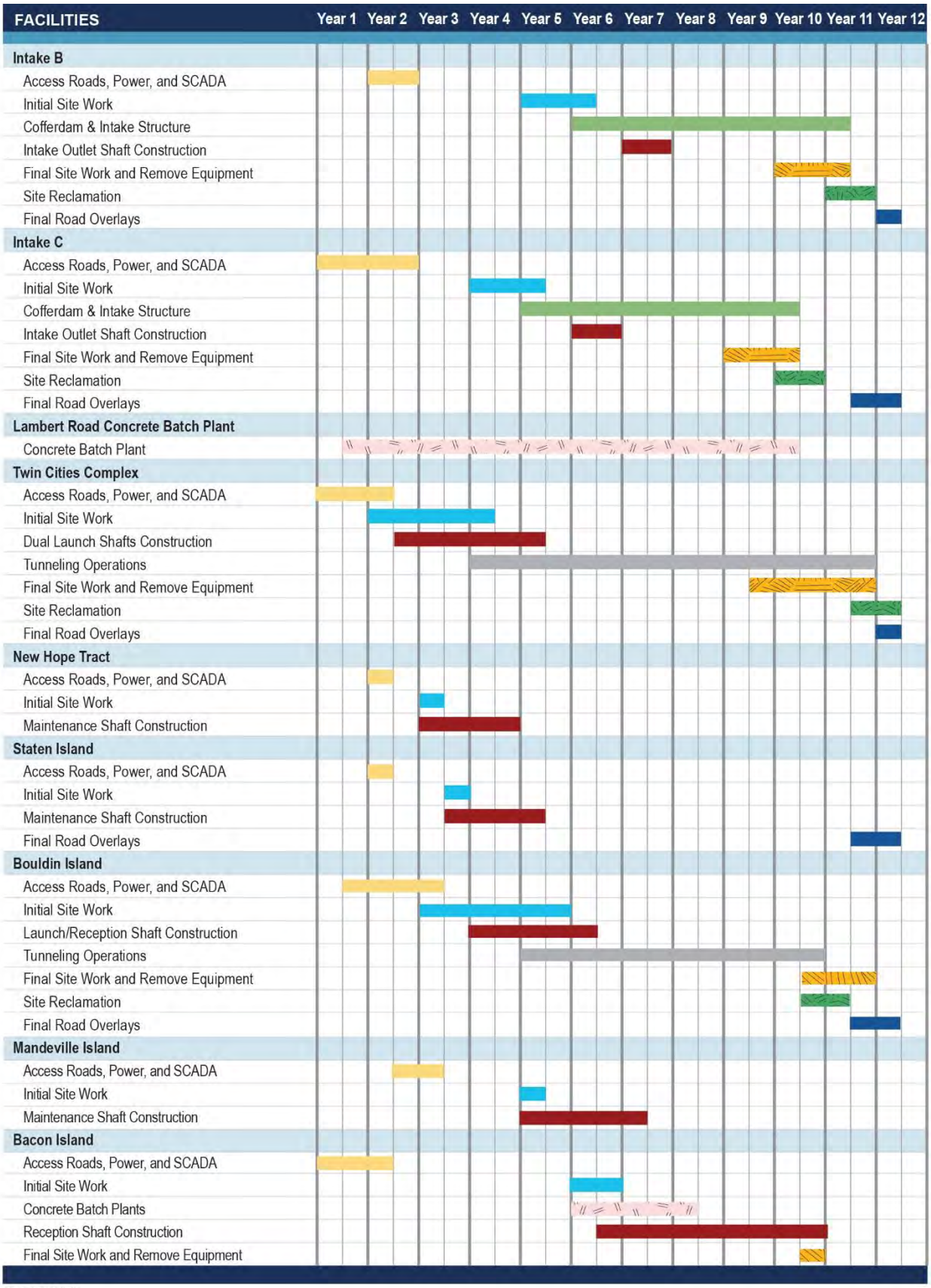
cfs = cubic feet per second; RTM = reusable tunnel material. The height of the RTM storage stockpiles would decrease as the RTM subsides into the ground over time.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

[b] Number of shafts for the main tunnel from intakes to Southern Forebay, counting the double shaft at Twin Cities Complex as one shaft.

3.9.1 Construction Schedule

Construction of Alternative 2c would take approximately 12 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown in Figure 3-23.



Central 4,500 cfs

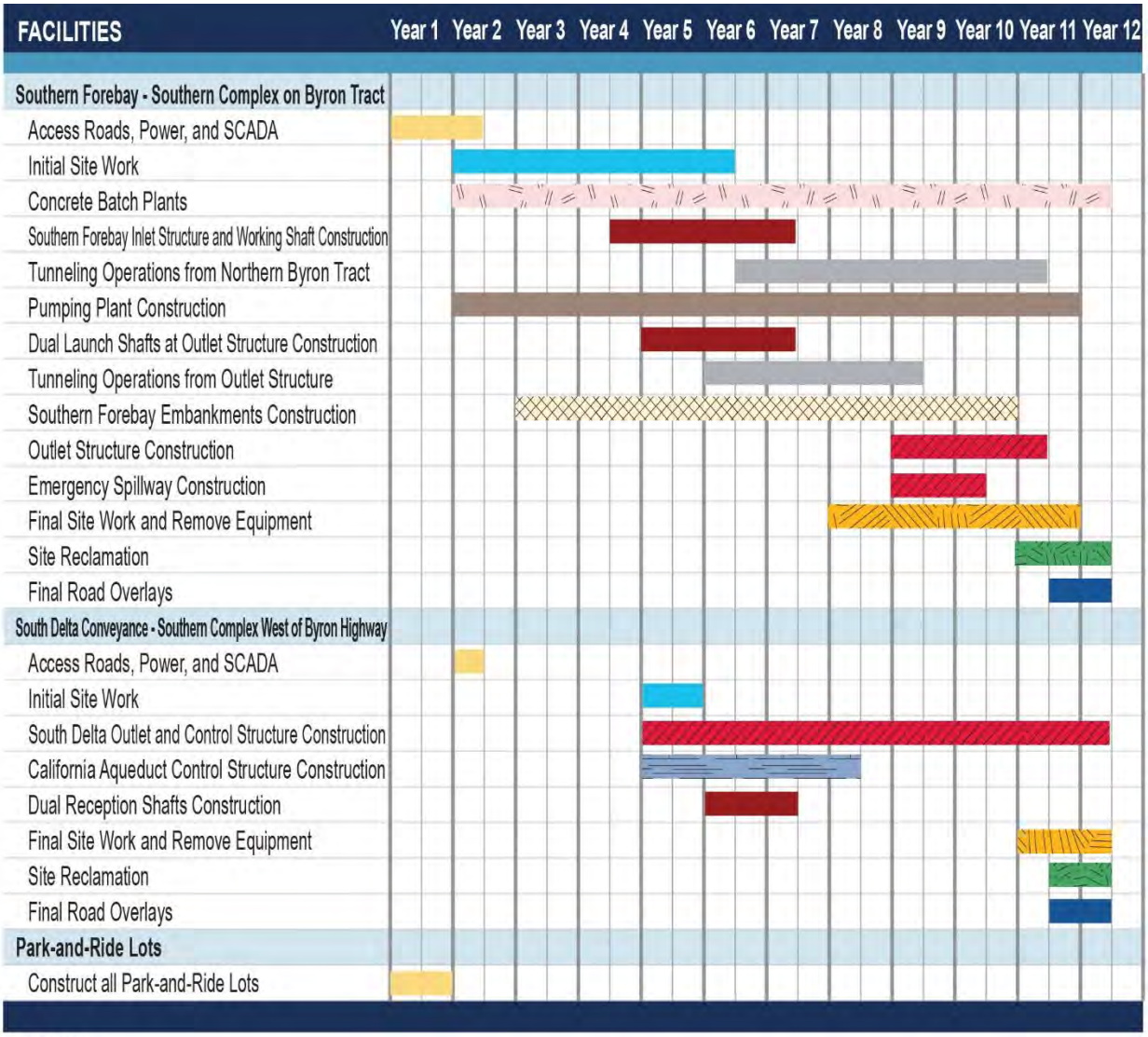


Figure 3-23. Alternative 2c Construction Schedule

3.10 Alternative 3—Eastern Alignment, 6,000 cfs, Intakes B and C

This section summarizes the distinctive characteristics of Alternative 3, which includes the major features described in Section 3.4 that are common to most eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c). Each eastern alignment alternative is then described relative to Alternative 3 and its corresponding central alignment alternative in the respective sections that follow. Figure 3-2b shows the eastern alignment and major project facilities. Figure 3-24 is a schematic diagram of the conveyance facilities associated with the eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c). Figure 3-2b, Mapbook 3-2, and Figure 3-24 show locations of project facilities and major construction features for the eastern alignment alternative with 7,500 cfs conveyance capacity (Alternative 4a) in order to represent the potential maximum extent of the alignment. Alternatives with 6,000 cfs conveyance capacity would use only Intakes B and C; alternatives with 3,000 cfs conveyance capacity would use only Intake C.

Alternative 3 would have the same 6,000-cfs capacity as Alternative 1, but water from the north Delta Intakes B and C would be conveyed from the Twin Cities Complex to the south Delta through a tunnel on an eastern alignment, with tunnel shafts at different locations than under Alternative 1, as shown on Figure 3-2b.

The tunnel diameter would be 36 feet inside and 39 feet outside, the same as Alternative 1, but on this alignment the tunnel would extend 42 miles from the north Delta intakes to the new pumping plant at the Southern Forebay. The invert elevations of the tunnel would the same as under Alternative 1. Table 3-2 presents tunnel dimensions by alternative.

Beyond the Twin Cities Complex double launch shaft, eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c) would have shafts along the main tunnel route at the following locations.

- New Hope Tract maintenance shaft (eastern)
- Canal Ranch Tract maintenance shaft
- Terminous Tract reception shaft
- King Island maintenance shaft
- Lower Roberts Island reception and launch shaft
- Upper Jones Tract maintenance shaft
- Byron Tract Working Shaft (launch shaft)
- Southern Forebay Inlet Structure launch shaft
- Southern Forebay Outlet Structure and dual launch shafts (Section 3.4.5.4)
- Dual reception shafts at the South Delta Outlet and Control Structure along SWP Banks Pumping Plant approach channel (Section 3.4.6.1)

Reception shafts under Alternative 3 would be located at Intake B, Terminous Tract, and Lower Roberts Island. The Lower Roberts Island reception shaft would also serve as a launch shaft, as described below. The reception shaft on Terminous Tract would receive the TBM launched from Lower Roberts Island and the TBM launched from Twin Cities Complex.

The double launch shaft at the Twin Cities Complex that would allow the TBM to tunnel north toward the intakes and south toward the Southern Forebay would be the same as under Alternative 1. Under Alternative 3, however, the TBM would tunnel south on the eastern alignment. The total size of the permanent site under Alternative 3 would be 170 acres because of a larger permanent RTM storage area necessitated by the longer tunnel length, which would generate more RTM.

Under Alternative 3, the tunnel launch site on Lower Roberts Island would launch the TBM north toward Terminous Tract. The launch shaft would also serve as a reception shaft for recovery of the TBM launched from Byron Tract.

The Lower Roberts Island site would accommodate the shaft pad with shaft, tunnel liner segment storage, slurry/grout mixing plant, shops and offices for construction crews, RTM handling facilities (including RTM temporary wet storage and RTM natural drying areas), water treatment plant, emergency response facilities, a helipad, and other equipment and structures. Under the eastern alignment alternatives, RTM would be handled at Lower Roberts Island (instead of Bouldin Island) in addition to the Twin Cities Complex and the Southern Complex. A conveyor would move RTM from the shaft site approximately 2 miles along the access road to a separate RTM handling and storage area. RTM generated at Lower Roberts Island would be used to backfill borrow areas on-site. Approximately 71 acres of the site would be used for permanent RTM stockpiles up to 15 feet high that could potentially be used for future, as yet unidentified projects.

Portions of the existing perimeter levee on the Lower Roberts Island site do not comply with the Public Law 84-99 Delta-specific levee design standard because of insufficient freeboard or slopes. To address flood risk, the project would perform targeted repairs to existing levees to address geometry and historic performance issues that could recur during a potential high-water event. Following this standard, the Lower Roberts Island levee would be designed with 1.5 feet of freeboard above the 100-year flood elevation, minimum 16-foot crest width, exterior slopes of 2H:1V, and interior slopes ranging from 3H:1V to 5H:1V, depending on levee height and peat thickness. Levee modifications would occur along the Turner Cut eastern levee adjacent to West Neugebauer Road. All of the modifications would occur on the landside of the levees. Temporary levee modification access roads would be constructed along the landside toe of the existing levee at current grade level. The construction and postconstruction site for levee modifications would occupy approximately 30 acres, plus an additional 37 acres for temporary levee modification access roads.

Table 3-9 summarizes the distinguishing characteristics of Alternative 3.

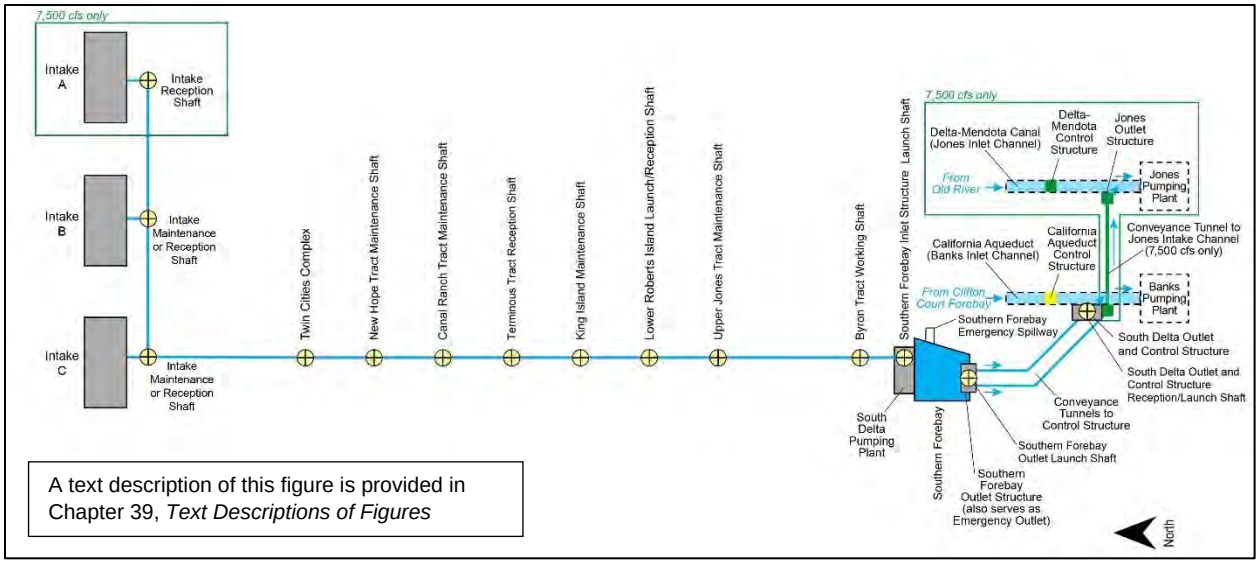


Figure 3-24. Project Schematic Eastern Alignment Alternatives

Under Alternative 3, the construction site for the Southern Complex on Byron Tract would occupy 1,488 acres, and the permanent footprint would cover 1,220 acres. The project facilities of the Southern Complex would be the same as described in Sections 3.4.5 and 3.4.6, and under Alternative 1 (Section 3.6) except for RTM, peat, and topsoil storage areas. The TBM would bore from the Byron Tract working shaft toward the reception shaft on Lower Roberts Island instead of Bouldin Island.

The Southern Complex would have two temporary RTM storage areas with a total maximum of 56 acres with stockpiles up to 10 feet high, for RTM generated on-site or at the Twin Cities Complex. Excess RTM from tunneling at the Southern Complex would be moved to a long-term storage area north of the Southern Forebay on the Southern Complex; the RTM stockpile there would occupy about 30 acres and be 15 feet high. Peat soils (51 acres) and topsoil and other soil materials (41 acres) would also be stored in that area.

Table 3-9. Summary of Distinguishing Physical Characteristics of Alternative 3

Characteristic	Description [a]
Alignment	Eastern
Conveyance capacity	6,000 cubic feet per second
Number of Intakes	2; Intakes B and C at 3,000 cfs each
Tunnel from Intakes to Southern Forebay	
Diameter	36 feet inside, 39 feet outside
Length	42 miles
Number of tunnel shafts [b]	11
Launch shaft diameter (including each shaft at double launch shafts and combined launch/reception shafts)	115 feet inside
Reception and maintenance shafts diameter	70 feet inside
Twin Cities Complex	Construction acres: 479 Permanent acres: 170

Characteristic	Description [a]
Lower Roberts Island Launch/Reception Shaft	Construction acres: 407 Permanent acres: 176
Southern Complex	Same as Alternative 1 except for facilities on Byron Tract
Facilities on Byron Tract	Construction acres: 1,488 Permanent acres: 1,220
Facilities west of Byron Highway	Construction acres: 164 Permanent acres: 112
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	159 acres x 15 feet high
Lower Roberts Island long-term RTM storage (approximate)	71 acres x 15 feet high
Southern Forebay long-term RTM storage (approximate)	30 acres x 15 feet high
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	14.8 million cubic yards

cfs = cubic feet per second; RTM = reusable tunnel material. The height of the RTM storage stockpiles would decrease as the RTM subsides into the ground over time.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

[b] Number of shafts for the main tunnel from intakes to Southern Forebay, counting the double shaft at Twin Cities Complex as one shaft.

Access roads to Intakes B and C, relocation of SR 160, and new or modified access roads for the Twin Cities Complex and Southern Complex would be the same as under Alternative 1. Separate access roads would be constructed for New Hope Tract, Canal Ranch Tract, Terminous Tract, King Island, Lower Roberts Island, and Upper Jones Tract. All eastern alignment alternatives and the Bethany Reservoir alignment would involve constructing an overpass over the EBMUD) Mokelumne Aqueducts. Approximately 20 feet of clearance would be provided from the top of the Mokelumne Aqueducts to the bottom of the bridge deck. This height would be subject to design development and coordination with EBMUD. Figure 3-25 shows access roads specific to the eastern alignment alternatives.

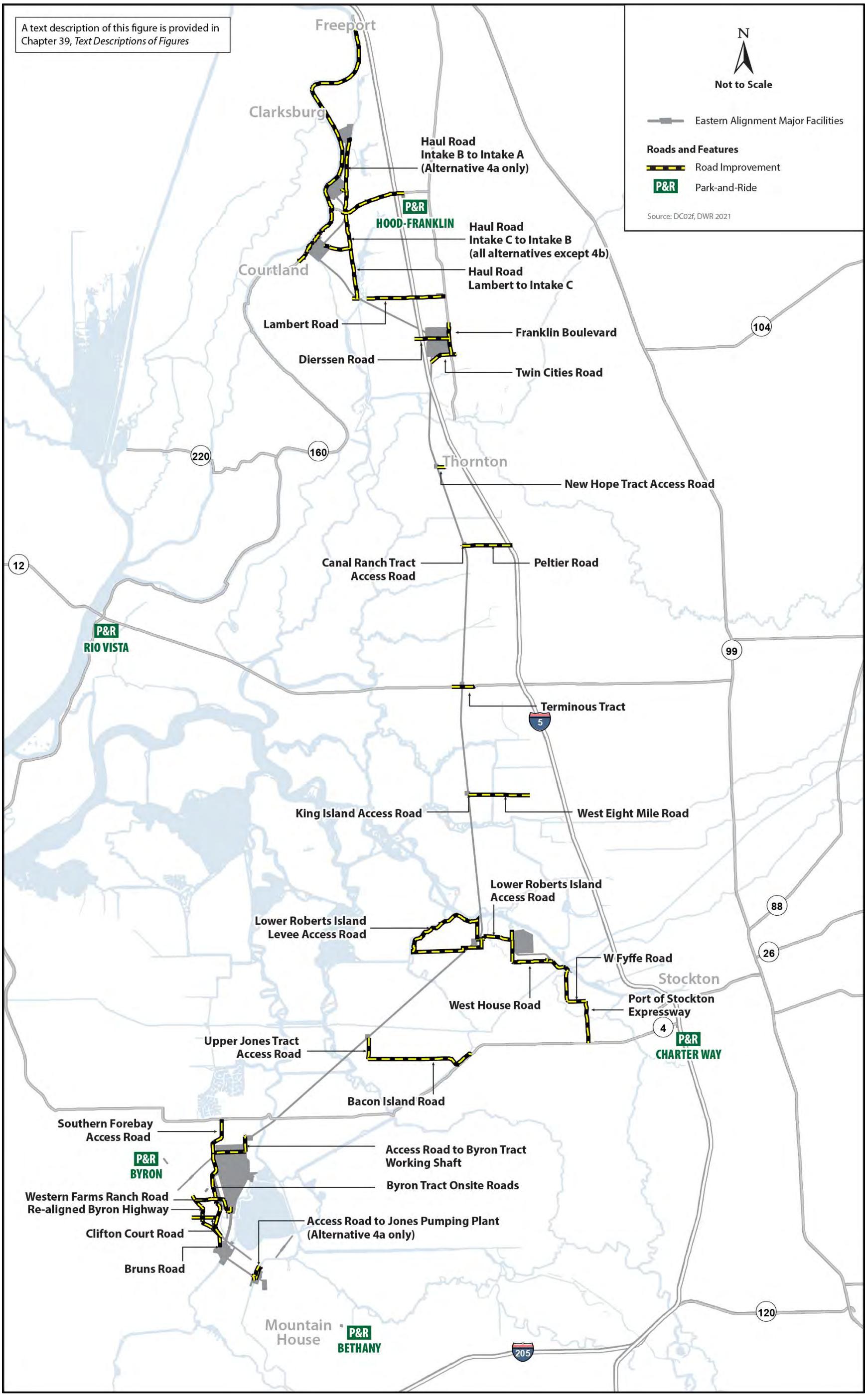


Figure 3-25. Road Modifications under Eastern Alignment Alternatives

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Alternative 3 would use the same rail-served materials depots serving the Twin Cities Complex and the Southern Complex described in Section 3.4.8, *Rail-Served Materials Depots*. Alternative 3 would also have a rail depot on Lower Roberts Island. The rail-served materials depot at Lower Roberts Island would involve 3.9 miles of new track, 15 rail turnouts, an aggregate unloading pit, and materials storage and vehicle staging areas. The railroad would connect the rail lines on the Port of Stockton to rails on Lower Roberts Island. A new railroad bridge would be constructed across Burns Cut, using the same bridge as proposed for road modifications shown on Figure 30-25. No additional construction access roads would be needed for access to the Lower Roberts Island tunnel shaft site besides those shown.

Electric power lines and SCADA facilities would be similar to those described in Section 3.4.10, *Electrical Facilities*, and Section 3.4.11, *SCADA Facilities*. Different electric power alignments would be used for the tunnel shafts on the eastern alignment between the Twin Cities Complex and the Southern Forebay. For instance, because Lower Roberts Island is so much closer to existing high-voltage transmission lines than Bouldin Island, the total distance of new lines for the eastern alignment is about 15% shorter than for Alternative 1. SCADA operations would be similarly customized to the eastern alignment facility locations.

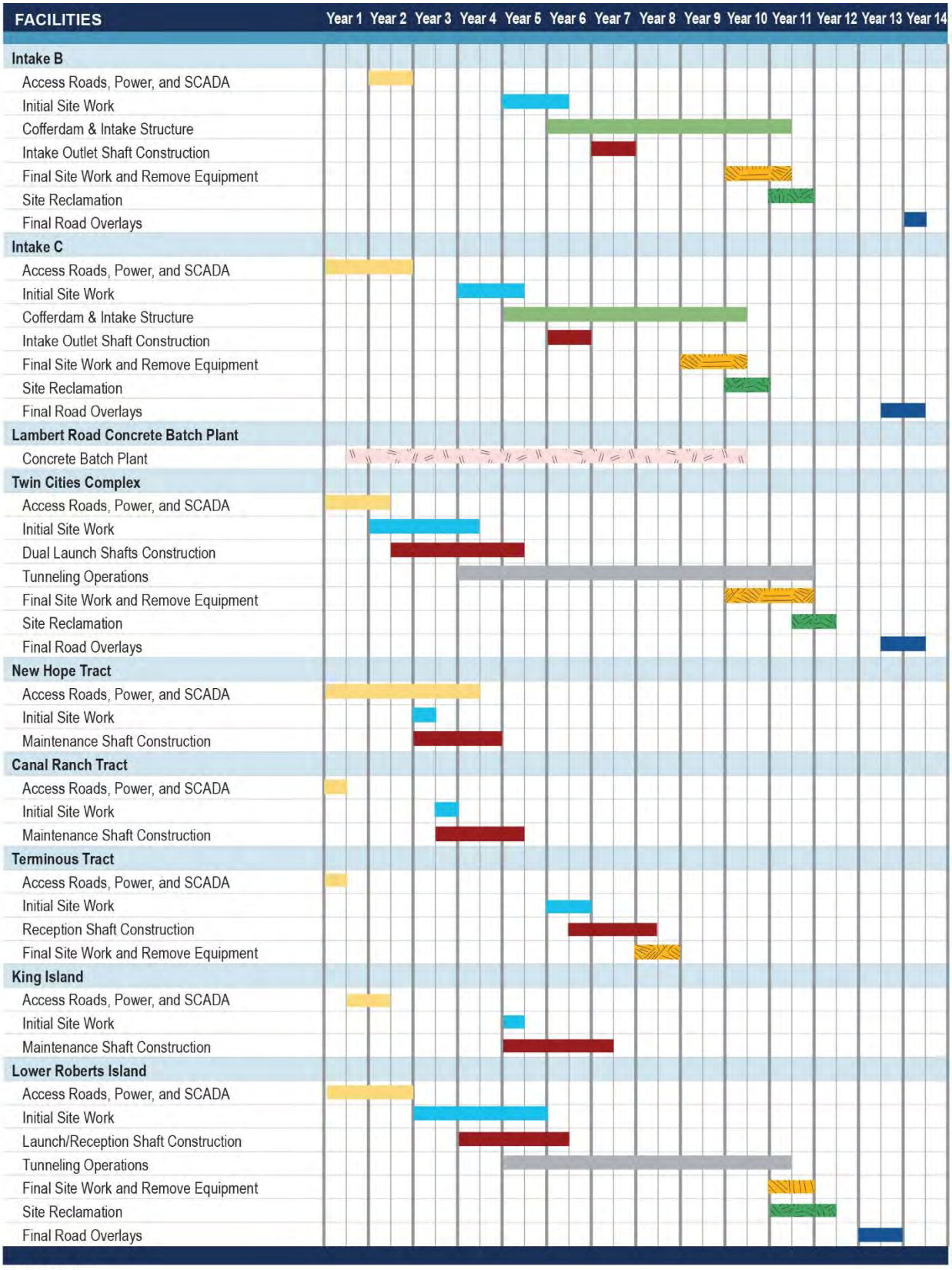
The same construction support facilities described in Section 3.4.15, *Other Construction Support Facilities*, would support Alternative 3. Support facilities described for Bouldin Island would be at Lower Roberts Island instead.

Water would be available for use under surface water rights at Lower Roberts Island. These surface water rights also serve adjacent areas. If the facilities used by adjacent properties to convey water are located on a parcel to be used for the tunnel shaft, the water pipelines or canals would be installed to maintain service to the adjacent properties.

Water supplies and water treatment, storage, and drainage strategies would be similar to those described in Section 3.4.15.5, *Local Water Supply, Drainage, and Utilities*. Different parcels would be affected at tunnel shaft locations on the eastern alignment.

3.10.1 Construction Schedule

Construction of Alternative 3 would take approximately 13 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown in Figure 3-26.



Eastern 6,000 cfs

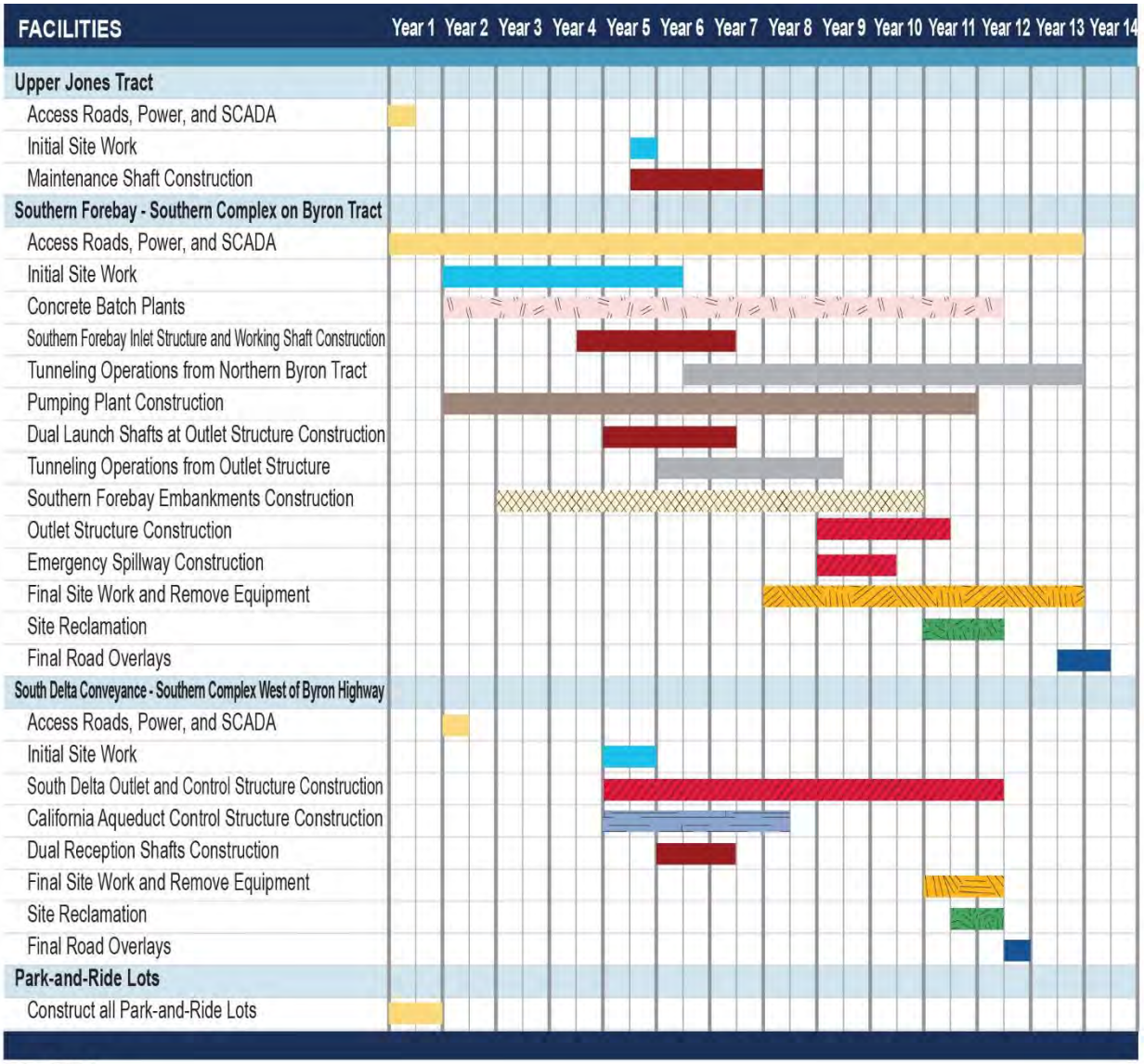


Figure 3-26. Alternative 3 Construction Schedule

3.11 Alternative 4a—Eastern Alignment, 7,500 cfs, Intakes A, B, and C

Under Alternative 4a, all conveyance facilities and operational features would be the same as under Alternative 2a, except that the main tunnel would follow the eastern alignment from the Twin Cities Complex, as described under Alternative 3. This alternative includes 1,500-cfs capacity for the CVP in coordination with Reclamation.

The tunnel diameter would be the same as under Alternative 2a, but its length on the eastern alignment would be 44 miles from the intakes to the South Delta Pumping Plant. Because of the tunnel diameter and longer length, this alternative would generate the most RTM of all the alternatives. Most shafts along the main tunnel alignment would be the same as shown in Table 3-9 for Alternative 3. Launch shaft sites at Twin Cities Complex and Lower Roberts Island would be larger than under Alternative 3 because of larger RTM storage areas required.

Under Alternative 4a, the Southern Complex facilities on Byron Tract would be the same as under Alternative 2a. The construction site for the Southern Complex would occupy 1,512 acres, and the permanent footprint would cover 1,244 acres. The Southern Complex would have two temporary RTM storage areas with a total maximum of 65 acres with stockpiles up to 15 feet high, and permanent RTM storage covering 51 acres up to 15 feet high.

Table 3-10 summarizes the distinguishing features and characteristics of Alternative 4a. Figures 3-2b and 3-24 provide, respectively, a map and a schematic diagram associated with all the eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c). Mapbook 3-2 shows the location of major construction features associated with this proposed water conveyance facility alignment.

Table 3-10. Summary of Distinguishing Physical Characteristics of Alternative 4a

Characteristic	Description [a]
Alignment	Eastern
Conveyance capacity	7,500 cubic feet per second
Number of Intakes	3; Intakes A at 1,500 cfs; Intakes B and C at 3,000 cfs each
Tunnel from Intakes to Southern Forebay	
Diameter	40 feet inside, 44 feet outside
Length	44 miles
Number of tunnel shafts [b]	12
Twin Cities Complex	Construction acres: 546 Permanent acres: 302
Lower Roberts Island Launch/Reception Shaft	Construction acres: 445 Permanent acres: 207
Southern Complex	Same as Alternative 2a except for Facilities on Byron Tract
Facilities on Byron Tract	Construction acres: 1,512 Permanent acres: 1,244
Facilities west of Byron Highway	Construction acres: 293 Permanent acres: 210

Characteristic	Description [a]
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	291 acres x 15 feet high
Lower Roberts Island long-term RTM storage (approximate)	93 acres x 15 feet high
Southern Forebay long-term RTM storage (approximate)	51 acres x 15 feet high
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	19.5 million cubic yards
Wet excavated RTM volume for Jones Tunnel between Southern Forebay Complex and Jones Outlet Structure	0.15 million cubic yards

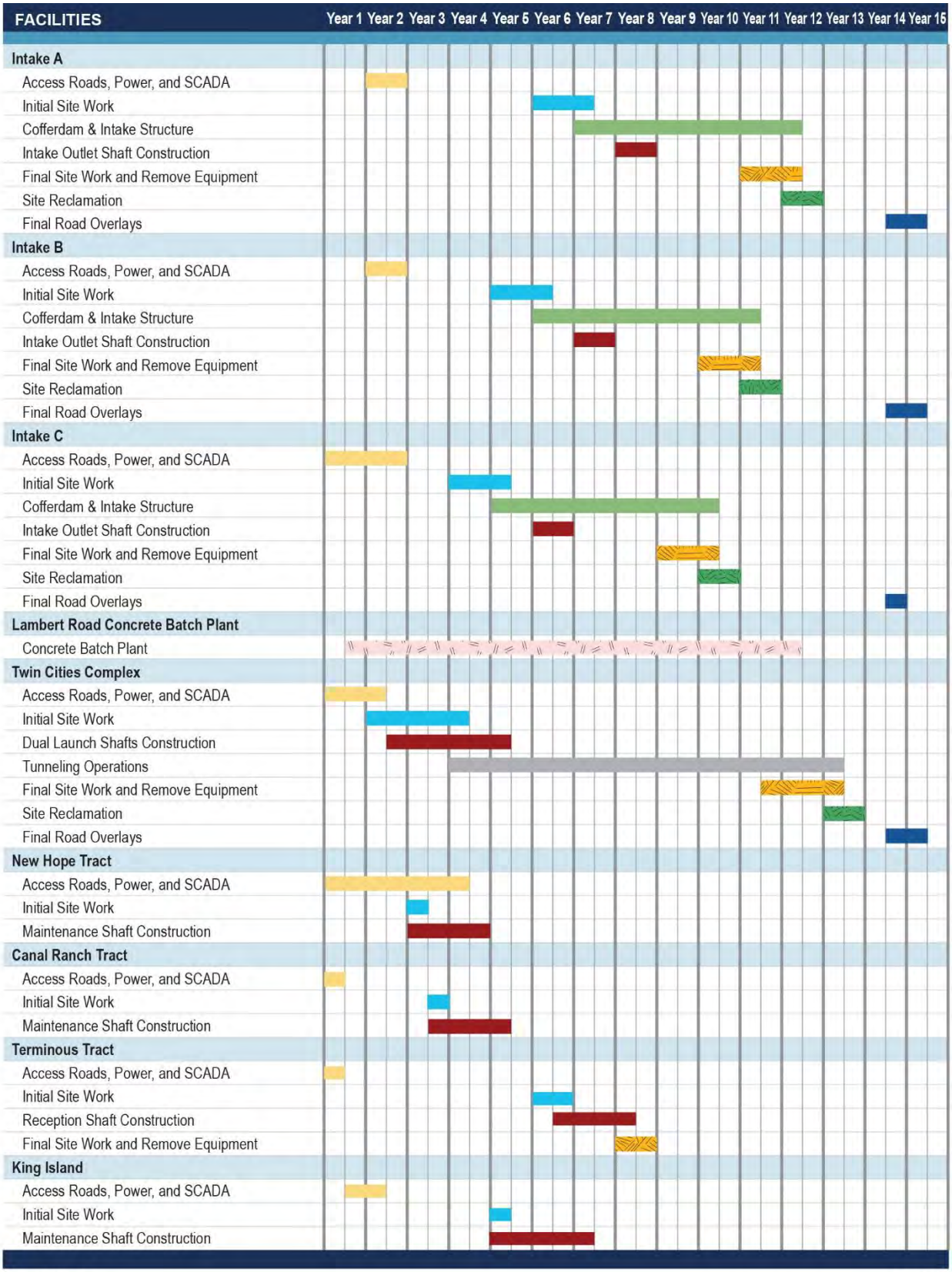
cfs = cubic feet per second; RTM = reusable tunnel material. The height of the RTM storage stockpiles would decrease as the RTM subsides into the ground over time.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

[b] Number of shafts for the main tunnel from intakes to Southern Forebay, counting the double shaft at Twin Cities Complex as one shaft.

3.11.1 Construction Schedule

Construction of Alternative 4a would take approximately 14 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown in Figure 3-27.


FACILITIES
Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Year 11 Year 12 Year 13 Year 14 Year 15
Intake A
Access Roads, Power, and SCADA
Initial Site Work
Cofferdam & Intake Structure
Intake Outlet Shaft Construction
Final Site Work and Remove Equipment
Site Reclamation
Final Road Overlays
Intake B
Access Roads, Power, and SCADA
Initial Site Work
Cofferdam & Intake Structure
Intake Outlet Shaft Construction
Final Site Work and Remove Equipment
Site Reclamation
Final Road Overlays
Intake C
Access Roads, Power, and SCADA
Initial Site Work
Cofferdam & Intake Structure
Intake Outlet Shaft Construction
Final Site Work and Remove Equipment
Site Reclamation
Final Road Overlays
Lambert Road Concrete Batch Plant
Concrete Batch Plant
Twin Cities Complex
Access Roads, Power, and SCADA
Initial Site Work
Dual Launch Shafts Construction
Tunneling Operations
Final Site Work and Remove Equipment
Site Reclamation
Final Road Overlays
New Hope Tract
Access Roads, Power, and SCADA
Initial Site Work
Maintenance Shaft Construction
Canal Ranch Tract
Access Roads, Power, and SCADA
Initial Site Work
Maintenance Shaft Construction
Terminous Tract
Access Roads, Power, and SCADA
Initial Site Work
Reception Shaft Construction
Final Site Work and Remove Equipment
King Island
Access Roads, Power, and SCADA
Initial Site Work
Maintenance Shaft Construction
Eastern 7,500 cfs
Page 1 of 2

1



Figure 3-27. Alternative 4a Construction Schedule

3.12 Alternative 4b—Eastern Alignment, 3,000 cfs, Intake C

Under Alternative 4b, all conveyance facilities and operational features would be the same as under Alternative 2b, except the main tunnel would follow the eastern alignment from the Twin Cities Complex to the Southern Forebay, as described under Alternative 3. The tunnel diameter would be 26 feet inside, 28 feet outside, and 40 miles long on this alignment. TBM launch shaft sites would be correspondingly smaller than under other alternatives because less area would be needed for RTM storage. Other shaft sites would be the same as under Alternative 3.

Under Alternative 4b, the construction site for the Southern Complex on Byron Tract would occupy 1,457 acres and the permanent footprint would cover 1,189 acres. Otherwise, the Southern Complex would be the same as described in Sections 3.4.5 and 3.4.6 and under Alternative 2b (Section 3.8)

Access roads and road modifications, electrical transmission lines, and SCADA would be the same as under Alternative 3 but would not require the work related to Intakes A and B. The Southern Complex, rail-served materials depots, construction support facilities, and all other features would be the same as under Alternative 3. The Southern Complex would have two temporary RTM storage areas with a total maximum of 38 acres with stockpiles up to 10 feet high. No RTM would be permanently stored at the Southern Complex.

Table 3-11 summarizes the distinguishing features and characteristics of Alternative 4b. Figures 3-2b and 3-24 provide, respectively, a map and a schematic diagram associated with all the eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c). Mapbook 3-2 shows the major construction features associated with this alignment (including facilities exclusive to Alternative 4a to show the greatest potential extent of the alignment).

Table 3-11. Summary of Distinguishing Physical Characteristics of Alternative 4b

Characteristic	Description [a]
Alignment	Eastern
Conveyance capacity	3,000 cubic feet per second
Number of Intakes	1; Intake C at 3,000 cfs
Tunnel from Intakes to Southern Forebay	
Diameter	26 feet inside, 28 feet outside
Length	40 miles
Number of tunnel shafts [b]	10
Launch shafts diameter	110 feet inside
Reception and maintenance shafts diameter	53 feet inside
Twin Cities Complex	Construction acres: 322 Permanent acres: 26
Lower Roberts Island Launch/Reception Shaft	Construction acres: 327 Permanent acres: 136
Southern Complex	Same as Alternative 2b
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	15 acres x 15 feet high

Characteristic	Description [a]
Lower Roberts Island long-term RTM storage (approximate)	33 acres x 15 feet high
Southern Forebay long-term RTM storage (approximate)	0
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	7.9 million cubic yards

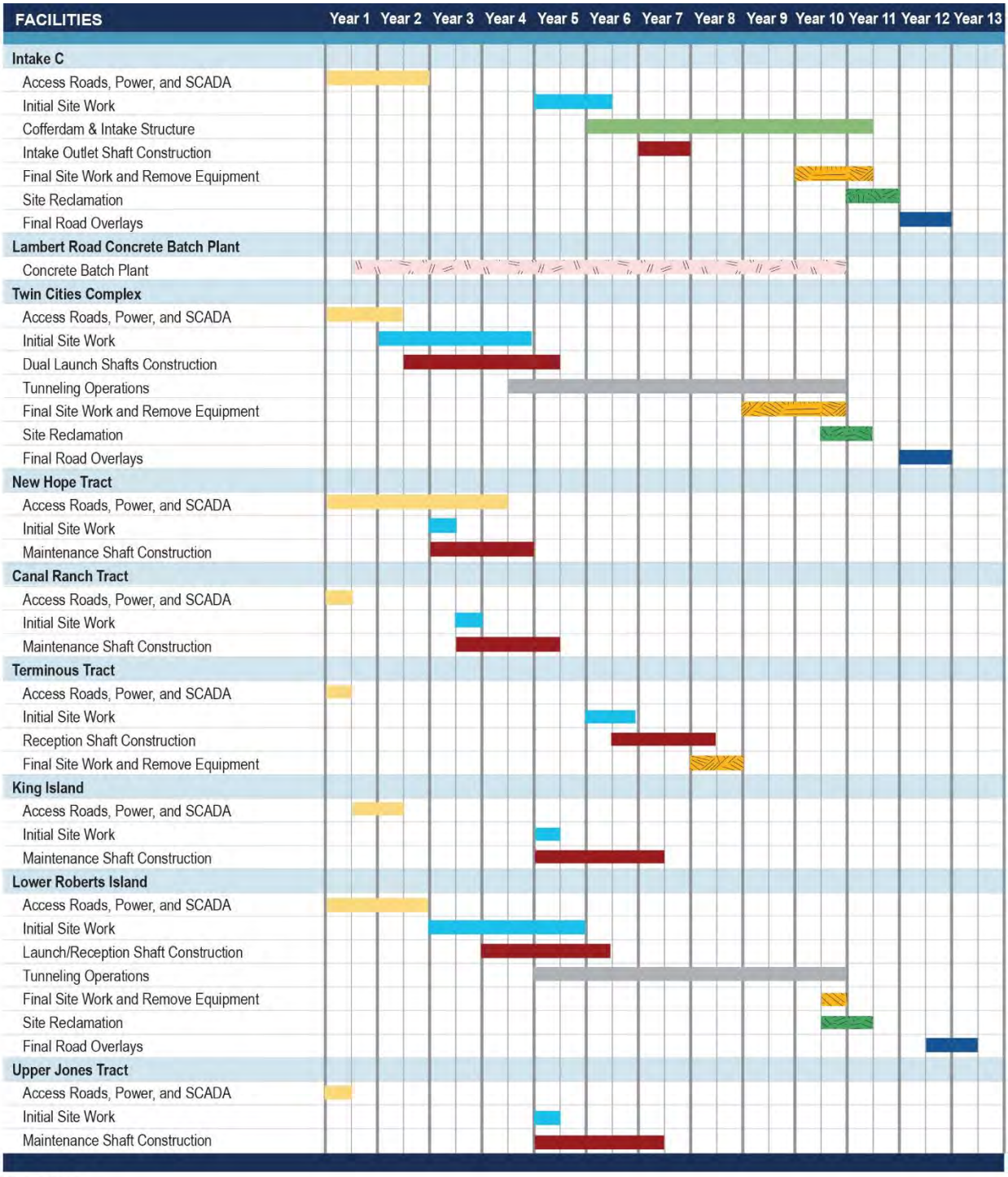
cfs = cubic feet per second; RTM = reusable tunnel material. The height of the RTM storage stockpiles would decrease as the RTM subsides into the ground over time.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

[b] Number of shafts for the main tunnel from intakes to Southern Forebay, counting the double shaft at Twin Cities Complex as one shaft.

3.12.1 Construction Schedule

Construction of Alternative 4b would take approximately 13 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown in Figure 3-28.



Eastern 3,000 cfs

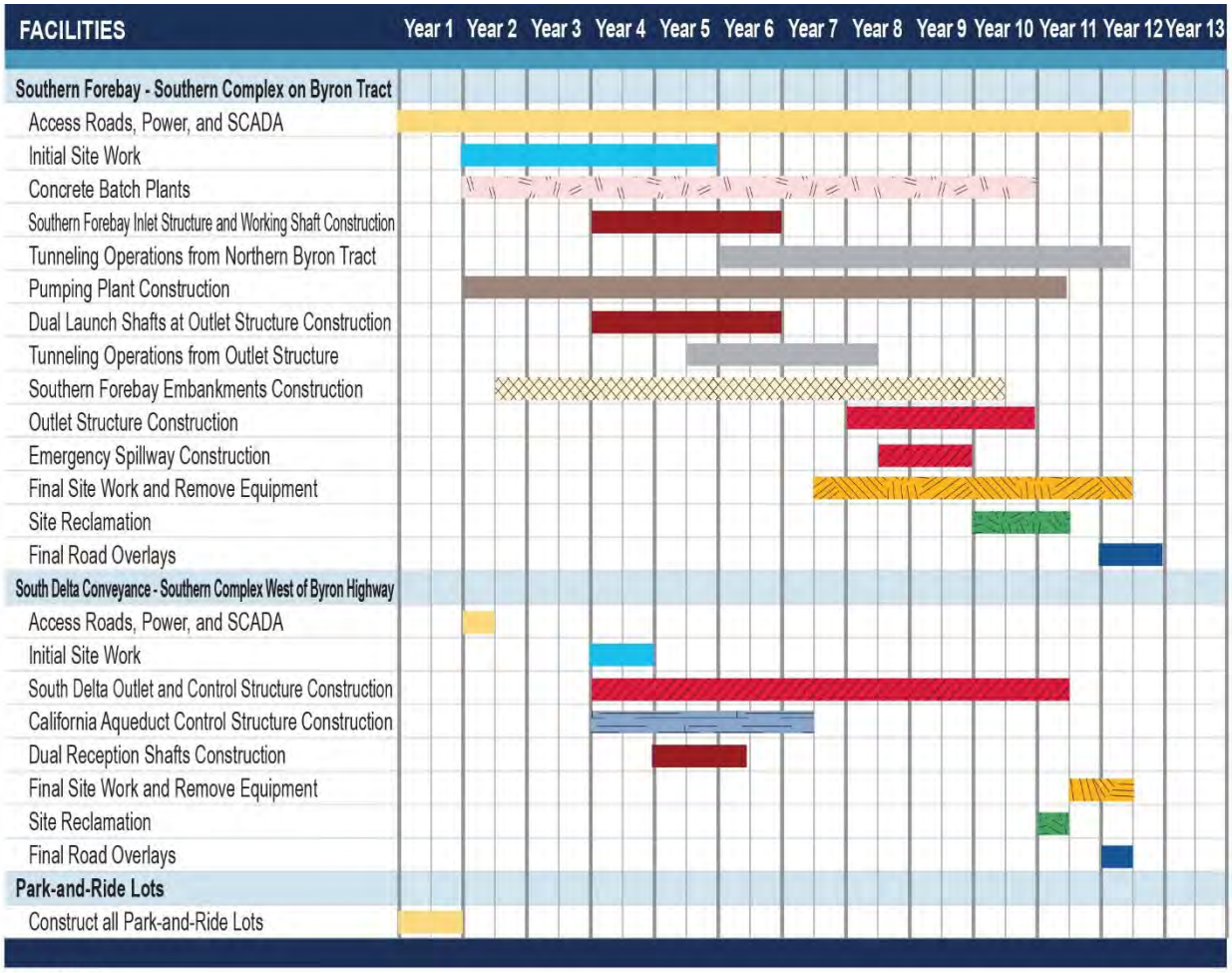


Figure 3-28. Alternative 4b Construction Schedule

3.13 Alternative 4c—Eastern Alignment, 4,500 cfs, Intakes B and C

Under Alternative 4c all conveyance facilities and operational features would be the same as under Alternative 2c (Section 3.9), except that this alternative would follow the eastern alignment, as described under Alternative 3. The main tunnel would be 31 feet inside diameter, 34 feet outside diameter, and extend 42 miles from the intakes to the Southern Forebay.

With an intake capacity of 1,500 cfs, the cylindrical tee fish screen at Intake C would have 15 units with 100-cfs capacity each instead of 30 units, and the intake's finished footprint would be smaller than under Alternative 3.

Intake shafts would have an inside diameter of 83 feet. The Intake B tunnel shaft would also serve as the tunnel's TBM reception shaft. Shaft locations would be the same as under Alternative 3, but shaft diameters would be smaller. Launch shafts along the main tunnel alignment would have inside diameter of 110 feet; reception and maintenance shafts would have inside diameters of 63 feet. Alternative 4c would generate less soil material and RTM for on-site reuse, export, or storage. Launch shaft sites at Twin Cities Complex and Lower Roberts Island would be smaller than under Alternative 3 because the volume of RTM generated by boring the smaller tunnel would be less and would require smaller RTM storage areas at TBM launch shaft sites. The Southern Complex would have two temporary RTM storage areas with a total maximum of 44 acres with stockpiles up to 10 feet high. A permanent RTM stockpile at the Southern Forebay would cover about 17 acres up to 15 feet high.

Under Alternative 4c, the construction site for the Southern Complex on Byron Tract would occupy 1,475 acres and the permanent footprint would cover 1,207 acres. Otherwise, the Southern Complex would be the same as described in Sections 3.4.5 and 3.4.6 and under Alternative 2c (Section 3.9). Access roads and road modifications, electrical power lines, and SCADA would be the same as under Alternative 3. The rail-served materials depots, construction support facilities, and all other features would be the same as under Alternative 3.

Table 3-12 summarizes the distinguishing features and characteristics of Alternative 4c. Figures 3-2b and 3-25 provide a map and a schematic diagram, respectively, depicting the conveyance facilities associated with eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c). Mapbook 3-2 shows the major construction features associated with eastern alignment alternatives.

Table 3-12. Summary of Distinguishing Physical Characteristics of Alternative 4c

Characteristic	Description [a]
Alignment	Eastern
Conveyance capacity	4,500 cubic feet per second
Number of Intakes	2; Intake B at 3,000 cfs, Intake C at 1,500 cfs
Tunnel from Intakes to Southern Forebay	
Diameter	31 feet inside, 34 feet outside
Length	42 miles
Number of tunnel shafts [b]	11
Launch shafts diameter	110 feet inside
Reception and maintenance shafts diameter	63 feet inside
Twin Cities Complex	Construction acres: 392 Permanent acres: 95
Lower Roberts Island Launch/Reception Shaft	Construction acres: 376 Permanent acres: 158
Southern Complex	Same as Alternative 2c except for Facilities on Byron Tract
Facilities on Byron Tract	Construction acres: 1,475 Permanent acres: 1,207
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	84 acres x 15 feet high
Lower Roberts Island long-term RTM storage (approximate)	50 acres x 15 feet high
Southern Forebay long-term RTM storage (approximate)	17 acres x 15 feet high
Total wet excavated RTM volume (for single main tunnel from intakes to Southern Forebay and dual South Delta Conveyance tunnels)	11.3 million cubic yards

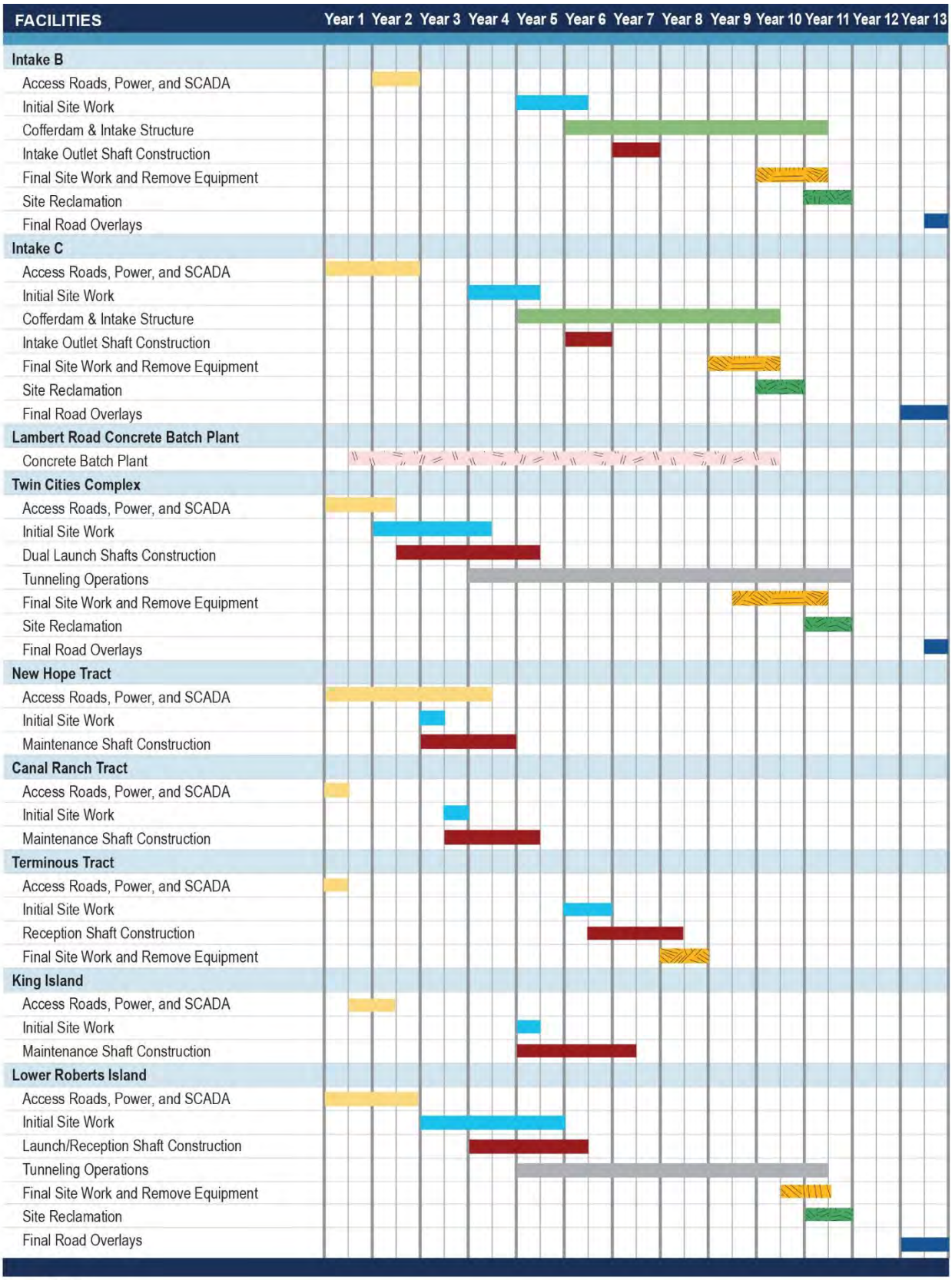
cfs = cubic feet per second; RTM = reusable tunnel material. The height of the RTM storage stockpiles would decrease as the RTM subsides into the ground over time.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

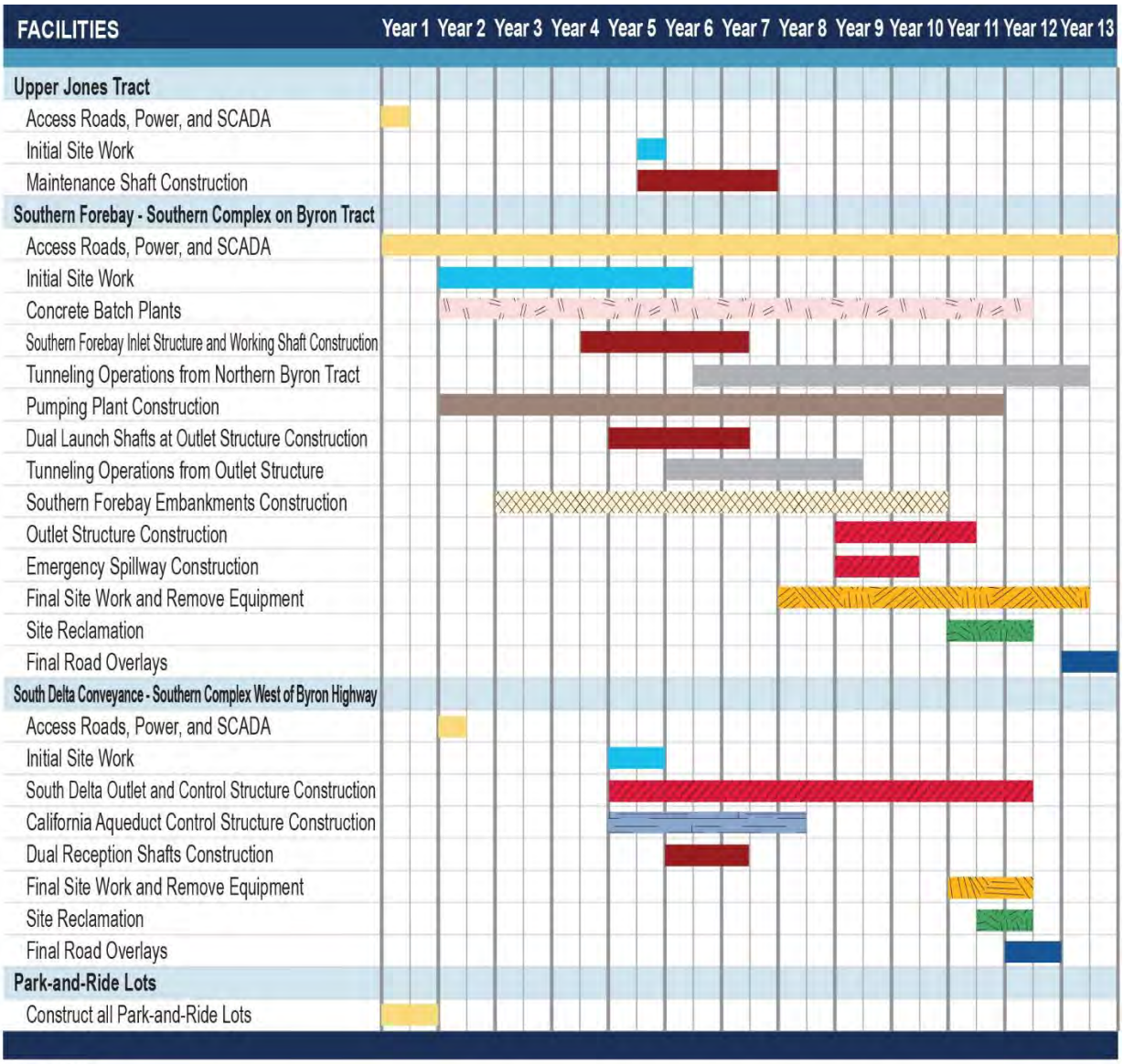
[b] Number of shafts for the main tunnel from intakes to Southern Forebay, counting the double shaft at Twin Cities Complex as one shaft.

3.13.1 Construction Schedule

Construction of Alternative 4c would take approximately 13 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown in Figure 3-29.



Eastern 4,500 cfs



Eastern 4,500 cfs

LEGEND

Access Roads, Power, SCADA, and Park-and-Ride Lots	Clear & Grub, Construct Base, Place Surface Material, and Install Power and SCADA Utilities
Initial Site Work	Clear & Grub, Demolition, Ground Improvement, Foundations, Levees (if applicable)
Intake Structure	Cofferdam, Temporary and Final Levee/SR160, Fish Screen, Connections to Sedimentation Basir
Tunnel Shafts	Raise Shaft Pad, Install Cutoff Walls, Excavate Shaft, Install Concrete Liner, and Dewater Shaft
Final Site Work	Sedimentation Basin, Sediment Drying Lagoons, Buildings, Utilities, and Finish Site Work.
Final Overlays	Final Pavement Restoration on Access Roads and Adjacent Roads
Site Reclamation	Reclaim Land outside of Final Fence Lines
Tunneling Operations	Boring of Tunnel and Removal of RTM
Concrete Batch Plant	Construct/Erect and Operate Batch Plant
Southern Forebay Embankments	Southern Forebay Embankments
South Delta Pumping Plant and Inlet Structure	South Delta Pumping Plant and Inlet Structure
Southern Forebay Outlet Structure and South Delta Outlet and Control Structure	Southern Forebay Outlet Structure and South Delta Outlet and Control Structure
California Aqueduct Control Structure	California Aqueduct Control Structure

Figure 3-29. Alternative 4c Construction Schedule

3.14 Alternative 5—Bethany Reservoir Alignment, 6,000 cfs, Intakes B and C (Proposed Project)

Alternative 5 would use Intakes B and C to convey up to 6,000 cfs of water from the north Delta along the eastern alignment as described under Alternative 3 as far as the launch shaft at Lower Roberts Island. From Lower Roberts Island, the tunnel would follow a different route to a location south of Clifton Court Forebay and terminate at the Bethany Complex. This tunnel alignment is referred to as the Bethany Reservoir alignment. Figures 3-2c and 3-30 provide, respectively, a map and a schematic diagram depicting the alignment and conveyance facilities associated with Alternative 5. Mapbook 3-3 depicts the locations of Bethany Reservoir alignment project facilities and major construction features.

From the Twin Cities Complex, the Bethany Reservoir alignment would extend along the same easterly route as Alternative 3, using the same tunnel shaft locations as far as Lower Roberts Island, where the corridor would turn southwest, traveling from Lower Roberts Island under Lower and Upper Jones Tracts, Victoria Island, Union Island, Coney Island, and Clifton Court Tract to the Surge Basin reception shaft. Tunnel shafts would be located at the following sites.

- Intake B
- Intake C
- Twin Cities Complex Double Launch Shaft
- New Hope Tract maintenance shaft (eastern)
- Canal Ranch Tract maintenance shaft
- Terminous Tract reception shaft
- King Island maintenance shaft
- Lower Roberts Island double launch shaft
- Upper Jones Tract maintenance shaft (Bethany)
- Union Island maintenance shaft
- Surge Basin reception shaft (at Bethany Complex)

Alternative 5 would eliminate the Southern Complex facilities described in Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c. Instead, this alternative would include a new Bethany Reservoir Pumping Plant and Surge Basin to the south of Clifton Court Forebay, and the new Bethany Reservoir Aqueduct that would convey flows to a new Bethany Reservoir Discharge Structure on the shore of Bethany Reservoir. The aqueduct would consist of four pipelines including tunneled segments under the existing CVP Jones Pumping Plant discharge pipelines and existing conservation easement adjacent to Bethany Reservoir. Collectively, these facilities are called the Bethany Complex, described in Section 3.14.1, *Bethany Complex*.

The tunnel from the intakes to the Bethany Complex would have an inside diameter of 36 feet and outside diameter of 39 feet and extend 45 miles from the intakes to the surge basin at the Bethany Reservoir Pumping Plant. Alternative 5 would have the same tunnel shafts as described under Alternative 3 from the north Delta to Lower Roberts Island. Lower Roberts Island would have a double launch shaft, similar to that at the Twin Cities Complex, which would allow one TBM to bore

north to the Terminous Tract reception shaft and one to bore south toward the final reception shaft at the Bethany Reservoir Surge Basin via maintenance shafts on Upper Jones Tract (at a different location than under Alternative 3) and on Union Island. The maintenance shaft site on Upper Jones Tract would require a different access road than under Alternative 3 because it is in a different location. The Union Island maintenance shaft would be unique to Alternative 5. Construction access to Union Island would be via Bonetti Road. The shaft pads at Upper Jones Tract and Union Island tunnel maintenance shafts would be constructed of soil excavated from Lower Roberts Island. Because the Southern Forebay, Southern Complex, and South Delta Conveyance Facilities are not included in this alternative, the shafts associated with those features would not be needed.

The Twin Cities Complex under the Bethany Reservoir alignment (Alternative 5) would be similar to Alternative 3, but larger because RTM that would be used or stored at the Southern Complex under other alternatives would not be transported to that site and would need to be stored on-site instead. Tunnel segments, TBM machinery, other soil materials, and equipment would be delivered to the Twin Cities Complex by road; there would be no rail-served materials depot at the Twin Cities Complex under Alternative 5. Access road modifications, RTM storage, and facility layouts would change accordingly. RTM handling at the Twin Cities Complex and Lower Roberts Island TBM launch shafts would be the same as described for the eastern alignment alternatives (Alternatives 3, 4a, 4b, and 4c), except that mechanical dryers would not be used at Lower Roberts Island and no RTM would be transported for forebay construction.

The double launch shaft at Lower Roberts Island would require a larger shaft site than under Alternative 3 constructed in a figure eight configuration to accommodate two TBMs, larger RTM storage area, and corresponding adjustments to access roads and railroad alignments. Material excavated on-site would be used to construct the shaft pad. The site would also house a rail-served materials depot similar to the facility described under Alternative 3. Rail access to Lower Roberts Island would be provided from existing UPRR and/or BNSF tracks at the Port of Stockton. Rail lines could be extended from one of the existing rail facilities at the Port of Stockton. Rail access would be extended over a new bridge over Burns Cut and continue to the launch shaft site and RTM storage area.

Portions of existing perimeter levee on the Lower Roberts Island site do not comply with the Public Law 84-99 Delta-specific levee design standard because of insufficient freeboard or slopes. Levee modifications for this alternative would be made as described for Alternative 3, described in Section 3.10.

Table 3-13 summarizes the distinguishing characteristics of Alternative 5.

Table 3-13. Summary of Distinguishing Physical Characteristics of Alternative 5

Characteristic	Description [a]
Alignment	Bethany Reservoir
Conveyance capacity	6,000 cubic feet per second
Number of Intakes	2; Intakes B and C at 3,000 cfs each
Tunnel from Intakes to Bethany Reservoir Pumping Plant	
Diameter	36 feet inside, 39 feet outside
Length	45 miles
Number of tunnel shafts	11 [b]

Characteristic	Description [a]
Launch shafts diameter	115 feet inside
Reception and maintenance shafts diameter	70 feet inside
Surge Basin reception shaft diameter	120 feet inside
Twin Cities Complex	Construction acres: 586 Permanent acres: 222
Lower Roberts Island Double Launch Shaft site	Construction acres: 610 Permanent acres: 300
Upper Jones Tract Maintenance Shaft [c]	Construction acres: 11 Permanent acres: 11
Union Island Maintenance Shaft [c]	Construction acres: 14 Permanent acres: 14
Bethany Complex	
Bethany Reservoir Pumping Plant and Surge Basin site size (all facilities)	Construction acres: 213 Permanent acres: 184
Bethany Reservoir Pumping Plant pad site	1,166 foot wide x 1,260 feet long (approximately 34 acres)
Surge basin	815 feet wide x 815 feet long x 35 feet deep, approximately 15 acres
Bethany Reservoir Aqueduct	Four 15-foot-diameter parallel below-ground pipelines Approximately 14,900 linear feet each Construction acres: 128 acres Permanent acres: 68
Aqueduct tunnels	Four 20-foot-diameter parallel tunnels, two reaches
Bethany Reservoir Discharge Structure	Construction acres: 15 Permanent acres: 13
RTM Volumes and Storage	
Twin Cities Complex long-term RTM storage (approximate)	214 acres x 15 feet high
Lower Roberts Island long-term RTM storage (approximate)	189 acres x 15 feet high
Bethany Complex	No TBM RTM generated or stored
Total wet excavated RTM volume (for single main tunnel from intakes to Bethany Reservoir Surge Basin shaft)	14.4 million cubic yards

cfs = cubic feet per second; RTM = reusable tunnel material; TBM = tunnel boring machine. The height of the RTM storage stockpiles would decrease as the RTM subsides into the ground over time.

[a] Acreage estimates represent the permanent surface footprints of selected facilities. Overall project acreage includes some facilities not listed, such as permanent access roads.

[b] Number of shafts for the main tunnel from intakes to Bethany Reservoir Surge Basin shaft, counting the double shaft at Twin Cities Complex and the double shaft at Lower Roberts Island each as one shaft.

[c] These maintenance shafts are included in this table because they are distinctive to the Bethany Reservoir alignment. Upper Jones Tract maintenance shaft is in a different location than in other eastern alignment alternatives and Union Island maintenance shaft is unique to this alternative.

Characteristics of fencing and lighting at intakes, tunnel shaft sites, Bethany Reservoir Pumping Plant and Surge Basin, and Bethany Reservoir Discharge Structure during construction and operation would be the same as described in Section 3.4.12, *Fencing and Lighting*. These features would also be the same at the Bethany Complex during aqueduct construction, but once operational, the aqueduct would require only gates at access points along county roads.

The power and SCADA alignment for all facilities north of the Lower Roberts Island double launch shaft and two new park-and-ride lots—Hood-Franklin and Charter Way—would be the same as under Alternative 3. A new electrical power substation at Lower Roberts Island would be in a slightly different location than under Alternative 3. The two maintenance shafts between Lower Roberts Island and the Bethany Complex would require different electric power connections than under Alternative 3. Electric power lines for the Bethany Complex would be primarily aboveground on new poles and a few towers.

SCADA facilities for the Bethany Reservoir alignment and Bethany Complex would be controlled through three operations centers, including one that would be installed at the Bethany Reservoir Pumping Plant.

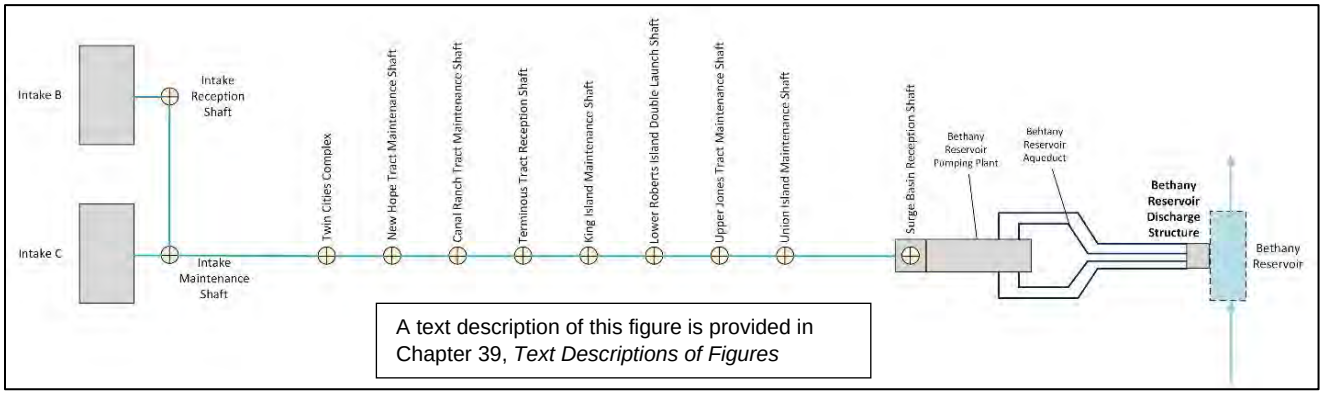


Figure 3-30. Alternative 5 Bethany Reservoir Alignment Schematic

RTM would be generated by boring the main tunnel north of the Bethany Complex, but excavation for the Bethany Reservoir Pumping Plant, Aqueduct, and Discharge Structure would not require the use of a TBM and would not generate the same type of RTM. Spoil material from construction of the aqueduct would be placed on top of and adjacent to the aqueduct for permanent storage or placed in the excess excavated material stockpile near the Bethany Reservoir Pumping Plant.

RTM generated at the Twin Cities Complex and Lower Roberts Island launch shafts sites would be processed and reused at the launch shaft sites to backfill borrow areas. Approximately 40 acres of excavated areas within the limits of the permanent RTM stockpile at Twin Cities and 26 acres at Lower Roberts Island would be filled with RTM to raise the elevation to existing ground levels. Surplus RTM would be stockpiled on-site for future uses by DWR. Alternative 5 is expected to generate 14.4 million cubic yards of wet excavated RTM—6.7 million cubic yards at Twin Cities Complex and 7.7 million cubic yards at Lower Roberts Island.

Excess excavated soil from construction of the surge basin, pumping plant, and aqueduct would be used on-site for grading as much as possible. Excess topsoil and excavation material would be stockpiled at five locations at the Bethany Complex (Delta Conveyance Design and Construction Authority 2023b). A permanent 33-foot high stockpile of excavated material from the Bethany

Reservoir Pumping Plant and Surge Basin would occupy about 70 acres(Delta Conveyance Design and Construction Authority 2023b). The stockpile area would be cleared, grubbed, and stripped of topsoil before stockpiling. Soil from this location and excess soil from other portions of the Bethany Complex would be spread over the completed stockpiles and hydroseeded.

The two concrete batch plants at Lambert Road proposed for Alternative 3 would serve construction of the intakes, Twin Cities Complex, New Hope Tract, Canal Ranch Tract, and King Island. Concrete for Terminous Tract, Lower Roberts Island, Upper Jones Tract, and Union Island tunnel shafts would come from existing local concrete suppliers from the Sacramento or Stockton areas. Another two concrete batch plants at the Bethany Reservoir Pumping Plant and Surge Basin would serve construction of all portions of the Bethany Complex. They would occupy about 11.5 acres north of Kelso Road, adjacent to the contractor's yard behind the pumping plant (Delta Conveyance Design and Construction Authority 2023b). Each batch plant site would be approximately 330 feet wide by 330 feet long with a 50- to 75-foot-tall batch plant that would include three bulk cement storage silos, a portable cement silo, a 500-square-foot batch trailer, propane and diesel fuel tanks, a reclaimed water system and related collection facilities for stormwater and wash water, and dust collectors to minimize particulate matter in the air. Filtered particulates would be hauled to licensed off-site disposal facilities or added to raw materials used to produce concrete. The batch plants would be removed after construction.

Alternative 5 would include only the Hood-Franklin Park-and-Ride Lot and Charter Way Park-and-Ride Lot presented under Alternative 3. On-site parking would be provided at the Twin Cities Complex, Lower Roberts Island construction sites, all maintenance and reception shafts, and Bethany Complex.

One 4,000-gallon diesel tank and one 4,000-gallon gasoline tank would be present at the Bethany Reservoir Pumping Plant and Surge Basin during construction. Both tanks would be elevated and inside fully contained fueling areas. Fuel stations along the main tunnel alignment would be the same as under Alternative 3.

Emergency response facilities for the Bethany Complex would be located just south of the Bethany Reservoir Pumping Plant and Surge Basin, near the aqueduct alignment. Facilities would include two ambulances; fire, rescue, and medical equipment; accommodations for one full-time crew during work hours; and a helipad for emergency evacuations. Emergency personnel could include construction management staff that would be cross-trained.

Water supplies and water treatment, storage, and drainage strategies would be similar to those described in Section 3.4.15.5 and subject to the same water rights and limitations. At the Bethany Reservoir Pumping Plant and Surge Basin, some water would be supplied from the California Aqueduct. Bethany Reservoir Aqueduct construction activities would move along the alignment over 57 months of construction. Accordingly, water supplies would have to be hauled to each progressive construction site. These supplies would also come from the connection to the California Aqueduct at the Bethany Reservoir Pumping Plant site.

Water for the discharge structure construction site would be pumped from the Bethany Reservoir. All dewatering flows would receive treatment to reduce concentrations of constituents such as boron in the groundwater, and be discharged to local channels or Bethany Reservoir.

Water supplies for access road construction would be hauled from nearby fill stations. Runoff from the construction site would be contained by portable berms and tested. Berms and other barriers

around the site would contain stormwater runoff before testing to confirm compliance with the project's SWPPP. If found compliant, runoff would be directed to adjacent stormwater ditches or storm drains. It is expected that stormwater runoff volumes from road construction would be similar to existing conditions.

3.14.1 Bethany Complex

The Bethany Complex would be constructed southeast of Clifton Court Forebay. The Bethany Reservoir Pumping Plant and Surge Basin would be located along Mountain House Road approximately 0.5 miles south of the intersection with Byron Highway (Figure 3-31). The Bethany Reservoir Aqueduct would extend approximately 2.8 miles from the pumping plant to a new discharge structure on the banks of the Bethany Reservoir (Figure 3-32). Approximately 35 acres, located within the proposed footprint Bethany Complex and adjacent to the Bethany Reservoir Pumping Plant and Surge Basin facilities, would not be acquired by DWR and remain undisturbed. The Bethany Complex, including the pump facilities, surge basin, electrical substation, and other appurtenant facilities, would be approximately 215 acres. The facilities that comprise the Bethany Complex are described in the following sections. The Bethany Complex would be located on ground above the flood elevations for the 200-year flood event with sea level rise and climate change hydrology for year 2100, as defined by DWR (Delta Conveyance Design and Construction Authority 2023b).

3.14.1.1 Bethany Reservoir Pumping Plant

The Bethany Reservoir Pumping Plant would be needed to lift the water from the tunnel to Bethany Reservoir. The main tunnel from the intakes would terminate at a reception shaft within the surge basin on the north side of the Bethany Reservoir Pumping Plant. Water would enter the Bethany Reservoir Pumping Plant and be conveyed directly to Bethany Reservoir in a cement-mortar-lined, welded steel aqueduct system (described in Section 3.14.1.3, *Bethany Reservoir Aqueduct*).

The Bethany Reservoir Pumping Plant would be a multilevel underground structure with its roof at grade. Flow capacity would range from a minimum of 300 cfs to a maximum of 6,000 cfs. The pumping plant would have twelve 500-cfs pumps to achieve the flow of 6,000 cfs and two standby pumps. In addition to the below-ground pumping plant and wet well, the site would include aboveground water storage tanks for hydraulic transient-surge protection of the discharge pipelines, electrical building with variable speed drives and switchgear, heating and air conditioning mechanical equipment yard, transformer yard, electrical substation adjacent to the electrical building, standby engine generator building with an isolated and fully contained fuel tank, equipment storage building with drive-through access, offices, shops, storage area for spare aqueduct pipe sections and accessories, and a walled enclosure/storage facility for bulkhead panel gates that would be used to isolate portions of the Bethany Reservoir Pumping Plant during maintenance procedures. The pumping plant would include two separate dry-pit pump bays adjacent to the wet well.

Electrical, generator, and maintenance buildings, an electrical substation, surge tanks, and protective canopies on the site would be aboveground structures (Figure 3-31). The finished site pad elevation of 46.5 feet above mean sea level, at about existing grade, would be substantially above the elevation required to protect the facilities from surge events and the 200-year flood event including sea level rise in 2100, which is calculated to be a water surface elevation of 27.3 feet within the surge basin.

3.14.1.2 Bethany Reservoir Surge Basin

The surge basin would normally be empty when the Bethany Reservoir Pumping Plant is in operation. The top of the surge basin would be at existing grade and the bottom would be about 35 feet below the ground surface. The tunnel shaft within the surge basin would accommodate portable submersible pumps for dewatering the tunnel, if necessary. The top of the tunnel shaft would be at the floor of the surge basin and would be surrounded by an overflow weir wall inside the basin. A shaft pad would not be required at the surge basin reception shaft since natural ground elevations at this site are considerably above the potential flood stage, and groundwater intrusion is unlikely based on available information.

Under rare circumstances, potential transient-surge conditions could occur in the main tunnel between the intakes and Bethany Reservoir Pumping Plant or in the Bethany Reservoir Aqueduct. Along the main tunnel, the transient surge could occur if there was a simultaneous shutdown of the main raw water pumps in the pumping plant. Under Alternative 5, the surge flows would discharge into the surge basin through the tunnel reception shaft. The circular weir wall around the top of the tunnel reception shaft (Figure 3-31) would allow the overflows to enter the surge basin but prevent water that enters the surge basin from reentering the main tunnel unless DWR operators open gates to allow the water to flow back in. The surge basin would also have pumps to remove the water more rapidly than gravity flow into the pumping plant to facilitate restarting the pumping plant after a surge event.

Transient-surge conditions in the Bethany Reservoir Aqueduct pipeline could also occur if there was a simultaneous shutdown of the Bethany Reservoir Pumping Plant pumps. Under this transient-surge scenario, water would flow from surge tanks located at the Bethany Reservoir Pumping Plant into the aqueduct pipelines and excess surge flows would be conveyed into Bethany Reservoir.

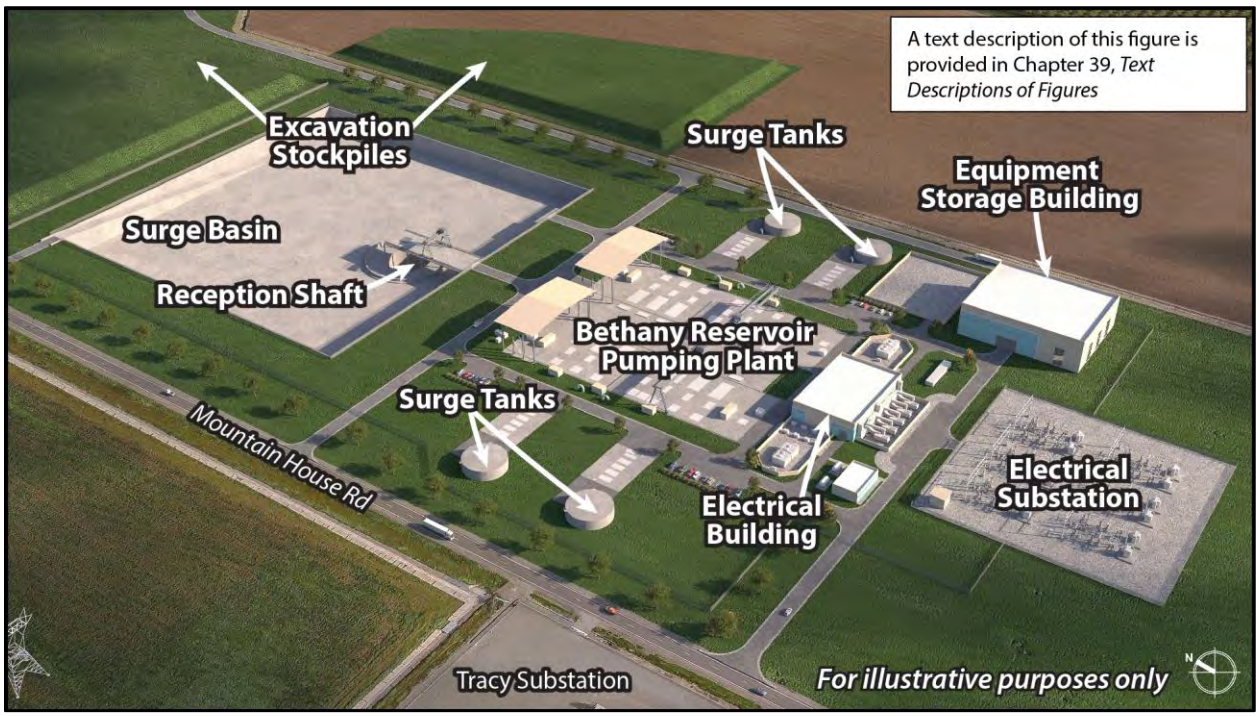


Figure 3-31. Bethany Reservoir Pumping Plant and Surge Basin

3.14.1.3 Bethany Reservoir Aqueduct

The aqueduct system would consist of four 15-foot-diameter parallel pipelines that would convey water from the Bethany Reservoir Pumping Plant to the Bethany Reservoir Discharge Structure, a distance of approximately 2.8 miles each. Each pipeline would have a maximum capacity of 1,500 cfs. The permanent footprint of the aqueduct system would be about 200 feet wide. Two separate aqueduct reaches would require tunnels to carry each pipeline under existing features. The first reach would be under the Jones Pumping Plant discharge pipelines (about halfway from the Bethany Reservoir Pumping Plant to the discharge structure); at this location pipelines would run about 50 feet below ground surface for about 200 feet. Tunnels would also be needed under the existing conservation easement adjacent to Bethany Reservoir (at the last downstream reach of the aqueduct; Figure 3-32) for about 3,064 feet, ranging from 45 to 180 feet below ground surface.

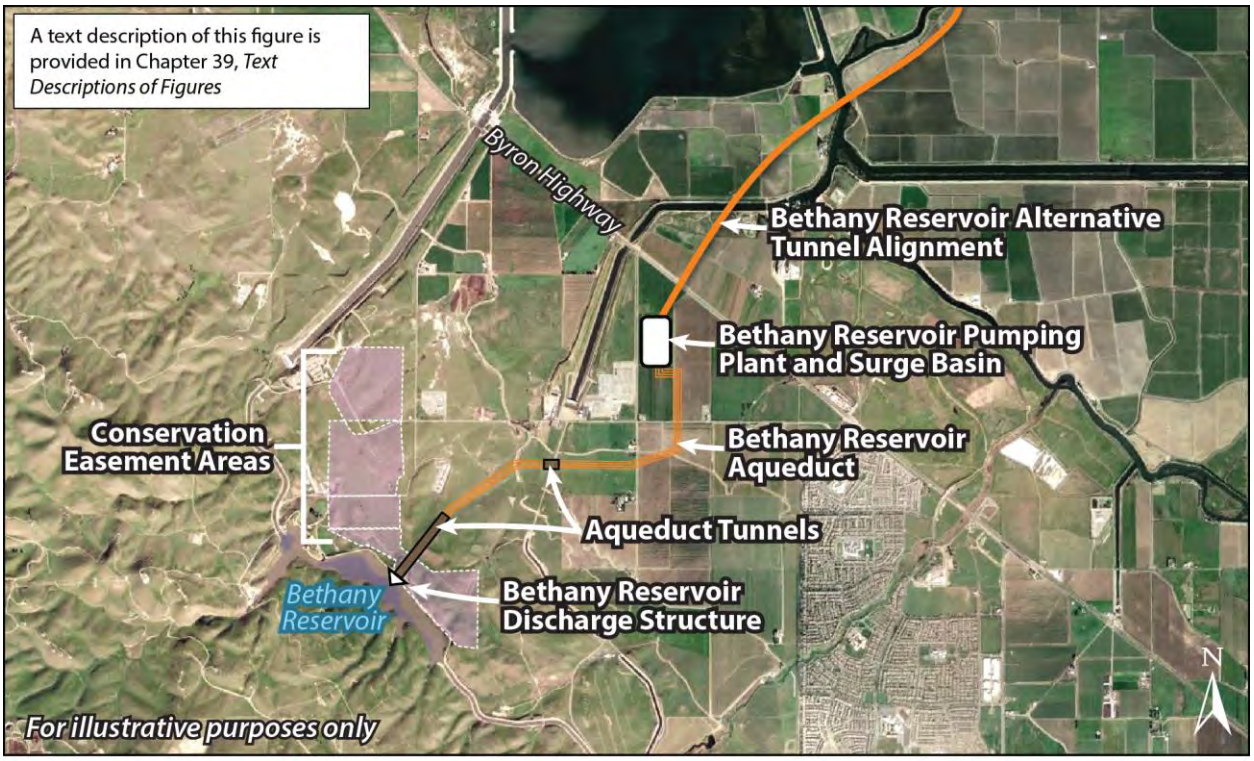


Figure 3-32. Bethany Reservoir Aqueduct Route with Tunnel Reaches

The aqueduct pipelines would be laid mostly in open trenches, constructed by open cut and backfill methods. The tops of the pipes would extend above the existing ground surface and be covered by a minimum of 6 feet of soil that would form a single mound of earth above the four pipelines (Figure 3-33). Excavated material from the Bethany Reservoir Aqueduct trenches and tunnels would be used for backfill of the trenches and also used to make controlled low-strength backfill material (CLSM) for pipe bedding and zone material.

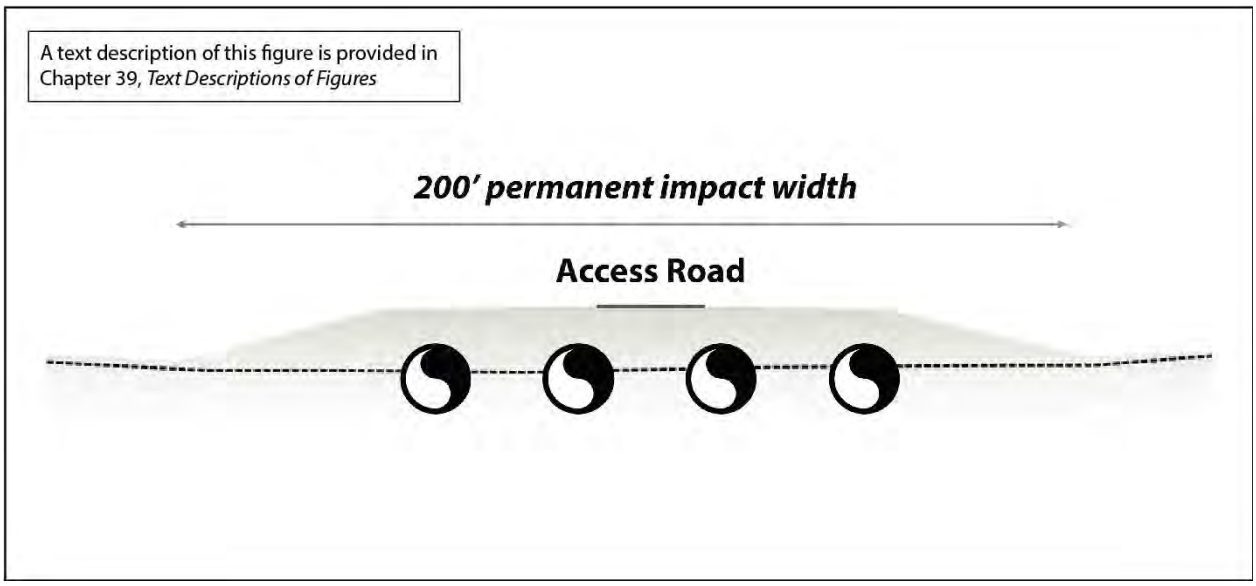


Figure 3-33. Typical Completed Section for Open Cut Reaches of Pipeline Alignment

The aqueduct pipelines would terminate near the bottom of four 55-foot-inside-diameter below-ground vertical shafts at the Bethany Reservoir Discharge Structure. The pipelines would make a 90-degree bend upward inside the shafts, ending at the floor of the discharge structure and flowing through a concrete channel into Bethany Reservoir (Figure 3-34). Bethany Reservoir serves several purposes: a forebay for the South Bay Pumping Plant (the start of the South Bay Aqueduct of the State Water Project), an afterbay for Banks Pumping Plant, a conveyance facility for the California Aqueduct, and a recreational facility. The reservoir does not serve as a storage reservoir.

In addition to pipelines and tunnels, the aqueduct construction site would include contractor staging areas, CLSM batch plants, and ancillary facilities. The CLSM would be used to improve the strength of soil placed under the aqueduct pipes installed in the trenches, and possibly to fill the space between the inside wall of the tunnel and the outside of the pipeline wall for the tunnels that carry the pipelines below the Jones discharge pipelines and the conservation easement adjacent to Bethany Reservoir.

A CLSM processing area along the tunnel portion of the aqueduct would include two side-by-side CLSM batch plants for trench work, each 100 feet wide by 100 feet long and 50 to 75 feet tall. CLSM production would also require 2.75 acres for soil storage of up to 30,000 cubic yards of soil up to 7 feet deep; two 30-foot-diameter, 10-foot-tall water storage tanks mounted on 8-foot-tall platforms and holding a total of 100,000 gallons of water; and cement storage silos 50 to 75 feet tall on a site 50 feet wide by 100 feet long.

Aqueduct Tunnels

The aqueduct tunnels to carry the pipelines under the Jones discharge pipelines and the conservation easement would be constructed using a different method than that used for the main tunnel between the intakes and the Bethany Reservoir Pumping Plant. Because of the shorter length of these tunnels compared to the main tunnel, a TBM would not be used during construction. For the Jones pipeline crossing, a digger shield outfitted with an excavator arm could be used for the anticipated ground conditions. To avoid extensive disturbance of sensitive habitat areas within the

conservation easement crossing, several excavation methods have been identified including a roadheader. Soil material would be moved out of the tunnels at the entry portals. The excavation would be supported with rock reinforcement and/or steel ribs or lattice girders and shotcrete depending on the ground conditions.

The excavated material from the aqueduct tunnels would be removed by different methods and would be in different geologic formations compared to the main tunnel bore; therefore, the excavated material characteristics would be different from the RTM from the main tunnel. The Bethany Reservoir Aqueduct tunneling machines also would not need additives; therefore, the excavated soil would not need to undergo the extensive drying that would be required for RTM from the TBMs on the main tunnel. Materials excavated from the aqueduct tunnels that are too wet or otherwise unsuitable for CLSM of backfill would be transported to the permanent excavation stockpile adjacent to the Bethany Reservoir Pumping Plant and dried as part of final disposal.

Tunneling under the Jones discharge pipelines would require excavation of a large cut to establish entry and exit portals. The entry portal would be located on the east side of the Jones discharge pipeline crossings. Excavation of these tunnels would end at the exit portal about 200 feet away on the west side of the Jones pipelines. Major facilities at the site would include mobile cranes, construction shops and offices, parking, material laydown and erection area, equipment staging, tunnel ventilation system housing, temporary electrical substation, and storage for topsoil stripping. Construction activities would include clearing and grubbing, water quality protection, ground improvement, and other activities as needed.

Tunneling under the conservation easement also would require tunnel entry portals on the east side and tunnel exit portals on the west side of the 3,064-foot crossing. The entry portals would be located on the east side of the conservation easement and west of the existing high voltage power lines. Excavation of these tunnels would end at the vertical shafts, serving as the exit portal, on the east side of the Bethany Reservoir Discharge Structure.

3.14.1.4 Bethany Reservoir Discharge Structure

This discharge structure portion of the Bethany Complex comprises the structure itself near the bank of Bethany Reservoir, the aqueduct conservation easement tunnel vertical exit shafts, contractor staging areas, and ancillary facilities. The proposed discharge structure site would be on a narrow strip of land between the conservation easement and Bethany Reservoir; a 10-foot-wide buffer would separate the disturbance area from the conservation easement. Significant grading would be required to build the structure on the site, which is above reservoir surface water level but varies considerably in elevation. Constructing a temporary cofferdam within the water near the shore in the reservoir would allow excavation, concrete, and backfill work to be completed on the reservoir bank within an area of dry ground excavated as much as 25 feet below the reservoir water surface.

The discharge structure would occupy 13 acres postconstruction. It would be divided into four separate channels, with a total width of approximately 327 feet encompassing the four 55-foot-wide aqueduct shafts with required approximately 81.5-foot center-to-center spacing (Figure 3-34). Each channel of the discharge structure would taper from about 81 feet wide at the top of the aqueduct shafts to approximately half of that width at the bank of the Bethany Reservoir. The concrete floor of the discharge structure at elevation 227.0 feet above mean sea level would end near the reservoir bank, and a layer of riprap would be placed between the structure and the temporary cofferdam to

help stabilize and protect the bank and bed of the reservoir from the energy of the water being discharged, which is expected to be minor, given the relatively low discharge velocity. The top of the discharge would be approximately at the same elevation as the existing California Aqueduct Bikeway, which would be modified to traverse through and over the new structure.



Figure 3-34. Bethany Reservoir Discharge Structure

The Bethany Reservoir Discharge Structure would cross the existing California Aqueduct Bikeway, which is also used as a maintenance road. A 32-foot-wide bridge would span the four Bethany Reservoir Discharge Structure channels to maintain access for bikes and maintenance vehicles. Each of the four channels would be divided into two 21-foot-wide bays with radial gates and stop logs to prevent backflow in an emergency and to doubly isolate the aqueduct system from Bethany Reservoir. A 16-foot-wide service deck would be installed on the opposite (reservoir) side of the gate and stop log area to facilitate operations and maintenance of the gates and installation and removal of stop logs. The bridge would include applicable openings for stop log installation and removal through traffic-rated hatches. Similarly, stop logs would be installed in open stop log grooves adjacent to the service deck. The radial gates would automatically close under pressure-loss conditions in the aqueduct pipelines to prevent water from Bethany Reservoir from flowing into the aqueduct pipelines during the unlikely event of a pipeline break or valve malfunction. Due to the critical control nature of this facility, a standby engine generator would be provided for backup power in case of a power outage. A storage yard for isolation bulkhead gates is also included at the site.

3.14.2 Access Roads

Access roads to the intakes, New Hope Tract tunnel maintenance shaft, Canal Ranch Tract tunnel maintenance shaft, Terminous Tract tunnel reception shaft, King Island tunnel maintenance shaft, and Lower Roberts Island dual launch shaft site would be the same under Alternative 5 as under

Alternative 3. Road improvements for the Twin Cities Complex would be slightly different than under Alternative 3 and are described in Section 3.4.7. Access to the Union Island maintenance shaft (unique to Alternative 5) would be via Clifton Court Road and Bonetti Road; these roads would not require project modifications.

Access to the Bethany Reservoir Pumping Plant would be from the Byron Highway immediately north of the site, at a new interchange constructed at Lindemann Road. Byron Highway would be realigned and widened to four lanes for 0.5 mile from the new Lindemann Road interchange to Great Valley Parkway. New bridges would be built over UPRR tracks and Byron Highway. A new 1.2-mile paved frontage road would be constructed for the Lindemann Road interchange parallel to the Byron Highway on the southern side, extending south into the site. This new frontage road would also connect to Byron Highway at the existing Mountain House Road intersection. A new 2.1-mile paved road would provide access to the surge basin between new Byron Highway frontage road and Mountain House Road. Mountain House Road would be widened for 1.34 miles between Byron Highway and Connector Road.

The pumping plant and surge basin would also be accessible from I-580, located approximately 3 miles south of the site, via West Grant Line Road and Mountain House Road. Improvements to Kelso Road would provide roadway connections to Mountain House Road and the new north–south access road along the site's southern side. A merge lane on West Grant Line Road would be widened for 0.14 mile west of Mountain House Road to Mountain House Road. Mountain House Road would be extended by 0.6 mile to West Grant Line, including a new roundabout at Grant Line Road and a new bridge over a swale. Mountain House Road would be widened for 2.2 miles from the new extension to a point 0.18 mile north of the surge basin access road.

The Bethany Reservoir Aqueduct would require widening 1.23 miles of Kelso Road between a location 0.14 mile east of Mountain House Road and the new access road to the aqueduct construction staging area, and a new 0.27 mile paved road extension of Connector Road from Mountain House Road to the surge basin access road.

The Bethany Reservoir Discharge Structure would be accessed via a new 1.2-mile paved road from Mountain House Road to the existing Bethany Reservoir (California Aqueduct Bikeway). A 0.6-mile segment of existing paved road (California Aqueduct Bikeway) along Bethany Reservoir would be widened from the new access road to the discharge structure. The California Aqueduct Bikeway would not be accessible across the Bethany Reservoir Discharge Structure during construction.

The site access and interior circulation roads would generally be two-lane roads with 12-foot-wide travel lanes and 3-foot-wide paved shoulders. Paved access would be provided to each of the pumping plant facilities. Figure 3-35 shows the roads associated with Alternative 5.

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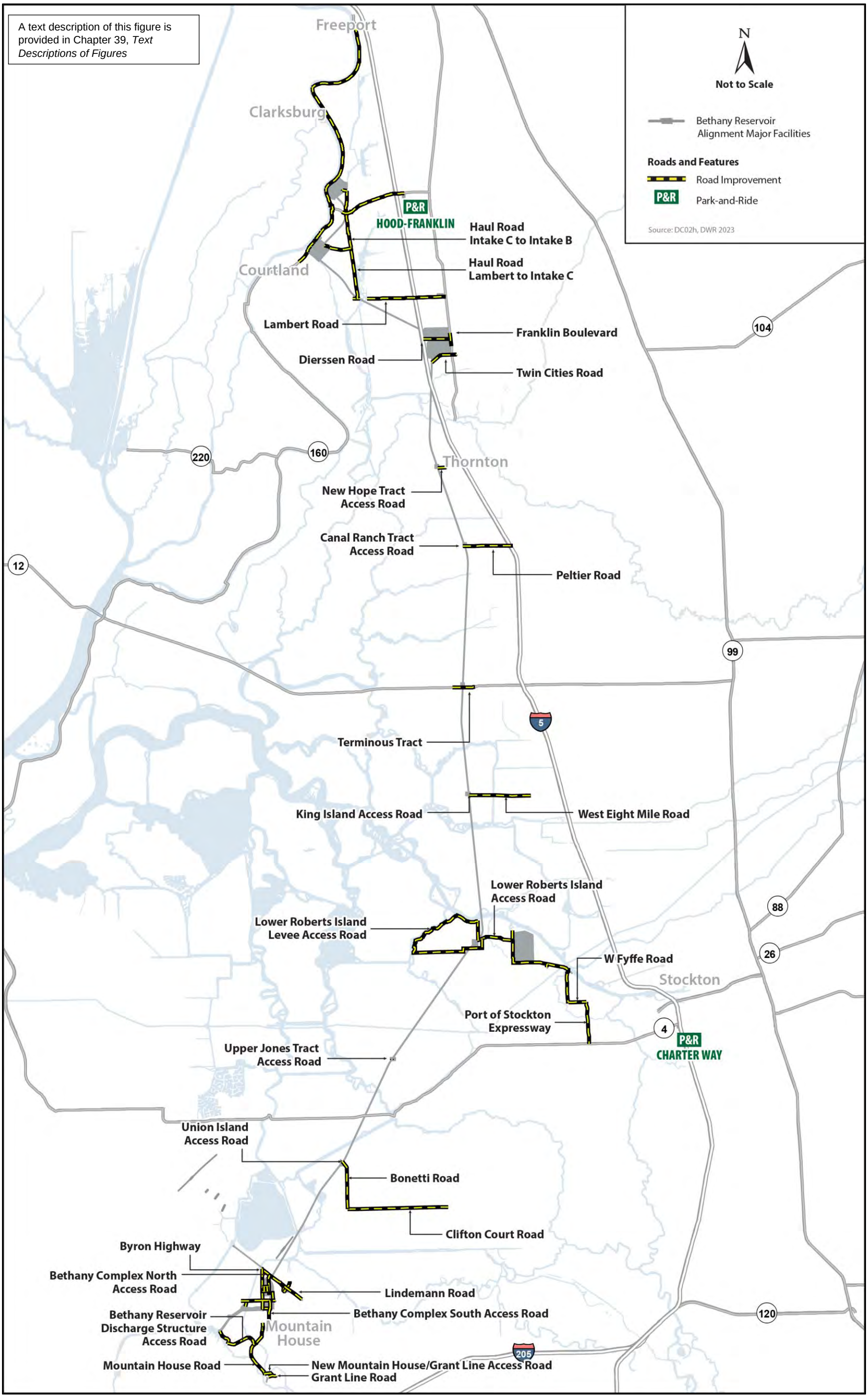


Figure 3-35. Road Modifications under the Bethany Reservoir Alignment

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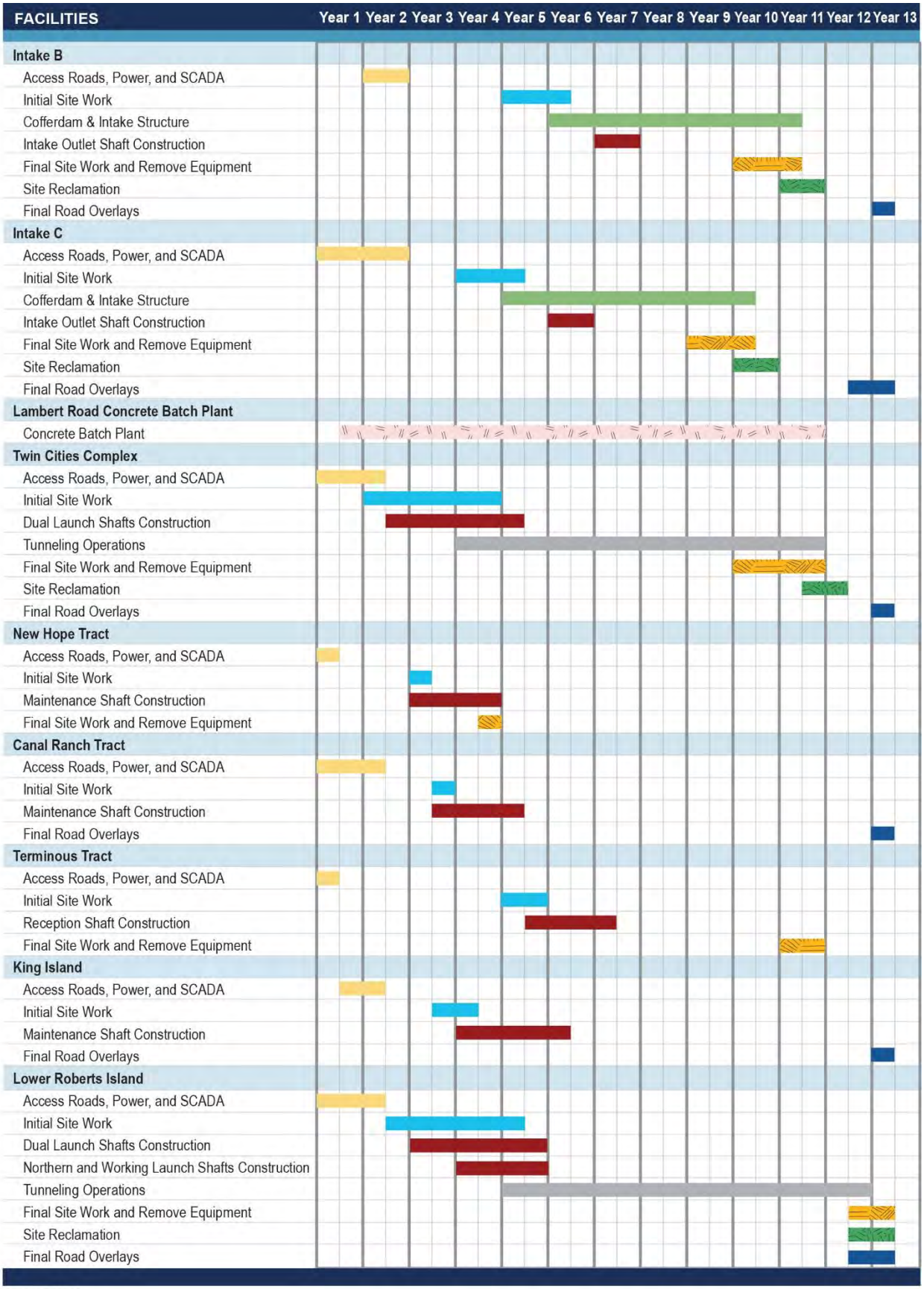
3.14.3 Maintenance

Maintenance activities for intakes, tunnel shafts, and tunnel for the Bethany Reservoir alignment would be the same as under the central and eastern alignments. Daily maintenance activities would include inspections, security checks, and operations oversight. Less frequent maintenance activities include operability testing, cleaning, sediment removal (at intakes), dewatering, and repaving. General and grounds maintenance would occur annually, and debris removal would be required periodically at the surge basin. If tunnel maintenance activities required dewatering, two portable 60-cfs dewatering pumps would be installed within the Surge Basin reception shaft. Each submersible pump would be equipped with a variable frequency drive with a flow meter and a flow control valve. The submersible pumps would discharge directly into the Bethany Reservoir Pumping Plant discharge pipelines and ultimately to the Bethany Reservoir Discharge Structure.

The Bethany Reservoir Pumping Plant site would contain an equipment storage and operations maintenance building with office space, a welding shop, machine shop, and interior storage for spare pumps and rotating assemblies, motors, and accessories. Interior storage space would also accommodate large equipment such as tunnel dewatering pumps, cable reels, and discharge piping assemblies. An exterior isolation bulkhead gate panel storage and equipment laydown area would be provided on the north side of the building. Bridge and gantry cranes plus other cranes would be located both inside and outside of the buildings to move equipment during maintenance procedures.

3.14.4 Construction Schedule

Construction of Alternative 5 would take approximately 13 years. Construction would not take place in all locations at the same time. Rather, it would proceed in stages, starting with access roads and site work at the intakes and Twin Cities Complex and power and SCADA at maintenance shafts, and proceeding to equipment decommissioning, site reclamation, and road overlays in the final years, as shown on Figure 3-36.



Bethany 6,000 cfs

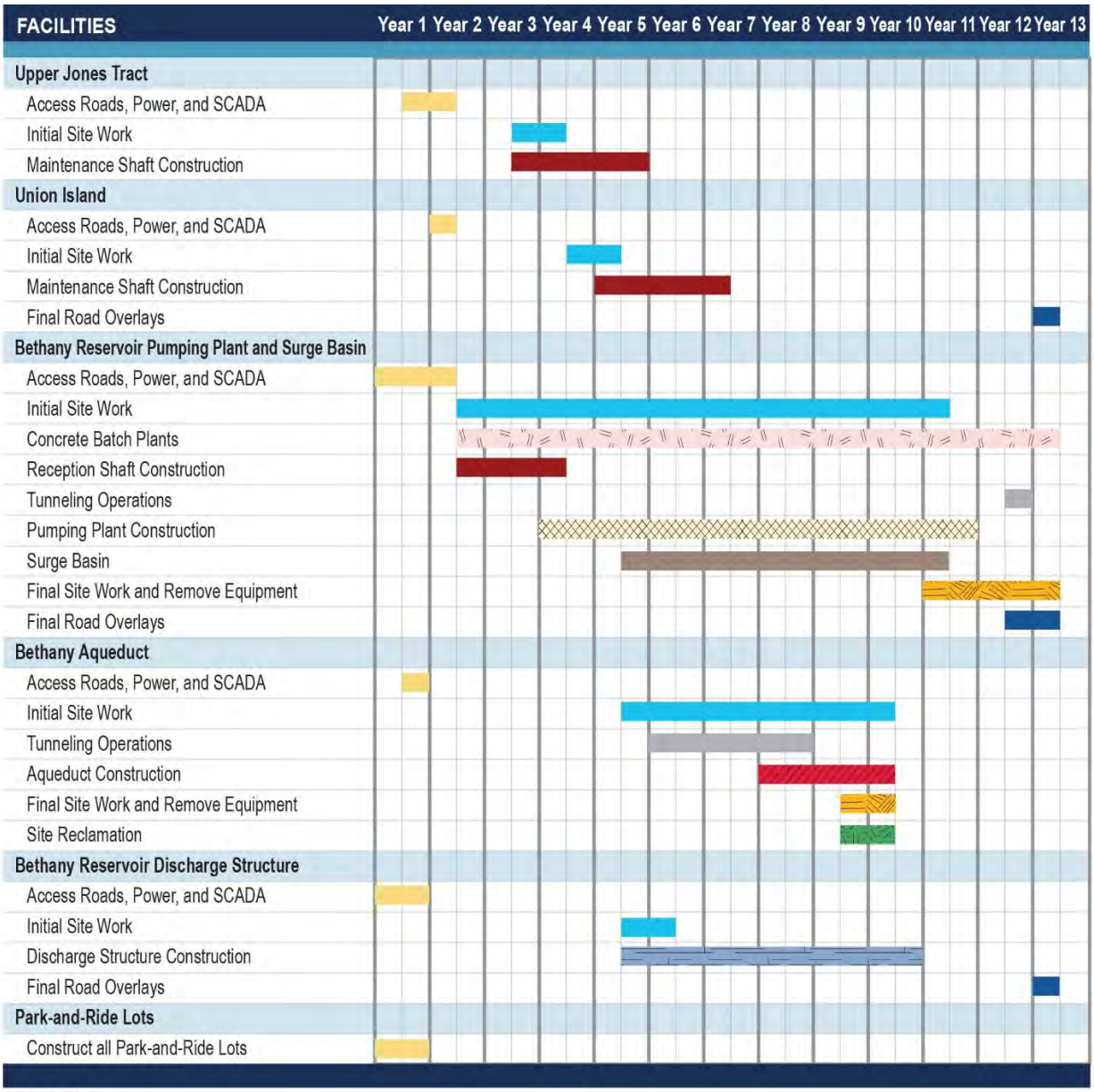


Figure 3-36. Alternative 5 Construction Schedule

3.15 Field Investigations

Field investigations refer to data collection efforts to inform more detailed design and construction.

In 2020, DWR adopted a Final Initial Study/Mitigated Negative Declaration (IS/MND) (California Department of Water Resources 2020b) for the *Soil Investigations for Data Collection in the Delta Project* and issued a Notice of Determination approving it. The purpose of *Soil Investigations for Data Collection in the Delta Project* is to collect data on soil conditions to help determine the composition, location, and geotechnical properties of rock and soil materials commonly found in and around the Delta. This information is expected to contribute to DWR's overall understanding of Delta geology, and this will inform the ongoing development of alternatives, environmental analysis, and conceptual design for the proposed Delta Conveyance Project to support preparation of the Delta Conveyance Project Final EIR. Addenda to the IS/MND (California Department of Water Resources 2021, 2022) were approved and Notices of Determination were issued for minor project changes in February 2021 and June 2022. Approval of the *Soil Investigations for Data Collection in the Delta Project* is separate from the proposed Delta Conveyance Project.

Separate from the soil investigations covered in the 2020 IS/MND, the February 2021 addendum, and the June 2022 addendum (California Department of Water Resources 2020b, 2021, 2022), data collection and field work investigations would be conducted after completion of the Delta Conveyance Project CEQA process and possible project approval. Work related to geotechnical, hydrogeologic, agronomic testing, and construction test projects (geotechnical investigations) would occur during the preconstruction and construction periods following adoption of the Final EIR, identification of an approved project footprint, and acquisition of all required permits. These potential future investigations would, among other things, support Section 408 permitting, design, and construction phases (described below) and would be performed in accordance with standards of USACE, the American Society of Civil Engineers, California Division of Occupational Safety and Health, California Building Code, San Francisco Public Utilities Commission Seismic Design Criteria, American Nuclear Standards Institute, DWR's Division of Safety of Dams, Caltrans Seismic Design Criteria, Southern California Earthquake Center, and other relevant entities. Additional actions not analyzed in this EIR associated with field investigations would comply with the necessary state environmental review requirements and may require additional CEQA review.

3.15.1 Investigations to Support Section 408 Permitting

If DWR determines after completion of the CEQA process to approve the proposed project or project alternative, the following activities are anticipated to take place prior to the start of 65% level of design to support the submission of a formal Section 408 permit application to USACE to address intake construction and the tunneled undercrossing of the Stockton Deep Water Ship Channel. Geotechnical investigations and the installation of groundwater monitoring equipment would begin following completion of all required permits. These activities are expected to be completed within approximately 2 years following completion of all required permits, depending on availability of access to the project sites. Groundwater and other monitoring activities would be performed prior, during, and after intake construction completion.

The following subsections discuss the investigations that would be conducted at the intakes and where the tunnel would be located beneath the Stockton Deep Water Ship Channel.

3.15.1.1 Soil Borings and Cone Penetration Tests

Soil borings and cone penetration tests (CPTs) would be conducted within the construction boundaries at the intakes and within the Stockton Deep Water Ship Channel and adjacent non-project levees at the location of the proposed tunnel undercrossing. Drilling techniques would generate an approximately 4- to 8-inch-diameter boring. For CPTs, a cone-tipped rod with a diameter of 1 to 2 inches would be pushed through the ground. All CPT holes would be filled with grout following completion and prior to abandonment, and all soil borings not planned for completion as a groundwater monitoring well would be completely grouted following boring. Groundwater monitoring wells would be constructed with casings, in accordance with state and local laws, as all groundwater wells would be.

The information gained through soil borings and CPTs would be used to develop detailed design criteria for structure foundations, new and modified levee cross sections, ground improvement, dewatering methods and quantities, below-grade construction methods, need for impact pile driving, and methods to reduce ground settlement risk at all construction sites and at the undercrossing of the Stockton Deep Water Ship Channel. The information would also be used to determine the depths and widths of groundwater cutoff walls to be installed at the intakes. Soil samples obtained during soil borings would also be analyzed to determine the specific structural capabilities of the soil to construct embankments and levees.

3.15.1.2 Groundwater Testing and Monitoring

At each intake, one 12-inch-diameter steel-cased test well would be installed in a 24-inch-diameter borehole to conduct pumping tests. It is also assumed that vibrating wire piezometers would be installed in several levee borings, and 4-inch groundwater monitoring wells would be installed in several site borings at each intake to permit measurements of groundwater head, monitoring of groundwater elevations during the pumping tests, and the collection of water quality samples at the intake locations.

At each intake, a surface water gage would be installed to track the elevation of the adjacent river for use in analysis of the results.

Pumping tests would be conducted in the test wells. Water levels before, during, and following the various tests would be monitored using automated data loggers, which would also record barometric pressure and the level of the river. It is assumed that the groundwater monitoring program would be conducted partially using remotely monitored instrumentation and partially by on-site personnel.

3.15.2 Investigations Prior to Construction Phase

If DWR determines after completion of the CEQA process to approve the Delta Conveyance Project, the following activities are anticipated to be conducted prior to the start of construction, exclusive of the previous investigations made in support of Section 408 permitting. Geotechnical investigations or the installation of monitoring equipment would be conducted within approximately 2 years following completion of all required permits.

3.15.2.1 Investigation at Facility Locations

Explorations would occur at the intakes, tunnel shafts, tunnel alignments, power lines, access roads and bridges, railroads, levees, and at the terminal facilities. Locations where investigations would occur include the Southern Complex on Byron Tract and Southern Complex west of Byron Highway for Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c; and the Bethany Reservoir Pumping Plant and Surge Basin, Bethany Reservoir Aqueduct, and Bethany Reservoir Discharge Structure for Alternative 5.

Soil Borings and Cone Penetration Tests

Land-based soil borings, overwater soil borings, and CPTs would be conducted within the construction boundaries of the intakes, tunnel shafts, tunnel alignments, power lines, access roads and bridges, railroads, and levees. For Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, they would also be conducted at the pumping plant and the entire Southern Complex on Byron Tract and west of Byron Highway. For Alternative 5, they would also be conducted at the Bethany Reservoir Pumping Plant and associated Surge Basin and aqueduct, and the Bethany Reservoir Discharge Structure. The methods for soil borings and CPTs are as described in Section 3.15.1.1, *Soil Borings and Cone Penetration Tests*.

The information collected would be used to develop detailed design of the structure and bridge foundations, new or modified levee cross sections, ground improvement methodology; and to determine selection of tunnel boring machine methods, dewatering methods and quantities, below-grade construction methods (such as at the shafts and the pumping plant), need for impact pile driving, and methods to reduce ground settlement risk at all construction sites and along the tunnel alignment. The information would also be used to determine the specific depths and widths of groundwater cutoff walls to be installed at select construction sites.

Soil samples obtained during soil borings also would be analyzed to determine the structural capabilities of the soil and/or RTM to construct tunnel shaft pads, levee improvements, and the Southern Forebay embankments. Soil and water quality tests would be conducted to determine the potential for the presence of high concentrations of metals, organic materials, or hazardous materials that would require specific treatment and/or disposal methods.

Bethany Fault Study

The Bethany Fault Study would apply only to Alternative 5 on the Bethany Reservoir alignment. Electrical resistivity tomography (ERT) would be used to characterize subsurface soil characteristics above the proposed Bethany Reservoir Aqueduct tunnels. ERT involves “a linear array of removable small steel electrodes (approximately 0.5 inches in diameter by 8 inches long) driven into the ground approximately every 10 feet over several hundred feet to induce a low current in the ground, while a small readout unit provides the measurements” (California Department of Water Resources 2020b:17).

Groundwater Testing and Monitoring

A test well for pumping tests would be installed at each tunnel shaft and at each intake. At each intake, a surface water gage would be installed to track the elevation of the adjacent river for use in analysis of the results. For the tunnel alignment, it is assumed that vibrating wire piezometers would be installed in boreholes drilled along the tunnel alignment at a frequency of, on average, every third borehole, or approximately every 3,000 feet. Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c

would also include two test wells at the Southern Complex. Alternative 5 would include two test wells to be installed at the Bethany Reservoir Pumping Plant and Surge Basin, and at each of the two planned tunneled sections of the Bethany Reservoir Aqueduct.

Monitoring well and test well installation methods are described in Section 3.15.1.2, *Groundwater Testing and Monitoring*. The groundwater monitoring program would be implemented to determine the seasonal variations in groundwater elevations, the constituents of the groundwater (including the nature and presence of dissolved gas), and the interrelation between groundwater and surface water levels for several years before construction. It is assumed that the groundwater monitoring program would be conducted partially using remotely monitored instrumentation and partially by on-site personnel.

Test Trenches

Test trenches approximately 30 feet long, 3 feet wide, and 10 feet deep would be implemented at all the facilities to confirm near-surface soils and to investigate potential buried magnetic anomalies. Trenches would be immediately backfilled following observations of the soil conditions encountered in the trench.

Monument Installation

Metal survey monuments would be installed at all construction sites and approximately every mile along the tunnel alignments to allow the remote monitoring of surface elevations prior to the start of construction, during construction, and during operations. Monuments would be approximately 10 feet by 10 feet base and 3 feet high to be of adequate size to be visible from satellite-based Interferometric Synthetic Aperture Radar (inSar) used for remote monitoring. Concrete foundations would be installed for the monuments and the monuments would be left in place for the duration of construction. It is assumed that periodic monitoring of survey monuments would be conducted by security and on-site personnel.

3.15.2.2 Geotechnical Pilot Studies for Settlement

Site-specific pilot studies would be conducted to test the geotechnical response to placement of fill at tunnel shaft sites. For Alternatives 1, 2a, 2b, and 2c, pilot studies are proposed test fills at New Hope Tract (central alignment location), Staten Island, Bouldin Island, Mandeville Island, and Bacon Island. For Alternatives 3, 4a, 4b, and 4c, pilot studies would be conducted at New Hope Tract (eastern alignment location), Canal Ranch Tract, Terminous Tract, King Island, Lower Roberts Island, and Upper Jones Tract (eastern alignment location). For Alternative 5, pilot studies are proposed at New Hope Tract (eastern and Bethany Reservoir alignments location), Canal Ranch Tract, Terminous Tract, King Island, Lower Roberts Island, Upper Jones Tract (Bethany Reservoir alignment location), and Union Island.

Test fills would be within the construction boundaries of the project and, where feasible, within or adjacent to the shaft pad sites. The test fills would be approximately 10 feet high and roughly 1,000 square feet in base area. The material would be purchased from a commercial enterprise that provides soil. The studies would include the installation of inclinometers, piezometers, and borehole extensometers within soil borings, as well as settlement plates buried within the fill, to verify estimates of consolidation and lateral spreading of pad fills in peat and soft soils.

Additional soil borings and CPTs would be completed within and adjacent to the test fill areas prior to their placement. Inclinometers and extensometers would be installed in holes drilled within and adjacent to the test fills. It is assumed that management of the pilot studies would be conducted by on-site personnel.

3.15.2.3 Validation of Ground Improvement Methods

Ground improvement would likely consist of a combination of excavation of unsuitable soils and replacement with compacted suitable fill material, surcharging to induce consolidation before final construction, and *in situ* techniques such as deep mechanical mixing (DMM) method to mix amendments (such as cement) into the foundation to add strength and resistance to liquefaction, including the installation of a grid of DMM soil shear walls with cement under the footprints of large structures. Final site-specific methods would be determined through geotechnical investigations and test installations, especially on land with substantial deposits of peat and loose or soft soils. These investigations would include trial mix and DMM construction programs to confirm appropriate area and volume replacement ratios, desired cement content, and testing to confirm *in situ* strength and lateral extent.

For Alternatives 1, 2a, 2b, and 2c, these activities are proposed at New Hope Tract (central alignment location), Staten Island, Bouldin Island, Mandeville Island, and Bacon Island. For Alternatives 3, 4a, 4b, and 4c, investigations are proposed at New Hope Tract (eastern alignment location), Canal Ranch Tract, Terminous Tract, King Island, Lower Roberts Island, Upper Jones Tract (eastern alignment location), and Byron Tract. For Alternative 5, these activities are proposed at New Hope Tract (eastern and Bethany Reservoir alignments location), Canal Ranch Tract, Terminous Tract, King Island, Lower Roberts Island, Upper Jones Tract (Bethany Reservoir alignment location), and Union Island.

3.15.2.4 Pile Installation Methods at the Intake Locations

The intake locations would include the construction of temporary in-river cofferdams. The cofferdams would employ the use of interlocking steel sheet piles. Pilot studies would be conducted to test pile installation and possible acoustic mitigation measures in the river at one intake site along the Sacramento River. The studies would include use of equipment to monitor vibrations in air and water and noise while test driving a variety of a pile types using vibratory and driving methods to validate rates and penetration depths. Noise associated with vibratory pile driving is considerably lower than noise associated with impact hammer pile driving. Additionally, CPTs would be performed in the river from a barge to determine the *in situ* density of the soils prior to, during, and after test pile installation.

3.15.2.5 Vibratory Testing of Dynamic Properties

Vibratory testing of dynamic properties of peat would be conducted in the Delta for validation of peat soil response during earthquakes. This would include continuation of previous studies in the Delta, including those on Sherman Island (Reinert et al. 2014), or additional peat studies at up to two sites at Bouldin Island, Lower Roberts Island, or Byron Tract for Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c or at Lower Roberts, Upper Jones Tract, or Union Island for Alternative 5.

3.15.2.6 Location of Buried Groundwater and Natural Gas Wells

Desktop surveys of documented wells would be conducted and would include research of historical topographical mapping that may document the presence of wells that were not identified in the State of California oil and gas database, as maintained by California Department of Conservation (previously known as DOGGR, and now known as CalGem [Geologic Energy Management Division]). A field test program would be used to evaluate the suitability of various geophysical techniques to detect buried and abandoned wells.

To identify and/or confirm the location of well casings, including wells that have not been identified in the published database, the use of wide-area airborne methods (drone, helicopter, and/or fixed-wing aircraft) to conduct magnetic surveys followed by more site-specific walk- or tow-over ground-based magnetic surveys is assumed. These surveys would be conducted at intake and tunnel shaft locations, along tunnel alignments, and at the Bethany Complex to identify buried groundwater and natural gas and oil wells. Surface geophysical surveys would also be conducted at these locations. The locations of identified wells would be evaluated to determine methods to abandon, relocate, or avoid the wells.

3.15.2.7 West Tracy Fault Study

Up to six test trenches (up to approximately 1,000 feet long, 3 feet wide, and 20 feet deep) would be excavated along a line running from the southeast of Byron to the southeast of Clifton Court Forebay to further investigate the nature and location of the West Tracy Fault between the town of Byron and the area southeast of the forebay. The trenches would remain open for up to 6 weeks, depending on the findings, and would be backfilled completely upon the completion of observation of soil conditions within the trench.

In addition to the test trenches, two arrays of surface geophysical surveys would be completed before, and along the alignment of, the excavation of the test trenches. Geophysical surveys would consist of noninvasive techniques that could be used to provide information on subsurface geologic conditions and anomalies, such as buried casings or abandoned wells. Seismic refraction/reflection techniques would be used at each of the two linear sites, referred to as geophysical arrays.

CPTs and soil borings would also be conducted. Select soil samples from the test borings would be subjected to age-dating laboratory testing.

3.15.2.8 Agronomic Testing

If field investigations described above indicate it is warranted, additional agronomic testing would be conducted. Agronomic testing would include investigations and testing of compacted soil rehabilitation methods and rehabilitation treatments for establishing agricultural crop or native grass species. Agronomic testing would validate the reuse assumptions prior to reclamation of disturbed areas based on representative samples and likely tunneling conditioners. This pilot-scale testing would be used to refine program-level approaches and strategies for RTM stockpiling and reuse.

3.15.2.9 Utility Potholing

Utility potholing, utilizing either a vacuum excavator or a backhoe, would be conducted to confirm locations of existing utilities such as public and residential utilities, surface water diversions, and

agricultural drainage features. Utility potholing would be conducted at locations near the intakes, underground SCADA and power corridors, road and bridge modifications including intersections, tunnel shaft sites, and at utility crossings along the tunnel alignment. For Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, utility potholing would also be conducted at the Southern Complex. For Alternative 5, utility potholing would also be conducted at Union Island, Bethany Reservoir Pumping Plant and Surge Basin, the Bethany Reservoir Aqueduct, the Bethany Reservoir Discharge Structure, the raw water feed from the Skinner Fish Facility, and at new road and road widening locations. The investigations would be conducted within the construction boundaries of the project.

The investigations would include vacuum or backhoe excavations, followed by noninvasive surface field surveys. Some features would not require utility potholing and would be located using only noninvasive surface field surveys.

3.15.3 Investigations during Construction Phase

If DWR determines after completion of the CEQA process to approve the proposed project or project alternative, the following activities would be conducted after the start of construction. These activities are primarily related to the installation of monitoring equipment, such as inclinometers, confirmatory sampling for areas of ground improvement, and investigations related to evaluation of changes in anticipated conditions or alternative contractor means and methods. These activities would also address USACE Section 408 and CVFPB requirements for monitoring through construction. Geotechnical investigations or the installation of monitoring equipment would be conducted within the first 2 years following the start of construction.

3.15.3.1 Soil Boring and Cone Penetration Tests

Soil boring and CPT investigations during construction would occur in the same locations as described in Section 3.15.2.1, *Investigations at Facility Locations*. These geotechnical investigations would generally be conducted within the first 2 years of the proposed construction period, including during the period when ground improvement activities would be conducted, although they could extend throughout the duration of construction and commissioning to account for delayed starts and to resolve disputes. These investigations could be conducted at any location within the construction boundaries and would also be used to confirm the suitability of construction means and methods planned by the contractor.

3.15.3.2 Construction Monitoring

Monitoring for Ground Movement during Construction

Inclinometers and extensometers would be installed in vertical borings along levees at the intakes, along the tunnel alignment and at tunnel shafts. For Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, they would also be installed at Bouldin Island (central alignment), Lower Roberts Island (eastern and Bethany Reservoir alignments), and Byron Tract; and along levees near bridge improvements along Hood-Franklin Road over Snodgrass Slough, SR 12 over Little Potato Slough, access road to Mandeville Island over Connection Slough, access road to Lower Roberts Island over Burns Cut and Turner Cut; the bridge across the California Aqueduct near Byron Highway, and at the Southern Complex. For Alternative 5, they would also be installed at King Island, Lower Roberts Island, Upper Jones Tract, Victoria Island, Union Island, and Coney Island; and along levees near bridge

improvements along Hood-Franklin Road over Snodgrass Slough, the access road to Lower Roberts Island over Burns Cut and Turner Cut, and at Bethany Complex.

No instrumentation is assumed at the new levees, while inclinometers are planned at 1000-foot centers along areas of levee improvements. Tilt meters, settlement plates, and survey monuments would be installed at all construction sites and approximately every mile along the tunnel alignment.

Groundwater Monitoring

Where groundwater monitoring wells were installed before construction, they could continue to be used during and following construction. Additional groundwater monitoring wells would be installed during construction if permanent easements or land ownership were not acquired before construction, or if initial monitoring results indicated the need for more detailed information related to groundwater elevation or water quality. It is anticipated that the groundwater monitoring locations would be located at the intakes, tunnel shafts, access roads. For Alternatives 1, 2a, 2b, 2c, 3, 4a, 4b, and 4c, monitors would also be located at the Southern Complex on Byron Tract and west of the Byron Highway. For Alternative 5, monitors would also be located at Bethany Complex. For all alternatives, monitoring wells would be located approximately every 2 miles along the tunnel alignment between shafts. It is assumed that the groundwater monitoring program would be conducted partially using remotely monitored instrumentation and partially by on-site personnel.

Location of Buried Groundwater and Natural Gas Wells

Land surveys, drilling, and trenching would be used at all intake and tunnel shaft locations, along tunnel alignments, and at the Bethany Complex or the Southern Complex to identify and abandon buried groundwater and natural gas and oil wells before and during construction.

3.16 Intake Operations and Maintenance

The proposed north Delta intakes would operate in conjunction with the existing SWP and potentially CVP intakes in the south Delta for all alternatives. Operations of the existing SWP facilities, and in coordination with CVP operations pursuant to the Coordinated Operations Agreement, will be governed by the applicable regulatory requirements specified under the State Water Board *Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary* (Bay-Delta WQCP) and assigned to the SWP in the applicable water right decision, applicable biological opinions under ESA, applicable incidental take permit under CESA, and USACE Clifton Court diversion limits. The operations of the proposed north Delta intakes would remain consistent with these existing regulatory requirements. The proposed project is seeking a new point of diversion, and is not seeking to expand water right quantity. In addition, diversions at the proposed north Delta intakes would be governed by new operational criteria specific to these intakes, such as the fish screen approach velocity requirements, bypass flow requirements, and pulse protection. These new criteria provide additional protections to the fish species over and above the protections from the state-of-the-art positive barrier fish screens included at the proposed intakes. Following the narrative description of proposed operations in Sections 3.16.1 through 3.16.6, a detailed table describing the proposed operational criteria is provided (Table 3-14). Additional detail for the proposed north Delta intakes is provided in Table 3-15 in Section 3.16.7, *Delta Conveyance Project Preliminary*

Proposed Operations Criteria. Also, in Section 3.16.7, Figure 3-37 provides a visual depiction of maximum allowable diversions in winter/spring and expected diversions in summer/fall. Figure 3-38 provides a depiction of the north Delta diversion operations concepts to minimize potential effects to aquatic species.

3.16.1 New Operational Criteria for the Proposed North Delta Intakes

Several new operational criteria would govern the diversions at the proposed north Delta intakes to minimize the near-field and the far-field effects of the intake operations.[5] The following criteria aim to minimize effects of the proposed intake operations on fish passage, survival in the intake reach, and through-Delta survival of migrating fish.

- Approach and sweeping velocity requirements at the intake fish screens
- North Delta diversion bypass flow requirements
- Pulse protection
- Low-level pumping

3.16.1.1 Approach and Sweeping Velocity Requirements

Approach velocity is the velocity of water moving perpendicular to the screen surface, while sweeping velocity is the velocity of water moving parallel to and past the screens. The instantaneous diversions at the proposed intakes would be subject to fishery agency velocity criteria: currently a maximum approach velocity of 0.2 feet per second (per U.S. Fish and Wildlife Service [USFWS] criteria for delta smelt). In addition, the Delta Conveyance Project would also include a minimum sweeping velocity of 0.4 feet per second (informed by real-time flow and river stage/cross-sectional area data downstream of the proposed screened intake facility) to further minimize near-field effects of the intake operations, consistent with fish agency criteria. Recognizing that the proposed intake facilities operate in a tidally influenced environment, these criteria are designed to reduce potential effects on the subset of fish exposed to the intake screens. The low approach velocity is intended to minimize effects associated with screen contact (e.g., impingement), while the sweeping velocity facilitates passage of fish and debris past the intakes. Refinements to these criteria would be considered through ongoing fish agency coordination as well as through real-time operations and adaptive management.

3.16.1.2 Bypass Flow Requirements

Bypass flow is the 3-day tidally averaged flow remaining in the Sacramento River immediately downstream of the proposed north Delta intakes computed as flow measured at Freeport minus the diversion rate. The objectives of the north Delta diversion bypass flow criteria include regulation of diversions to minimize survival changes for emigrating salmonids in the intake reach, as well as through-Delta, and minimize the potential for upstream movement of fish with flow at two points of control: (1) Sacramento River upstream of Sutter Slough, and (2) Sacramento River downstream of

[5] Near-field effects are those occurring in close proximity to intake screens, for example, entrainment or impingement; far-field effects are those occurring farther from intakes, for example, reduced survival because of less flow in the Sacramento River downstream of the intakes.

Georgiana Slough. These points of control are used to minimize the potential for upstream advection toward the proposed intakes and to minimize upstream advection into Georgiana Slough.

To ensure that these objectives are met, the bypass flow requirements are designed to reduce diversions at the proposed intakes at certain times of the year (more restrictive from December through June) when the majority of listed fish are present. The bypass flow requirements are calculated based upon Sacramento River inflows at Freeport and vary progressively with increasing inflows.

From December through June, three levels (Levels 1, 2, and 3) of bypass flow requirements are proposed, with Level 1 being the most restrictive and Level 3 being the least restrictive of the diversions at the proposed intakes. If high Sacramento River inflows occur for long durations, the bypass flow requirement can transition from Level 1 to Levels 2 and 3. To illustrate the effect of the bypass rules on the volume of Sacramento River flow that may be diverted, Table 3-15, Sub-Table A, shows the allowable north Delta diversions by month for each level, based on Sacramento River inflows at Freeport. The Level 1 bypass requirement would apply until the occurrence of 15 total days of bypass flows above 20,000 cfs. Following that, the Level 2 bypass flow requirement would apply. Level 2 would govern the allowable diversions until the occurrence of 30 total days of bypass flows above 20,000 cfs. At this point, the Level 3 bypass flow requirement would apply.

From July through September, the bypass flow requirement of at least 5,000 cfs in river after diverting at the north Delta intakes would apply. From October through November the minimum bypass flow requirement of at least 7,000 cfs in river after diverting at the north Delta intakes would apply.

3.16.1.3 Pulse Protection

Pulse protection is initiated when a large number, and relatively high concentration, of winter-run-sized juvenile salmonids begin migrating into the Delta from upstream locations. Pulse protection helps further minimize potential decreases in survival for emigrating salmonids in the intake reach, as well as through-Delta, and minimize the potential for upstream advection of fish, further enhancing the protections offered by the bypass flow requirements.

A pulse flow is a natural occurrence typically caused by the first runoff event(s) of the season. Monitoring data suggests that these winter run-off events (e.g., as indicated by sharp increases in Wilkins Slough flows, located upstream of the confluence of the Feather and Sacramento Rivers) are often associated with large numbers of juvenile, winter-run-sized salmonids, moving from natal upstream locations into lower Sacramento River reaches and the Delta (del Rosario 2013). When the pulse protection operation is triggered, bypass flow (and co-occurring fish) would be further protected by operating the north Delta intakes to the low-level pumping rules (Section 3.16.1.4, *Low-Level Pumping*).

If the pulse period begins before December 1, bypass criteria for that month (Section 3.16.1.2, *Bypass Flow Requirements*) would be implemented following the pulse period; and the second pulse period would have the same protective operation as the first pulse period, resulting in up to two pulse protection periods per water year.

The initiation and ending of pulse protection is defined by the following criteria: (1) increase in flow of the Sacramento River at Wilkins Slough by more than 45% within a 5-day period, and (2) Sacramento River flows greater than 12,000 cfs measured at Wilkins Slough. Low-level pumping

would continue until (1) Wilkins Slough returns to pre-pulse flows (flow on first day of the 5-day increase), (2) Sacramento River at Wilkins Slough flows decrease for 5 consecutive days, or (3) bypass flows are greater than 20,000 cfs for 10 consecutive days. Up to two pulse protections are proposed.

3.16.1.4 Low-Level Pumping

Low-level pumping of up to 6% of total Sacramento River flow at Freeport such that diversions would not reduce bypass flow below 5,000 cfs. No more than 900 cfs (total) can be diverted by all the intakes combined. Low-level pumping can occur in October through November during a pulse protection event. It can also occur in December through June during a pulse protection event or if the bypass flow rules defined in Table 3-15 result in less diversion than the low-level pumping. In addition, north Delta diversion levels at all the intakes would be subject to a maximum approach velocity of 0.2 feet per second and a minimum sweeping velocity of 0.4 feet per second at the proposed fish screens. Velocity compliance would be informed by real-time hydrological data measured at the intakes.

3.16.2 Key Existing Delta Operations Criteria

Operations of the existing facilities will be governed by the applicable existing and relevant future regulatory requirements. The operations of the proposed north Delta intakes would remain consistent with these existing regulatory requirements.

3.16.2.1 Old and Middle River Flows

The Old and Middle River (OMR) flow criteria chiefly serve to constrain the magnitude of reverse flows in the Old and Middle Rivers to limit fish entrainment into the south Delta. The OMR criteria defined in the regulatory baseline (currently 2019 BiOps and 2020 SWP ITP) are applicable. Key OMR criteria under the current BiOps and SWP ITP are listed in Table 3-14.

3.16.2.2 Delta Cross Channel Gate Operations Criteria

The operational criteria for the Delta Cross Channel are as specified in the regulatory baseline, which is currently State Water Board Water Right Decision 1641 (D-1641), with additional days closed from October 1 through January 31 based on the 2019 NMFS BiOp (closed based on fish migration from October 1 through December 14 unless water quality conditions are adverse).

- **October–November.** Delta Cross Channel gates closed if fish are present.
- **December–May.** Delta Cross Channel gates closed.
- **June–September.** Delta Cross Channel gates open.

3.16.2.3 Rio Vista Minimum Instream Flow Criteria

Rio Vista minimum instream flow criteria are as specified in the regulatory baseline (currently State Water Board D-1641).

- **September–December.** Operate in accordance with State Water Board D-1641.

3.16.2.4 Delta Outflow Criteria

Delta outflow criteria are as defined in the regulatory baseline, which include the State Water Board D-1641, 2019 BiOps, and 2020 SWP ITP (Table 3-14).

- **Spring outflow.** As defined in the regulatory baseline (currently 2020 SWP ITP).
- **Summer and Fall Habitat Actions.** Same as 2019 BiOps and 2020 SWP ITP requirements.
    - **Outflow.** State Water Board D-1641 and for summer/fall delta smelt habitat operate to meet X2 of 80 kilometers for September and October of above normal and wet years with transitional flows in last half of August; considered as In-Basin Use and shared according to Coordinated Operating Agreement Article 6(c).
    - **Suisun Marsh Salinity Control Gates (SMSCG) Action.** In wet (if needed), above normal, below normal, and dry years following wet and above normal years (conditioned on successful carryover of water from 100 thousand acre-feet [TAF]), operate SMSCG for 60 days; in dry years following below normal years operate SMSCG for 30 days.
    - **Additional 100 TAF of Delta Outflow.** Same as 2020 SWP ITP requirements. A flexible block of water provided by SWP in wet and above normal years. Can be used in wet or above normal years to enhance Delta outflow or carried over to the following year, but subject to spill.

Delta outflow requirements established under D-1641 will be followed unless the outflow requirements are greater under the criteria listed above.

3.16.2.5 Export to Inflow Ratio

Export to inflow (E:I) ratio requirements specified in State Water Board D-1641 are applicable. In computing the E:I ratio, the Sacramento River inflow is measured at Freeport upstream of the proposed north Delta intakes and diversions at north Delta intakes are included in the total exports calculation.

3.16.3 Integration of North Delta Intakes with South Delta Facilities

The north Delta intakes would operate in conjunction with the existing south Delta intakes. The proposed intakes would augment the ability to capture excess flows and improve the flexibility of the SWP operations such as for meeting the State Water Board D-1641 Delta salinity requirements. The Delta Conveyance Project would not change operational criteria associated with upstream reservoirs. Upstream of Delta facilities will continue to be operated to meet regulatory, environmental, and contractual obligations consistent with existing operations. The Delta Conveyance Project is not proposing to increase the total quantity of water permitted for diversion under existing DWR water rights. The following text describes the proposed dual conveyance operations.

During the winter and spring, when there are excess flows in the system:

- The SWP and potentially CVP would first use south Delta facilities to export water up to what is permitted under the existing water rights and all applicable state and federal law and regulations.

- The north Delta intakes would be used to capture additional excess flows when the south Delta exports are limited and not able to capture those flows.
- Shifting from south Delta intakes to proposed north Delta intakes has trade-offs and is not expected unless there is an operational advantage to do so at DWR's discretion under limited circumstances (e.g., to provide additional real-time south Delta fish protections, to reduce salinity at Jersey Point) See Appendix 4B, *North Dleta Diversion Priority Sensitivity Analysis*, for the analysis of whether this type of operational flexibility would change the types of impacts disclosed in the main body of the EIR.
- There would likely be conditions where diversions through the proposed north Delta intakes are not maximized even when the bypass flow requirements would allow greater diversions. Examples could be when other operational criteria are controlling or when south-of-Delta storage is full.

During the late spring, summer, and fall, when the SWP are typically operating to meet State Water Board D-1641 salinity requirements in the Delta:

- Both the existing south Delta intakes and the proposed north Delta intakes would be operated together to meet the State Water Board D-1641 salinity requirements.
- Some level of combined SWP and CVP south Delta exports would be needed to manage salinity in the Old River and Middle River corridor. If the combined SWP and CVP south Delta exports are less than 3,000 cfs, SWP water would not be moved through the proposed north Delta iintakes.
- The south Delta exports and the north Delta diversions would be balanced and adjusted to meet the State Water Board D-1641 salinity requirements at the western Delta stations on the Sacramento and San Joaquin Rivers (e.g., increasing salinity at Jersey Point would cause a shift in diversions from south Delta to north Delta, whereas increasing salinity at Emmaton would cause a shift from north Delta to south Delta). This operation is expected to result in a more efficient system operation where less water would be required to meet the same water quality standards and result in additional water that could either remain in storage or be exported.
- Upstream SWP storage operations would continue to be managed to the existing and future regulatory and contractual obligations of the SWP in determining the amount of stored water available for exports. DWR would not increase storage withdrawal for exports even though the proposed Delta Conveyance Project may provide additional diversion capacity. The only exception would be to divert any stored water that was a result of a more efficient system operation because of the proposed Delta Conveyance Project. The upstream storage would be managed such that the benefit of the stored water is the same for all SWP contractors whether they choose to participate in the Delta Conveyance Project or not (Section 3.22).

3.16.4 Use of North Delta Intakes for Wheeling

Under State Water Board D-1641 (December 1999, revised March 2000), Reclamation and DWR are authorized to use and exchange existing south diversion capacity between the SWP and CVP to enhance the beneficial uses of both projects. The sharing of the SWP and CVP export facilities is referred to as Joint Point of Diversion (JPOD). In general, JPOD capabilities are used to accomplish the following four objectives.

- When wintertime excess pumping capacity is available during Delta excess conditions, and total SWP and CVP San Luis Reservoir storage is not projected to fill before the spring pulse flow period, the project with the deficit in San Luis Reservoir storage may elect to use JPOD capabilities.
- When summertime pumping capacity is available at the Banks Pumping Plant and CVP reservoir conditions can support additional releases, the CVP may elect to use JPOD capabilities to enhance annual CVP releases for south-of-Delta water supplies.
- When summertime pumping capacity is available at the Banks or Jones Pumping Plants to facilitate water transfers, the JPOD may be used to further facilitate the water transfer.
- During certain coordinated SWP and CVP operation scenarios for fish entrainment management, the JPOD may be used to shift SWP and CVP exports to the facility with the least fish entrainment impact and minimize exports at the facility with the most fish entrainment impact.

The term *wheeling* means the transmission of water owned by one entity through the facilities owned by another entity, in this case CVP water wheeled through the SWP north Delta intakes. Wheeling through JPOD Stage 1 and Stage 2[6] would not be allowed through the proposed north Delta intakes as part of the proposed project. In general, if conveyance capacity is available, wheeling[7] for CVP may be allowed subject to appropriate environmental review, permitting, and compensation.

Water transfers are voluntary actions proposed by willing buyers and sellers. DWR is one of several public agencies involved in approval and management of proposed water transfers that use SWP facilities. Because DWR's jurisdiction is limited to water transfers involving the Delta export facilities of the SWP, it has limited involvement in the statewide water transfer market.

Although the Delta Conveyance Project is not proposed specifically to accommodate water transfers, new Delta conveyance facilities could provide the ability for water transfers to occur through the facility by providing increased capacity. Related, DWR and other public agencies must allow bona fide transferors use of up to 70% of the unused capacity of a public conveyance facility in exchange for fair compensation.[8] The project can potentially (1) add additional export capacity if current facilities are limited and/or (2) provide additional efficiency in moving water transfers across the Delta by potentially lowering the required carriage water to export the transfer supplies. Because of this potential, and the likely demand to use the project's conveyance capacity for future water transfers, this section and Appendix 3H, *Non-Project Water Transfer Analysis for Delta Conveyance*, analyze post-processed CalSim 3 results to identify available export capacity for water transfers with current facilities and increased available export capacity with the project if existing facilities are limited. In addition, these post-processed CalSim 3 results are compared with other transfer

[6] The State Water Resources Control Board (State Water Board) Water Right Decision 1641 (D-1641) establishes three stages under which Joint Points of Diversion (JPOD) can be used by either DWR or the Reclamation for diversions of Delta water supplies at the SWP Banks Pumping Plant and CVP Tracy Pumping Plant (now called Jones Pumping Plant), respectively. Stage 1 allows JPOD use for selected purposes including the recovery of export reductions taken to benefit fish. Stage 2 allows JPOD use for any authorized purpose up to the current regulatory capacity of these facilities. Stage 3 allows JPOD use up to the physical capacity of these facilities authorized under their water right permits.

[7] The provisions of California Water Code Section 1810 outline the conditions under which wheeling can occur.

[8] Water Code Section 1810 *et seq*.

information such as (1) regulatory limitations, (2) supply limitations, and (3) historical water transfers. Of note, the proposed project does not include water transfers.

The analysis presented in Appendix 3H concluded that there is more than sufficient available export capacity for water transfers in all water year types with the current facilities. Maximum historical water transfers in each water year type were less than the permitted annual volumes. In below normal years, when there is greater demand for water transfers, historical data shows there was still sufficient available export capacity even after water transfers were exported. The analysis in Appendix 3H also describes conveyance of transfers with the new Delta Conveyance Project facilities. The use of the project facilities for water transfers, and a potential change in carriage water volumes, would result in minimal effects on Delta water quality relative to current operations. Carriage water as part of the water transfer is required to maintain water quality conditions in the Delta, as measured by salinity; thus, Delta water quality would be the same as without the water transfer. Therefore, the project is unlikely to increase the amount of water transfers or substantially change Delta water quality because the current capacity is not fully utilized.

3.16.5 Intake Maintenance Activities

Maintenance activities at the intakes would be conducted at varying frequencies. Daily maintenance activities would include inspections, security checks, and operations oversight. Less frequent maintenance activities include operability testing, cleaning, sediment removal, dewatering, and repaving.

The cylindrical tee fish screens and panels would be regularly inspected and maintained by manual cleaning to remove algae and other biofouling not cleaned by the automatic cleaning system. The screens would be raised out of the water and power washed with a high-pressure power washer approximately every 6 months. Sediment jetting the apron area below the screens at the base of the screen structure in the water to help keep sediment from accumulating would occur hourly or daily, depending on needs. A diver would inspect the screens and panels while in place and operating once or twice per year, often in conjunction with manual screen cleaning activities.

The debris fender at the upstream end of the log boom and the log boom would require maintenance to prevent corrosion and related deterioration. Debris would be removed manually from the top deck of the structure, by workers on boats, or by divers.

Sedimentation basins would be dredged once per year using a portable floating hydraulic suction dredge. Dredging would occur during summer months (assumed to be May through September) to maximize natural drying in the sediment drying lagoons. The dredge would discharge a sediment slurry into the sediment drying lagoons. The drying lagoons would include an outlet structure with an adjustable weir to decant water off the top of the sediment slurry and underdrains to transport water from beneath the dredged sediment. Decant and underdrain water would be pumped back into the sedimentation basin. It is expected that it would take about 2 days to fill each sediment drying lagoon, and 6 to 8 days to fill all four lagoons. The sediment is anticipated to be large silt and sand particles with minimal organic material. Once dry, the sediment would be trucked off-site for disposal at a permitted disposal site or for beneficial uses. The fill and drain/dry sequence would take about 7 to 9 days, which would approximately match the dredged material filling rate so continuous, or nearly continuous, operation would be possible.

Minor vegetation management would be conducted at least monthly along the side slopes of the basins to keep them free of unwanted growth. Minor debris collection would be conducted continually.

Since the basin embankments would be the jurisdictional flood control levee, the levee side slopes and outside of the toe area would be inspected and maintained in full conformance with the CVFPB and USACE requirements. These requirements would include routine inspection and repair of all bulges, leaks, erosion, or other damage as soon as possible after detection.

3.16.6 Pump Maintenance Activities

Maintenance diversions may be necessary throughout the year to perform routine maintenance and testing of the main water supply pumps at the South Delta Pumping Plant or at the Bethany Reservoir Pumping Plant (Alternative 5 only) on approximately a monthly basis. The maintenance flow diversion rate is assumed to be one-half of a pump's rated capacity for one day per month per unit (up to a maximum of 480 cfs, depending on the alternative, conditions, and need). At all times, diversions will not reduce bypass flow below 5,000 cfs. Maintenance diversions would also be subject to meeting the approach and sweeping velocity criteria as defined in Section 3.16.1.1, *Approach and Sweeping Velocity Requirements*. Maintenance diversions will likely occur only when the north Delta intakes have not been operated for extended periods of time.

3.16.7 Delta Conveyance Project Preliminary Proposed Operations Criteria

A detailed table describing the proposed operational criteria[9] is provided in Table 3-14, and additional detail for the proposed north Delta intakes is provided in Table 3-15. Figure 3-37 provides a visual depiction of maximum allowable diversions in winter/spring and expected diversions in summer/fall. Figure 3-38 provides a depiction of the north Delta diversion operations concepts to minimize potential effects to aquatic species.

[9] In addition to the operational criteria developed for the north Delta intakes, routine maintenance and testing of the main water supply pumps is described in Section 3.16.6, *Pump Maintenance Activities*.

Table 3-14. Delta Conveyance Project Preliminary Proposed Operations Criteria

Parameter	Delta Conveyance Project Criteria
New Criteria	
North Delta diversion operations	• Bypass Flow [a] Criteria (specifies bypass flow required to remain downstream of the north Delta intakes): o October through November: Minimum flow of 7,000 cfs required in river after diverting at the north Delta intakes. o December through June: Once the pulse protection (see below) ends, north Delta diversions will not exceed Level 1 pumping unless specific criteria have been met to increase to Level 2 or Level 3. If those criteria are met, operations can proceed as defined in Table 3-15. Allowable diversion will be the greater of the following options: low-level pumping or the diversion allowed by the bypass flow rules in Table 3-15. o July through September: Minimum flow of 5,000 cfs required in river after diverting at the north Delta intakes. • Pulse Protection Criteria (October through June): o Low-level pumping is allowed when river conditions are adequate during the pulse protection period. ▪ Definition: Low-level pumping of up to 6% of total Sacramento River flow at Freeport such that diversions will not reduce bypass flow below 5,000 cfs. No more than a total of 900 cfs can be diverted by all the intakes combined. Low-level pumping can occur in October–November during a pulse protection event and in December–June as defined in Table 3-15. In addition, north Delta diversion levels at all the intakes will be subject to a maximum approach velocity of 0.2 feet per second and a minimum sweeping velocity of 0.4 feet per second at the proposed fish screens. Velocity compliance would be informed by real-time hydrological data measured at the intake locations. o Pulse triggering, duration, and conclusion is determined based on the criteria defined in Table 3-15. o If the initial pulse begins before December 1, the bypass flow criteria for the month (October and November) when the pulse occurred would take effect, following a pulse protection period. On December 1, the Level 1 rules defined in Table 3-15 apply unless a second pulse occurs. • Real-Time Operations: The proposed operations criteria and tidal restoration mitigation are intended to minimize and fully mitigate the potential impacts of the NDD operations. The real time decision-making specific to the NDD operations would be mainly associated with reviewing real-time abiotic and fish monitoring data and ensuring proposed weekly, daily and sub-daily operations are consistent with the permitted criteria and within the effects analyzed in the permits. See Section 3.17, *Real-Time Operational Decision-Making Process,* for additional details. • Adaptive Management: The Operations Adaptive Management and Monitoring Plan (OAMMP)will be used to evaluate and consider changes in operational criteria based on information gained before and after the new facilities become operational. This program will be used to consider and address scientific uncertainty regarding the Delta ecosystem and to inform project operations. See Section 3.18, *Adaptive Management and Monitoring* for more details.

Parameter	Delta Conveyance Project Criteria
Key Existing Delta Criteria	
South Delta operations	• Same as D-1641, 2019 BiOps and 2020 SWP ITP requirements including adult, larval, and juvenile longfin smelt protections • Adult, larval, and juvenile delta smelt protections (e.g., First Flush and Turbidity Bridge) • Winter-run/Spring-run/Steelhead Protection (discrete daily thresholds, onset of OMR, early and mid-season daily thresholds, single-year loss thresholds) • OMR Flex (storm flex) • Beginning and end of OMR protections
Head of Old River Barrier operations	Same as 2019 BiOps and 2020 SWP ITP requirements; temporary barrier is not installed.
Delta Cross Channel Gates	State Water Board D-1641 with additional days closed from October 1 to January 31 based on 2019 NMFS BiOp (closed based on fish migration from October 1 to December 14 unless adverse water quality conditions).
Spring Outflow[10]	Same as 2020 SWP ITP requirements
Additional 100 TAF of Delta Outflow	Same as 2020 SWP ITP requirements
Summer and fall habitat actions	Same as 2019 BiOp and 2020 SWP ITP requirements
Delta outflow	Delta outflow requirements established under D-1641 will be followed to the extent not superseded by criteria listed above requiring additional outflow.
Rio Vista minimum flow standard [b]	September through December: flows per D-1641
Export to inflow ratio	Operational criteria are the same as defined under D-1641; north Delta intakes proposed to be included in the export term for the E:I ratio calculation, such that combined export rate is defined as the Clifton Court Forebay inflow rate (minus actual Byron-Bethany Irrigation District diversions from Clifton Court Forebay), north Delta diversion rate, and the export rate of the Tracy pumping plant (now called Jones Pumping Plant).

BiOp = Biological Opinion; cfs = cubic feet per second; E:I = export/inflow; ITP = Incidental Take Permit; OAMMP = Operations Adaptive Management and Monitoring Plan; OMR = Old and Middle River; NDD = north Delta diversion; State Water Board = State Water Resources Control Board; TAF = thousand acre-feet.

[a] Sacramento River flow upstream of the intakes to be measured flow at Freeport. Bypass flow is the 3-day tidally averaged Sacramento River flow computed as flow measured at Freeport minus the diversion rate. Sub-daily north Delta intakes' diversion operations will maintain fish screen approach and sweeping velocity criteria.

[b] Rio Vista minimum monthly average flow in cfs (7-day average flow not less than 1,000 below monthly minimum), consistent with the State Water Board D-1641.

[10] Spring outflow requirement is an existing regulatory requirement for the SWP. In complying with this existing requirement, total SWP exports including the north Delta diversions and the existing south Delta exports will be curtailed as needed.

Table 3-15. Proposed North Delta Diversion Bypass Flow and Pulse Protection Requirements

North Delta Diversion Bypass Flow and Pulse Protection Requirements This table further details a few of the criteria for the north Delta diversion operations included in Table 3-14.
Pulse Protection Low-level pumping (see Table 3-14) will be allowed when river conditions are adequate during the pulse protection period. Initiation of the pulse protection is defined by the following criteria: (1) Sacramento River daily average flow at Wilkins Slough increase by more than 45% within a 5-day period and (2) flow on the 5th day greater than 12,000 cfs. The pulse protection continues until either (1) Sacramento River flow at Wilkins Slough returns to pre-pulse flow level (flow on first day of 5-day increase), or (2) Sacramento River flow at Wilkins Slough decreases for 5 consecutive days, or (3) Sacramento River flow at Wilkins Slough is greater than 20,000 cfs for 10 consecutive days. After pulse period has ended, operations will return to the bypass flow table (Sub-Table A). If the initial pulse period begins before Dec 1, then any second pulse that may occur during December through June will receive the same protection, i.e., low-level pumping as described in Table 3-14, resulting in up to two pulses which would receive this protection per water year.
Bypass Flow Criteria After initial pulse(s), allowable diversion will be subject to Level 1 bypass flow criteria (Sub-Table A) until 15 total days of bypass flows above 20,000 cfs occur. Then allowable diversion will be subject to the Level 2 bypass flow criteria until 30 total days of bypass flows above 20,000 cfs occur. Then allowable diversion will be subject to the Level 3 bypass flow criteria.

cfs = cubic feet per second.

Sub-Table A. North Delta Diversion Bypass Flow Criteria [a]

Level 1 Bypass Flow Criteria			Level 2 Bypass Flow Criteria			Level 3 Bypass Flow Criteria		
If Sacramento River flow is over...	But not over...	The bypass is...	If Sacramento River flow is over...	But not over...	The bypass is...	If Sacramento River flow is over...	But not over...	The bypass is...
December through April (Allowable diversion will be greater of the low-level pumping or the diversion allowed by the following bypass flow rules)								
0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs
5,000 cfs	15,000 cfs	Flows remaining after low-level pumping	5,000 cfs	11,000 cfs	Flows remaining after low-level pumping	5,000 cfs	9,000 cfs	Flows remaining after low-level pumping
15,000 cfs	17,000 cfs	15,000 cfs plus 80% of the amount over 15,000 cfs	11,000 cfs	15,000 cfs	11,000 cfs plus 60% of the amount over 11,000 cfs	9,000 cfs	15,000 cfs	9,000 cfs plus 50% of the amount over 9,000 cfs

Sub-Table A. North Delta Diversion Bypass Flow Criteria [a]

Level 1 Bypass Flow Criteria			Level 2 Bypass Flow Criteria			Level 3 Bypass Flow Criteria		
If Sacramento River flow is over...	But not over...	The bypass is...	If Sacramento River flow is over...	But not over...	The bypass is...	If Sacramento River flow is over...	But not over...	The bypass is...
17,000 cfs	20,000 cfs	16,600 cfs plus 60% of the amount over 17,000 cfs	15,000 cfs	20,000 cfs	13,400 cfs plus 50% of the amount over 15,000 cfs	15,000 cfs	20,000 cfs	12,000 cfs plus 20% of the amount over 15,000 cfs
20,000 cfs	no limit	18,400 cfs plus 30% of the amount over 20,000 cfs	20,000 cfs	no limit	15,900 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	13,000 cfs plus 0% of the amount over 20,000 cfs
May (Allowable diversion will be the greater of the low-level pumping or the diversion allowed by the following bypass flow rules)								
0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs
5,000 cfs	15,000 cfs	Flows remaining after low-level pumping	5,000 cfs	11,000 cfs	Flows remaining after low-level pumping	5,000 cfs	9,000 cfs	Flows remaining after low-level pumping
15,000 cfs	17,000 cfs	15,000 cfs plus 70% of the amount over 15,000 cfs	11,000 cfs	15,000 cfs	11,000 cfs plus 50% of the amount over 11,000 cfs	9,000 cfs	15,000 cfs	9,000 cfs plus 40% of the amount over 9,000 cfs
17,000 cfs	20,000 cfs	16,400 cfs plus 50% of the amount over 17,000 cfs	15,000 cfs	20,000 cfs	13,000 cfs plus 35% of the amount over 15,000 cfs	15,000 cfs	20,000 cfs	11,400 cfs plus 20% of the amount over 15,000 cfs
20,000 cfs	no limit	17,900 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	14,750 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	12,400 cfs plus 0% of the amount over 20,000 cfs
June (Allowable diversion will be the greater of the low-level pumping or the diversion allowed by the following bypass flow rules)								
0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs

Sub-Table A. North Delta Diversion Bypass Flow Criteria [a]

Level 1 Bypass Flow Criteria			Level 2 Bypass Flow Criteria			Level 3 Bypass Flow Criteria		
If Sacramento River flow is over...	But not over...	The bypass is...	If Sacramento River flow is over...	But not over...	The bypass is...	If Sacramento River flow is over...	But not over...	The bypass is...
5,000 cfs	15,000 cfs	Flows remaining after low-level pumping	5,000 cfs	11,000 cfs	Flows remaining after low-level pumping	5,000 cfs	9,000 cfs	Flows remaining after low-level pumping
15,000 cfs	17,000 cfs	15,000 cfs plus 60% of the amount over 15,000 cfs	11,000 cfs	15,000 cfs	11,000 cfs plus 40% of the amount over 11,000 cfs	9,000 cfs	15,000 cfs	9,000 cfs plus 30% of the amount over 9,000 cfs
17,000 cfs	20,000 cfs	16,200 cfs plus 40% of the amount over 17,000 cfs	15,000 cfs	20,000 cfs	12,600 cfs plus 20% of the amount over 15,000 cfs	15,000 cfs	20,000 cfs	10,800 cfs plus 20% of the amount over 15,000 cfs
20,000 cfs	no limit	17,400 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	13,600 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	11,800 cfs plus 0% of the amount over 20,000 cfs

Bypass flow criteria for July through November

If Sacramento River flow is over...	But not over...	The bypass is...
July through September		
0 cfs	5,000 cfs	100% of the amount over 0 cfs
5,000 cfs	No limit	A minimum of 5,000 cfs
October and November		
0 cfs	7,000 cfs	100% of the amount over 0 cfs
7,000 cfs	No limit	A minimum of 7,000 cfs

cfs = cubic feet per second.

[a] Level 1, Level 2 and Level 3 Bypass Flow Criteria do not apply July through November. Minimum Bypass Flow Criteria are applicable July through November as described in the table.

A text description of this figure is provided in Chapter 39, *Text Descriptions of Figures*

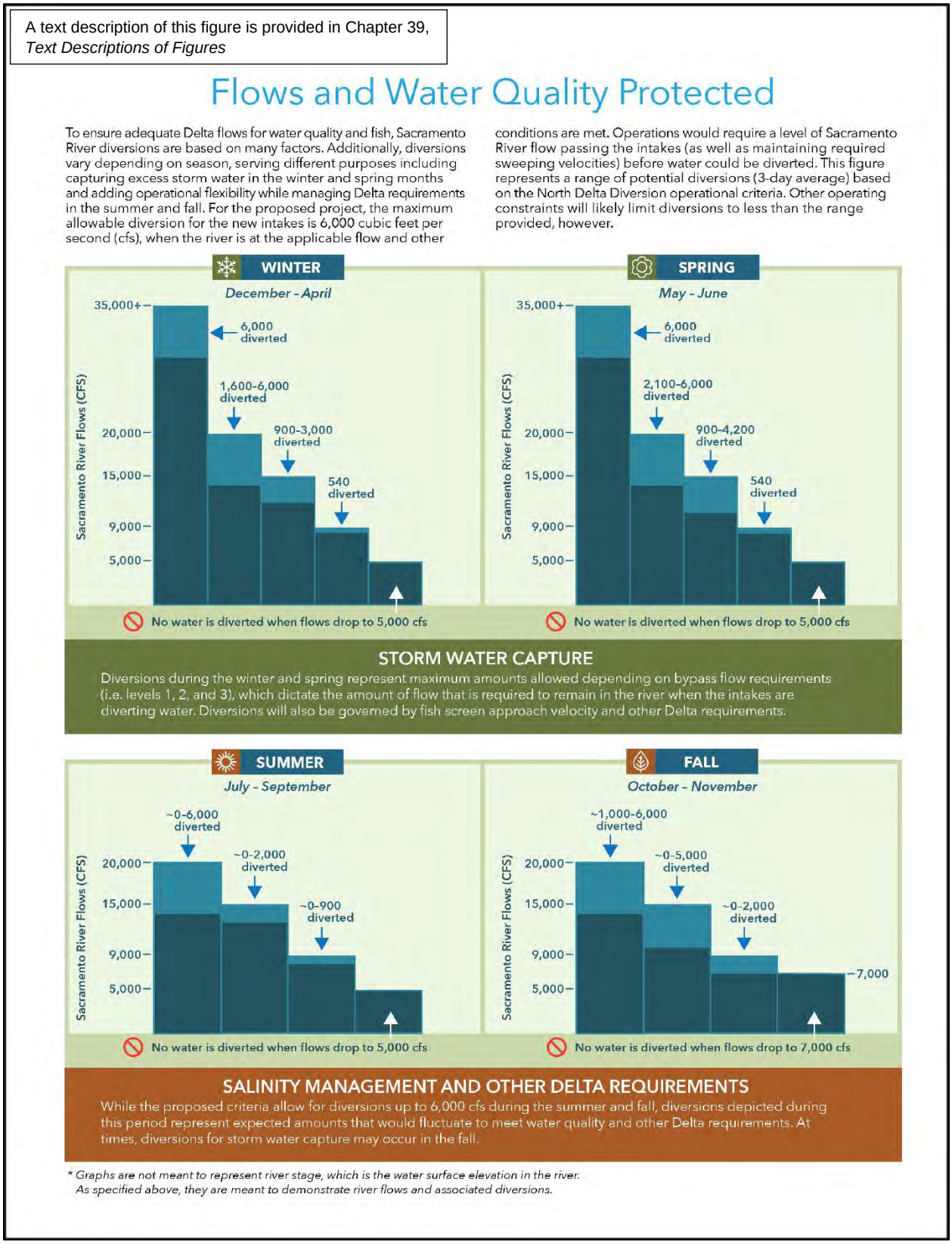


Figure 3-37. Seasonal Diversions

A text description of this figure is provided in Chapter 39, *Text Descriptions of Figures*

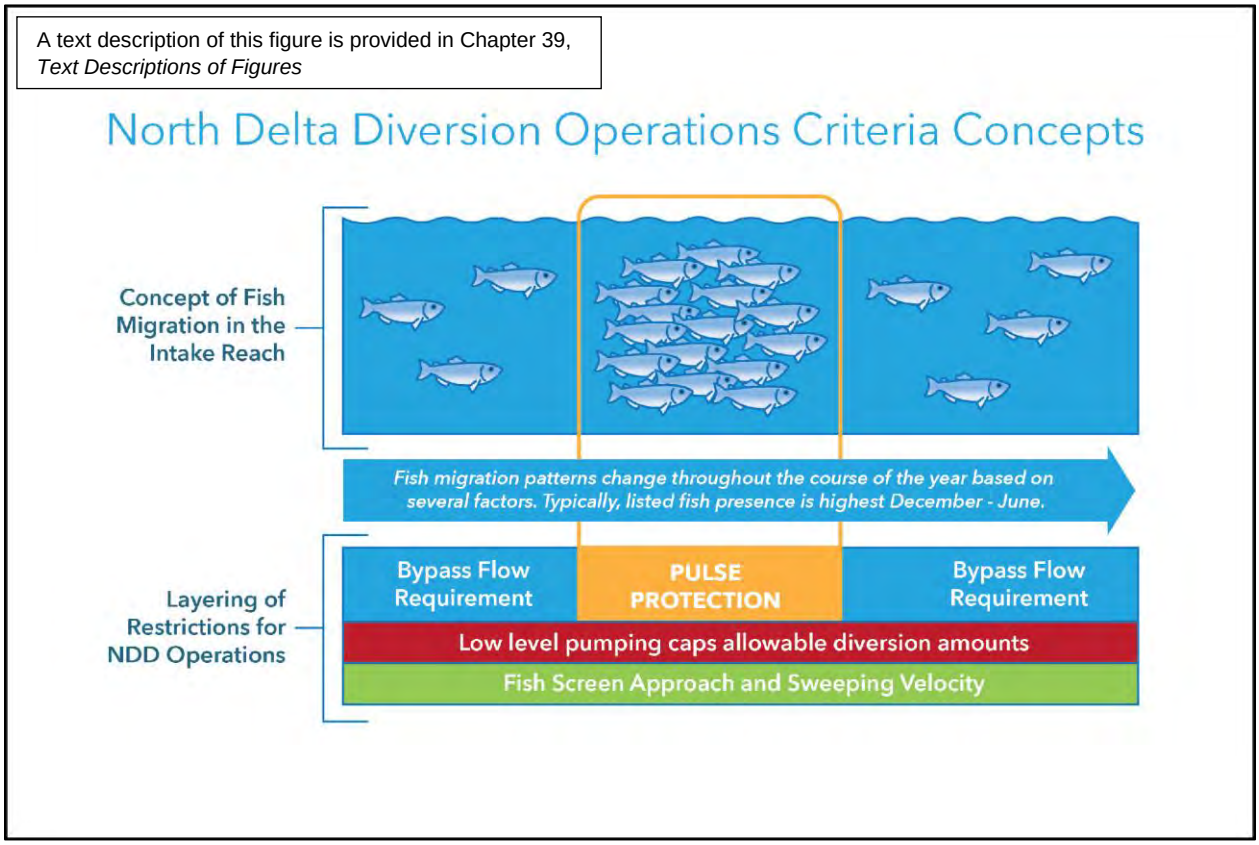


Figure 3-38. North Delta Diversion Operations Concepts

3.17 Real-Time Operational Decision-Making Process

The proposed operations criteria and the mitigation is intended to minimize and mitigate the potential impacts of operating the north Delta intakes. The real-time decision-making specific to the north Delta intake operations would be mainly associated with reviewing real-time abiotic and fish monitoring data and ensuring proposed weekly, daily, and sub-daily operations are consistent with the permitted criteria and within the effects analyzed in the permits.

3.17.1 Ongoing Processes to Support Real-Time Decision Making

The 2019 BiOps and 2020 SWP ITP define the real-time operations decision-making process under the current operations. In general, SWP and CVP operators provide a weekly outlook on forecasted hydrologic conditions, projected operations based on those conditions, and an assessment of potential changes in flow and water quality based on those projected operations to the Salmon Monitoring Team (SaMT) and Smelt Monitoring Team (SMT). SaMT and SMT consider this information along with the fish monitoring data to determine the risk to the listed fish species. For example, SaMT and SMT make recommendations when specific triggers specified in the 2019 BiOps or Conditions of Approval in the 2020 SWP ITP are active, typically from October through June. The

two monitoring teams, including participants from CDFW, perform the ITP risk assessments. Based on these analyses, monitoring teams may recommend specific actions to the Water Operation Management Team (WOMT) that may change projected operations. The WOMT decides the final action. In addition, the WOMT may elevate the decision to the directors of DWR, Reclamation, and the permitting agencies if they are unable to agree on the action, consistent with the decision-making process identified in the 2019 BiOps and the 2020 SWP ITP.

DWR would work with the fishery agencies to integrate the Delta Conveyance Project into these existing real-time processes to facilitate additional real-time south Delta fish protections, depending on the conditions. The existing and/or future real-time decision processes would evaluate monitoring data and determine whether use of the new north Delta intakes could improve aquatic conditions in the south Delta, while maintaining species protections in the north Delta. Under these circumstances, the final decision would be at the discretion of DWR. In addition, the real-time decision-making framework would provide a process to consider operational decisions and ensure there are opportunities to respond to unique circumstances (e.g., where risks to species may be higher or lower than expected), although this is anticipated to be infrequent.

3.17.2 North Delta Diversions

During the time from permit issuance through initial north Delta diversion operations, DWR would conduct studies such as evaluating the relationship between the hydrologic conditions and the behavior of migrating juvenile salmonids in the Sacramento River reach between Wilkins Slough/Knights Landing and the north Delta intakes as part of the Operations Adaptive Management and Monitoring Plan (OAMMP). The studies would be focused on gathering additional real-time fish monitoring data to inform potential triggers for real-time operational responses of the north Delta intakes as a mechanism to further minimize exposure effects to the listed species. The real-time operation and the proposed criteria would be refined if needed through the adaptive management plan process. The operational criteria elements that would be studied further based on real-time fish monitoring include hydrologic/behavioral cues upstream of and in the Delta for triggering, duration, and conclusion of pulse protection, Level 1, Level 2, and/or Level 3 bypass flow criteria and transitions, as well as diel (night/day) behavior in the intake reaches. The decision-making framework and potential real-time operational responses and considerations are discussed below.

3.17.2.1 Real-Time Decision-Making Framework

Under existing operations, during periods of fishery concern for Delta water project operations (October to June) operators and fishery biologists meet frequently (typically weekly). Forecasted conditions and projected operations for the week ahead are presented to the SaMT and SMT technical teams and are considered in real time while taking into account fish monitoring data and other relevant information. With this weekly outlook, a risk-assessment is developed, and any potential concerns or real-time operational considerations are developed and presented to WOMT. This general process would continue and operations of the north Delta intakes would be integrated, as follows:

- **Weekly** – Continue the ongoing weekly outlook planning process.
- **Daily** – Operators (schedulers) will assess the hydrologic and Delta conditions and schedule a daily volume from the north Delta diversion within the regulatory requirements. These requirements would include north Delta diversion bypass requirements, Delta requirements,

and any other required limitations such as presence of excess conditions. This scheduled volume would be coordinated with other SWP and CVP operations.

- **Sub-Daily** – Operators would operate the facility within the constraints at each intake, including minimum sweeping requirements and allowable approach velocities. To the extent possible, the SWP would prioritize north Delta diversion sub-daily diversions during daylight hours. As noted above, the diel behavior in the intake reaches would be studied further.

Proposed Real-Time Actions

- **Near Field:** Fish screen performance criteria, including facility performance in meeting approach velocity compliance and sweeping velocity performance necessary to minimize entrainment and impingement impacts.
    - Provide and monitor real-time flows through each of the intake's screen units to demonstrate approach velocity compliance. During design of the intakes, computational modeling would be undertaken, and field measurements/baffle adjustments would be made during commissioning/operations, both to demonstrate compliance with velocity criteria. Individual intake screen unit flows can also be gathered and summed up to determine the intake's full diversion flow.
    - Provide and monitor velocity/flow gage downstream of each intake facility, along with the intake flows, to demonstrate sweeping velocity performance.
        - Velocity/flow gages (i.e., Acoustic Doppler Current Profilers) downstream of each facility, along with an additional acoustic fish monitoring station (similar to side-scan sonar technology as described below in Far Field), to investigate fish distribution within the river's flow/velocity field. In conjunction with the intake facility flow measurements, these velocity/flow gages can be used during facility operations to demonstrate screen sweeping-velocity performance. For example, following planned full-facility velocity performance evaluations, the average downstream river velocity would be correlated to each intake facility's sweeping-velocity performance and adjusted as appropriate.
    - Entrainment monitoring as necessary. As part of compliance monitoring, sub-sampling at each intake would be conducted to assess level of protection consistent with project design/assumptions.
    - Approach/sweeping criteria relaxation would be considered (with approval from regulatory agencies) when risk to covered species is low/absent (e.g., 0.3 feet per second approach velocity based on temperature/calendar off-ramps when smelt are unlikely to be in the intake reach). This would allow, among other opportunities, for periodic maintenance operational flexibility, such as during sedimentation basin dredging or individual screen unit outages, that may require a portion of the screen facility to be down. In no case would total designed diversion capacity be exceeded (e.g., 3,000 cfs as designed at intake facility).
    - Use of side-scan sonar technology (e.g., biosonic) to estimate presence and movement of large numbers of migrating juvenile chinook salmon-sized fish.

- **Far Field:** Bypass flow criteria and tidal restoration (i.e., sufficient acreage to minimize diversion-related increases in flow reversals at the Sacramento–Georgiana Slough junction)[11] proposed to minimize flow-survival effects of north Delta diversion operations are as follows.
    - For the previous week:
        - Provide daily and 3-day average Wilkins Slough, Freeport, and bypass flows including the daily north Delta diversion rates. Identify the north Delta diversion criteria in effect (pulse protection or level of the bypass flows). Provide cumulative count of days at the current bypass flow level or pulse protection.
        - Modeled Through-Delta Survival values.
        - Fish monitoring data (e.g., KLRST catch index) in addition to winter-run Chinook salmon and spring-run Chinook salmon juvenile production estimate and migration status (e.g., estimated fraction of population upstream, in Delta, past Chipps).
    - For the upcoming week:
        - Provide forecasted range of daily average Wilkins Slough and Freeport flows. Provide range of bypass flows and the estimated range of north Delta diversion rates. Identify the north Delta diversion criteria that will likely be in effect (pulse protection or level of the bypass flows).
        - Modeled Through-Delta Survival estimates for the likely bypass flows.
    - Data from the side-scan sonar technology (e.g., biosonic) to estimate presence and movement of large numbers of migrating juvenile Chinook salmon-sized fish.
- **Fish Considerations included in the OAMMP:** Depending on the real-time assessment of presence and exposure/vulnerability of migrating listed fish, identify potential operational adjustments (if necessary, as determined through the adaptive management plan process) to minimize estimated impacts determined to be of significant concern (e.g., moderate to large decrease in estimated survival based on flow-survival relationship). Overall, studies included in the OAMMP will focus on: (1) providing a process to ensure effects are within the range analyzed in the project permits; (2) informing and identifying specific biological triggers; and (3) informing potential refinements of operational criteria. Below are examples of OAMMP outcomes and processes to collect data.
    - For example, collecting alternative/additional real-time fish data to inform north Delta diversion decision making, such as use of acoustically tagged juvenile Chinook salmon as cohort survival/migration surrogates through the intake reaches and through the Delta.
    - Potential north Delta diversion operational responses as determined through adaptive management plan include: transitioning between bypass criteria levels (e.g., Level 1 to Level 2 or pulse protection); or adjusting planned diversions to a level consistent with low concern based on flow-survival estimates and fish presence (i.e., more or less restrictive operations based on hydrological, biological, and diurnal conditions).

[11] Efficacy of tidal restoration to offset potential hydrodynamic changes due to operations of the north Delta intakes would be evaluated and considered during potential refinements to real-time operations and associated operational criteria, where applicable. Evaluation would occur and continue through project development and during the adaptive management plan, including during initial operations.

- Alternative mechanisms, such as operation of non-physical barrier technology at the Georgiana Slough junction with the Sacramento River, may also be considered in lieu of or in addition to north Delta diversion operational responses if deemed appropriate.

3.18 Adaptive Management and Monitoring Program

CEQA requires a lead or responsible agency to adopt a program of monitoring or reporting when making findings requiring mitigation or project revisions to mitigate or avoid a significant impact in conjunction with approving a project, to ensure that the mitigation or project revisions are implemented (CEQA Guidelines §15097). Although CEQA's requirement relates to monitoring the implementation of mitigation, adaptive management, as a part of the monitoring program, allows the best available science to be incorporated into management decisions and address uncertainties associated with those mitigation actions. Specifically, adaptive management provides a means to evaluate the effectiveness of management actions in achieving resource objectives, by comparing the outcomes to predicted responses and providing the scientific basis for continuing or modifying the action or implementing an alternative action. While CEQA does not mandate that the monitoring program incorporate adaptive management, the Delta Reform Act, through a project's consistency with the Delta Plan, requires the use of science-based, transparent, and formal adaptive management strategies for ongoing ecosystem restoration and water management decisions (23 Cal. Code Regs. §.5002(b)(4)). Adaptive management is typically also a component of mitigation as part of compliance with the federal and California Endangered Species Acts and Section 404 of the Clean Water Act.

Adaptive management for the Delta Conveyance Project, as described in Appendix 1B of the *Delta Plan*, would encompass three major phases: planning, implementation, and evaluation and response (Delta Stewardship Council 2015). The adaptive management plans and programs would document all activities associated with the planning phase of adaptive management and describe the process to be followed during the implementation and evaluation and response phases. Project objectives were taken into consideration in identifying where adaptive management would be most effective and applicable for the project. As appropriate, mitigation measures identified in this Final EIR, such as the habitat creation and restoration actions in the CMP, would integrate the concept of adaptive management in mitigation plan design, stand-alone site and/or resources-specific adaptive management plans would be adopted if the project is approved. In addition, an OAMMP would be used to monitor and consider the design and operation of the new north Delta intakes and determine if new scientific or technical information that becomes available in the future may warrant refinements in design, management, and/or operation. Potential changes in operations could consider modified operational criteria (e.g., changes to the proposed pulse-protection period length based on information gathered through the Delta Conveyance Project monitoring program) and additional operational criteria (e.g., layered onto those proposed in Section 3.16.1, *New Operational Criteria for the Proposed North Delta Intakes*).[12]

Adaptive management will focus on project effects where uncertainties regarding the nature of the effects generally require a characterization of baseline conditions that can be compared to with-

[12] If any changes to the criteria included in Section 3.16.1 are identified that would allow increased diversions from the north Delta facilities that could potentially result in greater environmental effects, those changes would require additional CEQA and ESA/CESA review.

project effects. Monitoring is fundamental to adaptive management as a source of data with which to test alternative management strategies and measure progress toward accomplishing management objectives.

As described in the CMP (Appendix 3F, Section 3F.6.4, *Adaptive Management*), an adaptive management and monitoring plan would be prepared for each mitigation site to help ensure habitat creation goals are met. The plans would outline key uncertainties for tidal wetlands, channel margin, riparian, and floodplain restoration projects intended to benefit listed terrestrial and fish species and offset potential effects of the project. Effectiveness monitoring and research studies would be necessary to examine the ecological function of planned restoration. These site-specific adaptive management plans for habitat creation and restoration would track progress toward management objectives, to improve understanding of restoration effectiveness, and to trigger remedial actions as needed to adjust management to achieve mitigation goals.

The OAMMP would integrate with, as appropriate, existing monitoring programs and SWP adaptive management efforts in the Delta to better understand uncertainties associated with north Delta diversion effects on listed fish species. Monitoring studies would be included in the OAMMP and are intended to address uncertainties about the potential effects of the project on aquatic resources and inform the project's operation and adaptive management decision making. The following is a list of monitoring elements that are expected to be included in the OAMMP; however, final details of the OAMMP would be subject to fish and wildlife agency approval as part of compliance with the ESA/CESA process.

- Migration and survival studies through the intake reach and Delta
    - Including near-field assessment of intake exposure and far-field routing and survival.
    - Potential methods include acoustic telemetry studies of routing and survival in the Delta, including supplementation of existing acoustic arrays. The selection of acoustic telemetry technology (e.g., VEMCO, Juvenile Salmon Acoustic Telemetry System [JSATS]) for tags (transmitters), hydrophones, and receivers would likely be consistent with other concurrent studies and the regional acoustic telemetry array unless one technology is more optimal for a given experimental design.
- Predation studies
    - Including assessment of predator distribution and predation rates to evaluate predation risk.
    - Potential methods include using floating predation event recorders and tethering study designs, as well as acoustic tag data to capture potential predation events. In addition to studies to evaluate increased predation rates, Dual-Frequency Identification Sonar (DIDSON) or similar (e.g., Adaptive Resolution Imaging Sonar [ARIS]) camera surveys could be used to assess predator management strategies at in-water structures and habitat features of interest.
- Monitoring of abundance and distribution of listed species in the intake reach
    - Including assessment of baseline densities and seasonal and geographic distribution of all life stages of target aquatic species inhabiting the reaches of the lower Sacramento River and Delta.

- Potential methods and approach include leveraging existing monitoring programs (e.g., Enhanced Delta Smelt Monitoring Program and USFWS Delta Juvenile Fish Monitoring Program) in the Delta, as well as supplemental sampling performed with specific gear types and technologies (e.g., eDNA transects and/or echo sounder transects to verify and calibrate catch detection data for newer, less-invasive sampling techniques).

3.19 Community Benefits Program

DWR is developing a Community Benefits Program for the proposed Delta Conveyance Project which, if the project is approved, will ultimately identify and implement commitments to help protect and enhance the cultural, recreational, natural resource, and agricultural values of the Delta. This program will at least in part address local Delta community effects that are beyond CEQA's analysis of potential significant impacts on the physical environment. As an initial step in development of the program, DWR prepared the Community Benefits Program Framework (Appendix 3G). This Framework identifies the goals, objectives, and potential components of the Delta Conveyance Project Community Benefits Program. Its purpose is to provide a roadmap for the next steps in developing the Community Benefits Program, including ensuring meaningful community participation. The Framework was informed by public input provided through interviews, workshops, and public comments, as described in Section 3.2 and Chapter 35, *Public Involvement*.

As described in more detail in Appendix 3G, the Community Benefits Program Framework consists of a Delta Community Fund and an Economic Development and Integrated Benefits component. It is designed to meet the following objectives: (1) Provide a mechanism for Delta community members and others to identify opportunities for local benefits; (2) Provide a mechanism for the project proponents to demonstrate good faith, transparency, and accountability to the community through formal commitments developed with input from community members and others; and (3) Be implemented in a manner that contributes to the protection and enhancement of the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place.

The Community Benefits Program is considered a component of the project. Chapter 34, *Community Benefits Program Framework Analysis,* provides information on potential impacts from Community Benefits Program actions. While CEQA requires analyzing reasonably foreseeable future components of a project, it only requires analyzing them at a level of detail that is commensurate with the detail available for the project. Because the actions that could be funded as part of the Community Benefits Program have not yet been specifically identified, the analysis of the potential environmental impacts of those actions is at a high level. Because significance determinations would be speculative, none are provided. As projects are funded, they would undergo project-level CEQA review as appropriate, and any other required regulatory processes before they would be implemented. Approval of the Community Benefits Program would be contingent on the approval of the project.

3.20 Ombudsman

To increase effective communication and reduce the multiple points of contact for project questions during the construction of the proposed project, DWR will create a Delta Conveyance Project

community support position, referred to as a project ombudsman. This ombudsman would be available as a primary point of contact for members of the public during project construction. The project ombudsman would answer questions, refer interested parties to appropriate DWR or Delta Conveyance Design and Construction Authority (DCA) team members for more information, and aid with claims submittals. Once construction is complete, project facilities would be operated and maintained as part of the SWP and public outreach would follow standard DWR practices, which may not involve an ombudsman.

3.20.1 Point of Contact

If after CEQA compliance, DWR decides to approve the project, the ombudsman would supplement the public outreach efforts of DWR, DCA, and other PWAs by acting as a point of contact for property owners or occupants, interested members of the public, or local agencies and community groups. Prior to construction, the ombudsman would be hired and ombudsman contact information distributed throughout the Delta community, including posting on primary construction site locations. Contact information would also be published on the project website and on all project materials. Once construction has started, the ombudsman would be the initial point of contact for all project-related inquiries or questions. The ombudsman would provide an answer or refer the inquiry to the appropriate DWR or DCA representative to provide additional information for all project questions, including those related to construction schedule and location, safety information during construction, and project mitigation. The ombudsman would also assist with any type of formal process that may be established to address project issues (e.g., claims).[13] This position would provide a supplemental resource to the public to ensure effective, efficient, and accurate responses to questions and requests for information.

3.21 Potential Davis-Dolwig Act Actions

The Davis-Dolwig Act was passed into law in 1961 (Assembly Bill 261, Davis) and codified in Water Code Sections 11900-11925. The Act stated that "preservation of fish and wildlife be provided for in connection with the construction of state water projects." The Davis-Dolwig Act directed that, because these activities benefit all of the people of California, these particular "project construction costs attributable to such enhancement of fish and wildlife and recreation features should be borne by them."[14]

Under the Davis-Dolwig Act, DWR is to give "full consideration to any recommendations which may be made by the Department of Fish and Game [CDFW], the Department of Parks and Recreation

[13] The ombudsman duties would include providing support to claimants who feel they have been uniquely damaged by the project's construction. Rather than require logging a formal claim request with the State through the traditional State of California claims procedures, claims for Delta Conveyance Project construction-related damages can be submitted through the ombudsman to the Delta Conveyance Design and Construction Authority for expedient consideration and resolution. While the Delta Conveyance Design and Construction Authority is subject to the Government Claims Act and would process claims under the required statutory procedures, the act provides local public agencies with latitude in structuring claims procedures. This can include delegating settlement and resolution authority to staff or internal administrative bodies. These efforts are intended to decrease the administrative time for consideration of claims.

[14] Wat. Code § 11900.

[DPR], any federal agency, and any local governmental agency with jurisdiction over the area involved, determines necessary or desirable for the preservation of fish and wildlife, and necessary or desirable to permit, on a year-round basis, full utilization of the project for the enhancement of fish and wildlife and for recreational purposes to the extent that those features are consistent with other uses of the project."[15] Consistent with the Davis-Dolwig Act, DWR has coordinated with DPR and CDFW, and will continue to work with DPR and CDFW throughout the development of the Delta Conveyance Project and, if approved, future detailed design.

DPR convened a recreation workgroup and subsequently recommended that DWR consider recreational improvements in areas at the proposed Delta Conveyance Project facilities and within the project alignments. The recreational improvements included expanding non-motorized recreational opportunities and programs along river corridors; construction of additional greenways and trails through the Delta; developing wildlife viewing opportunities, like boardwalks, benches, and walkways near or in existing wildlife refuges; expanding transportation and access to recreational areas for underserved communities within the Delta; expanding overnight camping areas; and installation of interpretative and wayfaring signage for the Delta.

Similar to DPR's proposed recreational improvements, DWR identified and analyzed recreation enhancement proposals suggested through the outreach process for the Community Benefits Program. Chapter 34 provides a summary and analysis of the potential effects of the recreation enhancement and habitat conservation proposals. The proposals include possible actions to expand public access to fishing, birding, walking, bicycling, water sports, and other activities in addition to habitat conservation projects to improve or increase habitat for natural communities. Although not proposed to meet Davis-Dolwig Act requirements, the Community Benefits Program (Appendix 3G) considers and analyzes similar and possibly overlapping recreational enhancements and fish and wildlife improvements that have been proposed under the Davis-Dolwig Act. Because potential actions that may be implemented as part of the Community Benefits Program would be directly related to and funded by the Delta Conveyance Project, if approved, its actions are outside the scope of compliance with the Davis-Dolwig Act. If DWR, as directed by the Davis-Dolwig Act, determines to include recreational enhancements and fish and wildlife improvements analyzed in the Community Benefits Program, it would be outside the both the Community Benefits Program and the Delta Conveyance Project and would be funded separately.

3.22 Contract Amendments

The Legislature designed the water supply function of the State Water Resources Development System, commonly referred to as the SWP, to be a self-funded system. Unlike highways, levees, and other familiar types of publicly owned infrastructure that receive significant funding from the State general fund, the costs of constructing, operating, and maintaining the SWP water supply function, including the proposed Delta Conveyance Project if approved, are paid entirely by the local public agencies that contract with DWR for a supply of water from the SWP.

The timing and amount of SWP charges is described in the SWP Long-Term Water Supply Contracts. DWR has 29 such contracts with a variety of local agencies sometimes referred to as public water agencies (PWAs) or SWP contractors. DWR bills the PWAs for these costs annually.

[15] Wat. Code § 11910.

From time to time, DWR and the PWAs have found it desirable to amend the terms of the SWP water supply contracts to add terms and conditions that are applicable to a specific contractor or to a group of contractors, applicable to a particular project, or both.

DWR and many of the PWAs believe it is desirable to amend the SWP water supply contracts to add terms and conditions applicable to the construction, operation, and maintenance of a new Delta conveyance facility. Negotiations of project-wide contract amendments are conducted in public so that interested members of the public may hear and comment on the matters raised in the negotiations as outlined in California Department of Water Resources Guidelines 03-09 and 03-10.

A series of public negotiations were held following publication of the NOP for the Draft EIR. These negotiations concluded in March 2021 and resulted in an Agreement in Principle (AIP) among DWR and many PWAs that describes a conceptual approach to cost allocation and the related financial and water management matters if a new Delta Conveyance facility is approved. Actual water supply contract amendment language would be developed consistent with the AIP but only approved if DWR approves the Delta Conveyance Project after completion of the CEQA process.

Development of the AIP is not the same as approval of a Delta conveyance-related water supply contract amendment or of a Delta conveyance facility itself. Once the language of the contract amendments is drafted, and only after CEQA review is completed, DWR and each PWA will consider whether to approve and subsequently execute the proposed Delta conveyance-related water supply contract amendments. No further public negotiations are anticipated at this time; however, it is possible that additional negotiation sessions may become necessary or desirable. For additional information about any upcoming public negotiations please see the DWR Contract Amendment for Delta Conveyance website (https://water.ca.gov/Programs/State-Water-Project/Management/Delta-Conveyance-Amendment).

The potential for the SWP contract amendments for the Delta Conveyance Project to cause a direct or indirect environmental impact are presented and analyzed in the EIR as part of the approvals associated with the Delta Conveyance Project. The contract amendments, as they would directly relate to contract terms and conditions applicable to cost allocation for the Delta Conveyance Project, do not have different impacts from those analyzed for the Delta Conveyance Project.

Exhibit C

SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF SACRAMENTO
Department 36
Judge: Hon. Stephen P. Acquisto

Related Case Nos. 24WM000006; 24WM000008; 24WM000009; 24WM000010; 24WM000011; 24WM000014; 24WM000012; 24WM000017; 24WM000062; 24WM000076

DECLARATION OF JEFF HENDERSON IN SUPPORT OF CALIFORNIA DEPARTMENT OF WATER RESOURCES' EX PARTE APPLICATION

I, Jeff Henderson, declare:

1. I am the Deputy Executive Officer for the Planning and Performance Division of the Delta Stewardship Council ("Council"). I have been employed as Deputy Executive Officer since February 2018. I have personal knowledge of the facts set forth in this declaration, and if called and sworn as a witness, I could and would competently testify thereto.

2. The following statements are based upon my personal knowledge and upon my review of records kept by the Council. I have personal knowledge of the manner in which the Council's records are kept. Each of the records upon which I rely was made in the ordinary course of business at or near the time of the act, condition, or event. The sources of information at the time of preparation are such that I believe the records to be trustworthy.

3. The Delta Plan policies have been codified as regulations and are set forth in Chapter 2 of Division Six, Title 23, of the California Code of Regulations (CCR). Staff have prepared a document for the public's ease of reference titled "Delta Plan Policies" that contains a table with all Delta Plan regulatory policies and includes: 1) a policy number and citation to the relevant section of the CCR for each policy; 2) a short title for each policy; and 3) the specific policy language from the CCR for each policy. Attached as **Exhibit A** is a true and correct copy of the document titled "Delta Plan Policies" which I downloaded on July 18, 2024, from the Council's website at <https://deltacouncil.ca.gov/pdf/delta-plan/regulations/2024-01-25-delta-plan-policies-handout.pdf> (last visited July 18, 2024). Any member of the public can access this document by clicking on the relevant hyperlink at this page of the Council's website: <https://deltacouncil.ca.gov/delta-plan/regulations> (last visited July 18, 2024).

4. On July 27, 2018, the California Department of Water Resources (Department) submitted a certification of consistency to the Council for the California WaterFix project (WaterFix). Nine appeals were timely filed with the Council opposing the certification of consistency. The Council held a hearing on the appeals from October 24-26, 2018 in West Sacramento, California. Upon conclusion of the hearing, the Presiding Officer directed Council staff to prepare draft findings for the appeals based on the record and comments received in the matter. Accordingly, staff prepared draft findings for the appeals titled "Determination

Regarding Appeals of the Certification of Consistency by the California Department of Water Resources for California WaterFix" that was publicly issued on November 8, 2018. The Department subsequently withdrew its certification of consistency for the project so that the draft was never voted on nor adopted by the Council. A true and correct copy of staff's draft "Determination Regarding Appeals of the Certification of Consistency by the California Department of Water Resources for California WaterFix" is attached hereto as **Exhibit B**.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on July 19, 2024, in Sacramento County, California.

Jeff Henderson

JEFF HENDERSON

Exhibit D

FILED
Superior Court of California
County of Sacramento
06/20/2024
M. Lu, Deputy

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SACRAMENTO

TULARE LAKE BASIN WATER STORAGE DISTRICT, **Petitioner,** **v.** **CALIFORNIA DEPARTMENT OF WATER RESOURCES,** **Respondent,** And Related Cases.	Case Nos. 24WM000006 24WM000008 24WM000009 24WM000010 24WM000011 24WM000012 24WM000014 24WM000017 24WM000062 24WM000076 Judge: Stephen Acquisto Dept.: 36

Nature of Proceedings:	**Ruling on Submitted Matter – Petitioners' Motions for Preliminary Injunction**

BACKGROUND

On December 21, 2023, Respondent the California Department of Water Resources approved the Delta Conveyance Project (the DCP) and certified its final environmental impact report (FEIR). The DCP is an expansive water infrastructure project to divert water, through a large tunnel, from the Sacramento River and the Sacramento-San Joaquin Delta. The DCP aims to improve the reliability and resiliency of the State Water Project, the existing infrastructure that delivers drinking water to millions of Californians. Following its approval, several writ petitions were filed challenging the DCP and the FEIR under the California Environmental Quality Act (CEQA), the Water Code, and other laws. There are now ten such related cases pending before this Court.

The Department intends to undertake geotechnical investigations prior to construction. According to Chapter 3 of the FEIR, titled "Description of the Proposed Project and Alternatives," the geotechnical investigations will "identify geotechnical, hydrogeologic, agronomic, and other field conditions that will guide appropriate construction methods and monitoring programs for final engineering design and construction." (Baykeeper RJN, Ex. A, p.

3-2.) The Notice of Determination for the DCP, which provided notification that the Department had approved the DCP, describes such geotechnical work as part of the "key components and actions" of the project. (*Id.*, Ex. B, Attachment 2.) The geotechnical work includes the following:

- soil borings up to 250 feet deep;
- installation of test wells;
- installation of an array of electrodes to perform electrical resistivity tomography;
- installation of in-river cofferdams;
- installation of metal survey monuments; and
- excavation of test trenches up to 1,000 feet long, 3 feet wide, 20 feet deep.

(Resp. RJN, Ex. 1, § 3.15.2; Marquez Decl., Ex. B, p. 4 [describing depth of soil borings].)

Petitioners in five of the related cases (case nos. 24WM000009, 24WM000010, 24WM000012, 24WM000014, and 24WM000017) filed motions for preliminary injunction seeking to enjoin the Department from undertaking this geotechnical work in the Delta. Petitioners contend that before beginning, the Department must first self-certify that the DCP is consistent with the Delta Plan as required by the Sacramento-San Joaquin Delta Reform Act of 2009 ("Delta Reform Act"), set forth in Water Code section 85000, et seq. On May 31, 2024, the Court held a hearing on the motions, heard argument from counsel, and took the matter under submission. Having now considered the parties' filings and oral arguments, the Court renders this decision granting the motions.

DISCUSSION

I. Preliminary Matters

A. Requests for Judicial Notice

County of Sacramento, et al. (24WM000014), San Francisco Baykeeper, et al. (24WM000017), and the Department each filed an unopposed request for judicial notice for various documents including different parts of the FEIR, the Notice of Determination for the project approval, and documents published by the Delta Stewardship Council. Each request is granted. (Evid. Code, § 452, subds. (c), (h).)

B. Evidentiary Objections

In its opposition to the motions, the Department filed objections to evidence submitted by Petitioners. In their replies, City of Stockton (24WM000009), County of San Joaquin, et al.

(24WM000010), County of Sacramento, et al. (24WM000014), each filed objections to evidence submitted by the Department. The Court is issuing rulings on these objections separately.

II. Merits

A preliminary injunction is an "order that is sought by a plaintiff prior to a full adjudication of the merits of its claim." (*Marken v. Santa Monica-Malibu Unified School Dist.* (2012) 202 Cal.App.4th 1250, 1260.) "Trial courts evaluate two interrelated factors when deciding whether or not to issue a preliminary injunction. The first is the likelihood that the plaintiff will prevail on the merits at trial. The second is the interim harm that the plaintiff is likely to sustain if the injunction were denied as compared to the harm that the defendant is likely to suffer if the preliminary injunction were issued." (*Amgen Inc. v. California Correctional Health Care Services* (2020) 47 Cal.App.5th 716, 731.) "The potential merit and interim harm are described as *interrelated* factors because the greater the plaintiff's showing on one, the less must be shown on the other to obtain an injunction." (*Tulare Lake Canal Company v. Stratford Public Utility District* (2023) 92 Cal.App.5th 380, 396-397.)

A. Petitioners' Likelihood of Success on the Merits

All of the motions raise a single identical issue with respect to likelihood of success on the merits—the Department's compliance with the Delta Reform Act. Petitioners contend that the Department's plan to undertake geotechnical investigations prior to certifying the DCP as consistent with the Delta Plan violates Water Code section 85225, which requires such certification "prior to initiating the implementation" of a "covered action."

In opposition, the Department argues that the geotechnical investigations do not trigger the certification requirement under section 85225, because they constitute planning and design activities needed to finalize the DCP's design, which do not amount to "implementation" of the "covered action." The Department argues that Petitioners' interpretation is unworkable, claiming that it is afraid that, even though it has completed all of the in-depth studies, analysis, and specificity required under CEQA, it does not yet have enough information to self-certify that the DCP is consistent with the Delta Plan. The Department argues it will not be able to prepare such a certification until it has completed the geotechnical work.

The question before the Court is an issue of statutory interpretation. The courts' primary task in statutory interpretation is "to determine the lawmakers' intent." (*Henson v. C. Overaa & Co.* (2015) 238 Cal.App.4th 184, 193.) "Where the statutory language is clear and unambiguous,

that language controls and there is no need for judicial construction." (*Ibid.*) But courts must "construe the words of the statute in context, keeping in mind the statutory purpose," and "will not follow the plain meaning of the statute" when doing so would frustrate "the manifest purposes of the legislation as a whole or [lead] to absurd results." (*Ibid.*)

The Delta Reform Act establishes a self-certification process for agencies to demonstrate that projects in the Delta are consistent with the Delta Plan. Specifically, Water Code section 85225 provides: "A state or local public agency that proposes to undertake a covered action, *prior to initiating the implementation of that covered action*, *shall prepare a written certification of consistency* with detailed findings as to whether the covered action is consistent with the Delta Plan and shall submit that certification to the [Delta Stewardship C]ouncil." (Wat. Code, § 85225 [emphasis added].) "Covered action" is defined as a "plan, program, or *project as defined pursuant to Section 21065 of the Public Resources Code* that meets" a number of conditions, including that the action "[w]ill have a significant impact on achievement of one or both of the coequal goals" of the Delta Plan.[1] (*Id.*, § 85057.5, subd. (a) [emphasis added].) Public Resources Code section 21065 is a CEQA provision that defines "project" as "an activity directly undertaken by any public agency," "*which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment*[.]" (Pub. Resources Code, § 21065, subd. (a) [emphasis added].) Thus, the Legislature defined "covered action" to mean "project" as defined under CEQA.

The Department defined the DCP to include the geotechnical work at issue here. The FEIR analyzed the geotechnical work as part of the project (Baykeeper RJN, Ex. A, pp. 3-2, 3-134 to 3-141), and the Notice of Determination described it as a "key component" of the project (*Id.*, Ex. B, Attachment 2). Because the geotechnical work is part of the "project" within the meaning of CEQA, it is necessarily part of a "covered action" within the meaning of Water Code section 85225.

1. *Petitioners' Statutory Interpretation*

Petitioners' argument in support of their preliminary injunction motions is premised on a straightforward reading of the statutes cited above. They contend that because the DCP is a project that qualifies as a "covered action" under the Delta Reform Act, and because the

[1] The coequal goals of the Delta Plan are "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem." (Wat. Code, § 85054.)

geotechnical work at issue here is a component of the DCP, the plain language of section 85225 requires the Department to prepare a certification of consistency prior to initiating the implementation of the DCP, including its geotechnical component.

Moreover, this interpretation would give effect to the apparent purpose of the certification-of-consistency requirement. Boring holes 250 feet deep and digging trenches 1000 feet long, 20 feet deep, and 3 feet wide, for example, certainly appear to be the type of activity that would cause "physical change in the environment" (as provided in Public Resources Code section 21065) and have "a significant impact on achievement of one or both of the coequal goals" of the Delta Plan (as provided in Water Code section 85057.5, subdivision (a)(4) as part of the definition of "covered action"). When there are proposed activities that would likely cause a physical change to the Delta's environment and significantly impact the Delta's ecology or California's water supply, it seems reasonably clear that our Legislature wanted consistency with the Delta Reform Act to be certified *before* those activities are implemented. Thus, requiring the Department to prepare a certification of consistency before undertaking the geotechnical work appears consistent with both the letter and intent of the Delta Reform Act.

2. *The Department's Statutory Interpretation*

In opposition, the Department acknowledges that the DCP qualifies as a "covered action" under Water Code section 85057.5, and that it will need eventually to prepare a certification of consistency. The Department argues, however, that even though the geotechnical activities are included as part of the project in the FEIR for CEQA purposes, "implementation" under Water Code section 85225 should not be read to encompass the geotechnical work at issue here because they are "preliminary activities" that merely serve to inform the final design.

But this argument ignores that "implementation" relates to "covered action," which is defined as consisting of the "project" under CEQA, and the CEQA project in this case includes the geotechnical investigations. The Department offers no case law or other legal support for its position that it should be allowed to define "covered action" more narrowly than section 85057.5 defines that term. Just because the purpose of the geotechnical work is to gather information to aid in making the final design decisions, does not mean that it is not a component of the project that requires implementation. The geotechnical work, just like the ultimate project construction, will likely have an impact on the environment in the Delta that not only requires CEQA review and approval but also certification of consistency with the Delta Plan. The Department's

interpretation would require the Court to ignore the plain language of the Delta Reform Act and create a new exemption for the DCP. The Court has no such authority.

3. *The Department's Reliance on the Council's Covered Action Checklist*

Next, the Department cites to the "Covered Action Checklist," which is an informational tool the Council created to help state and local agencies determine if a plan, program, or project is a "covered action" as defined in the Delta Reform Act. (Resp.'s Opp. Br., p. 17:14-22.) Notably, the Department cites to the explanatory text under one of the checklist questions *but omits the question itself*. (*Ibid*.; Henderson Decl., Ex. B, p. 234.) The question the Department fails to acknowledge or answer is set forth in the Checklist in bold type as follows: "**Has CEQA been completed at the time of filing a Certification of Consistency with the Delta Stewardship Council?**" (Henderson Decl., Ex. B, p. 234.) The answer here is clearly yes, which indicates that this particular factor would serve to undermine the Department's argument that it is premature to file a certification of consistency.

Having ignored the question, the Department focuses on the explanatory text below the question, quoted here with the emphasis included in the Department's brief:

> *When other permits are required* for implementation, project proponents should consult with Council staff on appropriate timing for filing the Certification of Consistency. Filing a Certification of Consistency *prior to finalizing the design* and operational elements of the project may result in a proposed covered action that is significantly altered through the CEQA or other processes. *If, after filing a certificate of consistency, the project is significantly changed, a new Certification of Consistency will need to be filed* with the Delta Stewardship Council.

(Resp.'s Opp. Br., p. 17:18-22.)

It is unclear why the Department chose to emphasize the language stating, "when other permits are required," because the Department does not discuss in its opposition brief any additional permits that are required, or how the outcome of the geotechnical work would potentially affect its ability to secure any such permits. The Department seems to focus on the part of the excerpt that refers to filing the certification "*prior to finalizing the design*" of the project. But when read in the context of the overarching question, the explanatory language appears to simply caution project proponents against filing a certificate of consistency prior to finalizing the project's design and operational elements *under CEQA*. Again, the DCP's design and operational elements have been finalized sufficiently under CEQA. It is also unclear why the Department emphasized, *"if, after filing a certificate of consistency, the project is*

significantly changed, a new Certification … will need to be filed," because the Department does not explain how the geotechnical work at issue here could significantly change the project especially now that the FEIR has been certified.[2]

4. *The Department's Claimed Compliance with Water Code Section 85225.5*

The Department cites to section 85225.5 to argue that it is in compliance with its obligations by engaging in "early consultation" with the Council. (Resp.'s Opp. Br., p. 16:20-24.) Section 85255.5, however, does not impose any obligations on lead agencies such as the Department. Rather, the section directs and authorizes the Council, in order to assist lead agencies in preparing the required certification, to develop procedures for early consultation with the Council on the proposed covered action. The fact that the Council possesses the authority to develop procedures for early consultation has no bearing on whether the geotechnical investigations are part of a "covered action." Neither does the Department's early consultation with the Council. The Department's argument in opposition is not aided by claiming compliance with a statute that imposes no obligations on it. The only notable observation the Court makes from the Department's citation to this authorizing statute is that the Council has not issued any regulations supporting the Department's narrow interpretation of sections 85057.5 and 85225.

5. *The Department's Attempt to Extract Designing Activities from "Covered Actions"*

Citing to Water Code section 85052 and section 5001 of the Council's implementing regulations, the Department argues that the Delta Reform Act treats "planning" and "designing" activities (which it argues include the geotechnical work in the DCP) as distinct from "construction" and "implementation," and that such activities are not meant to be considered part of the implementation of the covered action. (Resp.'s Opp. Br., pp. 20:23–21:6.) The Department misreads these provisions. Both Water Code section 85052 and regulation section 5001 contain the identical definition of "*adaptive management*" as meaning "a framework and flexible decisionmaking process for ongoing knowledge acquisition, monitoring, and evaluation

[2] The declaration of Graham Bradner, submitted by the Department in support of its opposition, explains that the geotechnical work will gather additional information that will refine, and, if necessary, modify project feature layouts and configurations. (Bradner Decl., p. 5.) Neither the declaration nor the Department's opposition brief, however, assert or explain how any potential adjustments could be of such magnitude to constitute a significant change to the project. For example, the Department does not contend that the project's location, scope, or operational components could change significantly based on the outcome of the geotechnical work.

leading to continuous improvement in *management planning and implementation* of a project to achieve specified objectives." (Wat. Code, § 85052; Cal. Code Regs., tit. 23, § 5001, subd. (a).) In this context, "management planning and implementation" clearly refers to the *post-completion* implementation phase of a project. Thus, the use of the word "planning" in this provision refers to the planning that occurs *after* a certification of consistency has been filed, *after* the project has been constructed, and during the time period in which the completed project is in operation.

Yet, the Department takes the word "planning" out of this context, and argues that these sections support the notion that the pre-construction planning phase of a project is not part of the "covered action." This argument does not withstand scrutiny. Similarly, the Department's attempt to draw support from the reference in section 85089 to "[t]he costs of the environmental review, planning, design, construction, and mitigation" is also unpersuasive. These statutes, which use these terms in different contexts, do not stand for the proposition that the extensive geotechnical work that the Department included in the DCP's project description in the FEIR should now be excised from the project definition under the Delta Reform Act simply because they serve a planning and design function.

6. *The Department's Reliance on the Mitigation Monitoring and Reporting Program*

The Department also points to language in the Mitigation Monitoring and Reporting Program ("MMRP"), which the Council adopted in April 2018 to ensure compliance with the mitigation measures established in the recent amendments to the Delta Plan. (Resp.'s Opp. Br., p. 18:8-27.) The MMRP includes in, Table 1, the mitigation measures identified in the 2018 Delta Plan Amendments Program EIR and, in Table 2, the mitigation measures identified in the 2013 Delta Plan Program EIR. Lead agencies of covered actions are required to implement the mitigation measures in these tables. Specifically, the Department points to a portion of mitigation measure 11-1, which states, "Lead agencies shall ensure that *geotechnical design recommendations* are included in the design of facilities and construction specifications to minimize the potential impacts from seismic events and the presence of adverse soil conditions. Recommended measures to address adverse conditions shall conform to applicable design codes, guidelines, and standards." (Resp.'s Opp. Br., p. 18:16-18 [with Dept.'s emphasis]; Henderson Decl., Ex. A, p. 197.)

Contrary to the Department's position, this mitigation measure can reasonably be interpreted as requiring that the agency *certify* that the facility designs and construction

specifications *will include* geotechnical design recommendations, rather specifying the actual geotechnical recommendations themselves. Such an interpretation is consistent with a plain reading of both mitigation measure 11-1 and the self-certification requirement of section 85225. And importantly, such an interpretation would not pose any obstacle to the Department's ability to prepare a certification of consistency prior to undertaking the geotechnical work now that the FEIR has been certified.

In fact, the FEIR in Appendix 3E, entitled, *Delta Reform Act Considerations*, spends 21 pages discussing the Delta Reform Act and how the DCP serves the Act's policies. (Buckman Decl., Ex. A, Appendix 3E.) The FEIR explains that the DCP "is consistent with and furthers the achievement of the coequal goals [of the Delta Reform Act] by providing water supply resilience needed to address seismic risks, sea level rise, and other reasonably foreseeable consequences of climate change and extreme weather events. [The DCP] will have a substantial positive impact on achievement of the coequal goals in a manner consistent with state policy." (*Id.*, p. 5:1-6.) The FEIR further explains the Department would be able to certify "any of the project alternatives," and includes Table 3E-1, spanning 11 pages, which addresses how the DCP project alternatives would be consistent with each of the Delta Reform Act's specific policies. (*Id.*, pp. 7-17.) The FEIR also includes detailed analyses of the DCP's environmental impacts on the Delta, explaining that, "[t]o the extent that the [DCP] will cause potentially significant impacts on the physical environment, such environmental impacts are disclosed and analyzed in the EIR and, where feasible, mitigation measures have been proposed. The practical effect of many of the mitigation measures and environmental commitments is to protect Delta values." (*Id.*, p. 20:1-9.)

The Department essentially argues that, even though the FEIR includes Appendix 3E as well as numerous studies and discussions relevant to showing consistency with the Delta Plan, it needs *even more* information before it would be able to self-certify consistency. It seems that in the Department's view, anything less than fully finalized designs will not suffice. The problem with this argument is that neither the applicable statutes nor the regulations indicate this level of detail is required. Thus, the Court is not persuaded that the Department needs more information than what it already has, or that it will be "caught in a catch-22 paradox" if it is required to self-certification consistency prior to undertaking the geotechnical work. (See Resp. Opp. Br., p. 19:23–20:3.) While the Court is certainly not ruling that the Department's not-yet-prepared

certification will be satisfactory, the Court sees no reason why the Department is not currently in position to prepare a satisfactory certification, supported by the relevant studies, data, explanations, and project specifications that are ostensibly included in the certified FEIR.

The Court rejects the interpretation of this mitigation measure as requiring that geotechnical work be conducted *prior to* certification for a few reasons. First, this interpretation is not clear from the language of the mitigation measure itself, as just discussed. Second, to read this mitigation measure as requiring that the lead agency conduct geotechnical work (which is part of the covered action) prior to preparing the certification of consistency would conflict with the plain language of section 85225. Third, such an interpretation would contravene the apparent purpose of the certification requirement given that the extensive geotechnical work at issue here, will likely—*on its own*—have a physical impact on the Delta's ecosystem. Given the apparent environmental impact of this geotechnical work, it makes sense that the Department certify that it is consistent with the Delta Plan *before*, rather than after, it is conducted.

B. Likelihood of Respective Harms to Petitioners and the Department

The next step in the analysis is the comparison of interim harms resulting from the granting or denying of the requested preliminary injunction. Petitioners claim a number of harms, including (1) the procedural harm of not being able to appeal the Department's certification under section 85225 until *after* the end of geotechnical investigations, (2) potential harm to living and buried tribal cultural resources in the Delta, and (3) physical harm to real property. The Department cites the following harms that would result from a preliminary injunction enjoining geotechnical investigations: (1) contractual penalties of up to $160,000 that the Department would have to pay to geotechnical consultants, (2) higher project costs resulting from delay due to inflation and additional overhead costs, and (3) the higher risk of harm to the state's water supply from a natural disaster.

Given the plain statutory language, Petitioners have established a strong likelihood of success on the merits on the mostly legal question of whether certification under Water Code section 85225 is required prior to the geotechnical investigations. As such, a minimal showing of likelihood of harm is sufficient to justify the issuance of a preliminary injunction. The Court finds that the procedural harm of being denied the opportunity to appeal the Department's certification prior to the completion of geotechnical investigations is sufficient to justify the issuance of a preliminary injunction.

C. Whether the Petitions' Allegations Preclude Issuance of a Preliminary Injunction

The Department argues that Petitioners nonetheless cannot receive injunctive relief because of deficiencies in their petitions. The Court disagrees.

With respect to County of Sacramento, et al., (24WM000014), Sacramento Area Sewer District (24WM000012), and City of Stockton (24WM000009), the Department argues that they are not entitled to injunctive relief because they did not specifically request injunctive relief in connection with their Delta Reform Act causes of action. With respect to County of San Joaquin, et al. (24WM000010), the Department argues that the petition is deficient because although the petition seeks an injunction with respect to the Delta Reform Act claim, it only seeks to enjoin the Department from "constructing or operating" the DCP, which will not happen for many years to come.

A preliminary injunction, though, is available as a "provisional or auxiliary remedy to preserve the status quo until a final judgment," even where "the main action seeks another remedy." (*Southern Christian Leadership Conference v. Al Malaikah Auditorium Co*. (1991) 230 Cal.App.3d 207, 223 [preliminary injunction available even where the complaint seeks damages on breach of contract]; compare Code Civ. Proc., § 526, subd. (a)(1) with subd. (a)(3).) The preliminary injunction sought in these motions would be appropriately issued to maintain the status quo with respect to the Delta Reform Act claims even if the respective petitions do not contain a prayer for the same injunctive relief.

With respect to San Francisco Baykeeper, et al. (24WM000017), the Department argues that the petition impermissibly seeks to enjoin the Department from making its discretionary decision with respect to consistency with the Delta Plan. The Court disagrees. The petition only seeks an injunction to restrain the Department from implementing the DCP without first certifying it in violation of Water Code section 85225. (Baykeeper Pet. ¶¶ 280-281, 284.) It does not seek to impermissibly enjoin the Department from exercising its discretion. Rather, it seeks to ensure that the Department, should it decide to implement the DCP, perform its mandatory duty of certifying the DCP under section 85225 before implementation.

CONCLUSION

The motions for preliminary injunction are granted. The geotechnical work at issue here is part of the covered action, which requires certification of consistency with the Delta Plan before it is implemented. The Department is, therefore, enjoined from undertaking the

geotechnical work described in Chapter 3 of the FEIR prior to completion of the certification procedure that the Delta Reform Act requires.

* * *

This minute order is effective immediately. No formal order or other notice is required. (Code Civ. Proc., § 1019.5; Cal. Rules of Court, rule 3.1312.)

Exhibit E

ELECTRONICALLY FILED
Superior Court of California
County of Sacramento
07/24/2024
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Exempt from Filing Fees Under Government Code § 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

COUNTY OF SACRAMENTO, a California county,

Petitioner and Plaintiff,

v.

CALIFORNIA DEPARTMENT OF WATER RESOURCES, a California State Agency,

Respondent and Defendant.

DOES 1 through 50,

Real Parties in Interest.

Case No. 24WM000014

(Related to 24WM000006; 24WM000008; 24WM000009; 24WM000010; 24WM000011; 24WM000012; 24WM000017; 24WM000062 24WM000076)

CAL. DEPT. OF WATER RESOURCES' MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF EX PARTE APPLICATION FOR ORDER TO MODIFY OR STAY THE PRELIMINARY INJUNCTION

(CEQA case: California Environmental Quality Act, Pub. Resources Code, § 21000 et seq.)

Dept: 36
Judge: Hon. Stephen Acquisto
Action Filed: January 22, 2024

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INTRODUCTION AND SUMMARY OF ARGUMENT

The Department of Water Resources (DWR) respectfully requests the Court to modify the Court s Ruling on Submitted Matter – Petitioners Motions for Preliminary Injunction, dated June 20, 2024 (Ruling), prior to completing a certification of consistency under the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act), to allow DWR to conduct limited field investigation activities consistent with the types of field investigation activities successfully completed in May and June 2024 prior to the injunction, or in the alternative, to stay the Ruling. DWR requests modification specifically to conduct some, but not all, of the soil borings, cone penetration tests, and water quality tests described in Chapter 3 of the Environmental Impact Report (EIR) for the Delta Conveyance Project (DCP) (collectively, 2024-2026 Proposed Geotechnical Activities). (Buckman Decl., 4-5 [Compendium of Evidence in Support of DWR s E Parte Application (COE) III:1262-1263];[1] Marque Decl., 18-20 [COE IV:1548-1549].) DWR s activities will involve only data collection to support additional planning and design of the DCP and will not involve construction of any permanent facilities. In addition, this limited data collection will *not* include any overwater work, trench digging, work on levees, or construction of permanent survey monuments. (Marque Decl., 20 [COE IV:1548-1549].)

The 2024-2026 Proposed Geotechnical Activities that DWR proposes will cause no permanent adverse change to the Delta ecosystem. The work will serve to inform critical planning and design processes of the DCP and, more importantly, they (by themselves) are not a covered action under the Delta Reform Act, set forth in Water Code section 85000 et seq. They will not have an impact on achievement of one or both of the coequal goals of the Delta Reform Act, or implicate any of the Delta Plan s substantive policies. (Wat. Code, § 85057.5, subd. (a)(3)-(4); Cal. Code Regs., tit. 23, § 5000 et seq; Marque Decl., 23-28 [COE IV:1549-1557].)

Modification or a stay of the Ruling is warranted for the following reasons.

First, DWR believes California and its public water agencies will suffer irreparable harm, relative to the purported harm of Petitioners, if there is a delay to the DCP project timeline. If

[1] All declarations in support of this e parte application will be cited in the following format: ([*last name*] Decl., [*paragraph number*] [COE [*volume number*]:[*page number*].)

DWR cannot conduct the scaled-down 2024-2026 Proposed Geotechnical Activities in a timely fashion, this will likely delay the project causing increased costs that could e ceed one billion dollars. In addition to increased costs, delay also threatens to endanger water supplies for millions of Californians particularly at a time of looming climate and seismic risks. The Sacramento-San Joaquin Delta (Delta) has highly variable hydrologic conditions that are being e acerbated by climate change; this variability will only amplify over time. If these conditions are not timely addressed, the water supply for millions of Californians, including 7 million disadvantaged community members and hundreds of thousands of acres of farmland, will be in serious jeopardy. Likewise, when a major earthquake occurs in the Bay Area as is likely in the ne t 30 years this will threaten hundreds of earthen levees in the Delta, and freshwater supplies for millions of people for a year or more. No time can be wasted: DWR should be allowed to conduct the limited 2024-2026 Proposed Geotechnical Activities.

Second, if the Court denies the request to modify the preliminary injunction, then DWR requests that the Court stay the injunction pending DWR s appeal. The Court s decision raises substantial questions of first impression, and there is at least a reasonable probability that the Court of Appeal will agree with DWR s position and reverse the Ruling on appeal. A stay is appropriate (if the injunction is not modified) to avoid irreparable harm that could not be undone if DWR ultimately prevails on appeal.

Finally, DWR respectfully requests a ruling on this e parte application before DWR s deadline to appeal the Ruling on August 19, 2024.

RELEVANT BACKGROUND

I. THE DCP IS A CRITICALLY IMPORTANT WATER RESILIENCY PROJECT

The DCP is an e ceptionally important water infrastructure project for the State of California. (Buckman Decl., 8-11 [COE III:1263-1265].) Without it, the State s water supply will continue to rely on aging facilities and levees that are becoming incapable of combating the effects of sea level rise due to climate change and potential catastrophic seismic events. (Bradner Decl., 27, E hs. B-H [COE I–III:302-305, 373-1260].) Climate change models indicate that as sea levels rise, saltwater intrusion likely will threaten the State s fresh water supplies if protective

measures are not carried out soon. (*Id.*, 27, E hs. E, F, G, H [COE I–III:302-305, 724-1260].) When built, the DCP will safely capture, move, and store water from big, infrequent but, in an era of climate change with more rain and less snow, increasingly common storm events. (*Ibid*.) It will also protect against major seismic events that are predicted to occur in the Bay Area. (*Id.,* 27, E h. B, C, D, G [COE I–II:302-305, 373-722, 838-913].) By safeguarding against these calamitous events, the DCP will preserve necessary and life supporting freshwater supplies to a majority of water users in the State. (Buckman Decl., 8-11 [COE III:1263-1265].)

II. PETITIONERS' MOTIONS FOR PRELIMINARY INJUNCTION

On May 3 and May 8, 2024, Petitioners San Francisco Baykeeper, et al., County of Sacramento, et al., Sacramento Area Sewer District, City of Stockton, and County of San Joaquin, et al. (collectively, Petitioners) filed motions for a preliminary injunction seeking to enjoin DWR from undertaking geotechnical field investigations specified in Chapter 3 of the DCP EIR. DWR asserted that the preconstruction geotechnical work in Chapter 3 of the DCP EIR is for data collection to: (1) study the soils, groundwater, and fault lines in the DCP s underground alignment; (2) inform DWR s final planning and design efforts; and (3) support eventual full certification of consistency under the Delta Reform Act. (Wat. Code, § 85000 et. seq.)

III. COURT'S RULING ON THE PRELIMINARY INJUNCTION MOTIONS

On June 20, 2024, this Court issued a preliminary injunction enjoining DWR from undertaking the geotechnical work described in Chapter 3 of the FEIR prior to completion of the certification procedure that the Delta Reform Act requires. (Ruling, p. 12.)

The Court e plained that the Delta Reform Act, set forth in Water Code section 85000 et seq., establishes a self-certification process for agencies to demonstrate that projects in the Delta, that are covered actions, are consistent with the Delta Plan. (Ruling, p. 4; citing Wat. Code, § 85225.) The statutory requirement is that a public agency, prior to initiating the implementation of that covered action, shall prepare a written certification with detailed findings as to whether the covered action is consistent with the Delta Plan and shall submit that certification to the [Delta Stewardship Council]. (Wat. Code, § 85225.)

The Court framed the issue as one of statutory interpretation. (Ruling p. 3.) The Court e plained that a covered action is any plan, program, or *project as defined pursuant to Section 21065 of the Public Resources Code* that meets a number of conditions, including that the action [w]ill have a significant impact on achievement of one or both of the coequal goals of the Delta Plan (Ruling, p. 4, original italics [quoting Wat. Code, § 85057.5, subd. (a)]), and *which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.* (*Ibid*., original italics [quoting Pub. Resources Code, § 21065, subd. (a)].) The Court agreed with Petitioners that DWR s inclusion of the geotechnical work at issue here in the EIR and Notice of Determination meant that the geotechnical work is part of the project within the meaning of CEQA, and thus is necessarily part of a covered action within the meaning of Water Code section 85225. (Ruling, p. 4.) The Court concluded that DWR s proposed geotechnical activities (including boring holes, trench digging, and other work described in Chapter 3 of DWR s EIR for the DCP) are activities that certainly appear to be the type of activity that would cause physical change in the environment . . . and have a significant impact on the achievement of one or both of the coequal goals of the Delta Plan. (Ruling, p. 5.) From this, the Court concluded that [g]iven the apparent environmental impact of this geotechnical work, it makes sense that the Department certify that it [the geotechnical work] is consistent with the Delta Plan *before*, rather than after, it is conducted. (*Ibid*., original italics.)

The Court enjoined all geotechnical work outlined in Chapter 3 of the DCP EIR until DWR completes the certification procedure in the Delta Reform Act. DWR now moves the court to modify the injunction to allow limited geotechnical activities to continue or, in the alternative, stay the injunction pending DWR s appeal.

IV. LIMITED WORK IF THE INJUNCTION IS MODIFIED OR STAYED

If the injunction is modified or stayed, DWR will voluntarily limit itself to performing substantially less work than what is outlined in Chapter 3 of the EIR. DWR will scale down its field work and only perform the 2024-2026 Proposed Geotechnical Activities, which are limited in scope and intensity. (Buckman Decl., 4 [COE III:1262-1263]; Marque Decl., 18-20 [COE

IV:1548-1549].) Over a two-year period, DWR proposes to complete 230 soil borings (including 31 soil borings with water quality tests), 15 cone penetration tests, and 31 water quality tests at select boring sites. (Buckman Decl., 4 [COE III:1262-1263].) These limited activities will not include any overwater work, trench digging, work on levees, or construction of permanent survey monuments. (Marque Decl., 20 [COE IV:1548-1549].) The borings and tests will include auger and mud rotary drilling, soil sampling, pressuremeter testing in boreholes, P-S logging using a transmitter and receiver, and installation and removal of a polyvinyl chloride (PVC) pipe with a small submersible pump to conduct water quality testing. (*Id.,* 18-20 [COE IV:1548-1549].) All of this work will take place on properties in Sacramento, San Joaquin, Alameda, and Contra Costa Counties and comply with environmental commitments and mitigation measures in the DCP EIR. (Finney Decl., 8 [COE IV:1362-1363].) Those protective measures will include the Proposed 2024-2026 Preconstruction Field Investigations - Environmental Compliance, Clearance, and Monitoring Plan (EC-14 Plan) and the Tribal Cultural Resources Management Plan: Phase I. (Marque Decl., 25 [COE IV:1550-1553].) As required by the EC-14 Plan, DWR will avoid sensitive resources, wetlands, and waters of the United States. (*Id.,* 25, 28 [COE IV:1550-1551, 1554-1557].) DWR s limited work will not cause any permanent adverse change to the Delta ecosystem, will not have an impact on achievement of one or both of the coequal goals of the Delta Reform Act, or implicate any of the Delta Plan s substantive policies. (*Id.,* 23-28 [COE IV:1549-1557].)

LEGAL STANDARD

Courts retain power to vacate or modify [] orders at any point, including injunctions. (*In re Butler* (2018) 4 Cal.5th 728, 743; citing *Sontag Chain Stores Co. v. Superior Court* (1941) 18 Cal.2d 92, 94–95 [stating an injunctive order, it has uniformly been held, is always subject, upon a proper showing, to modification or dissolution by the court which rendered it]; see also *Woods v. Corsey* (1948) 89 Cal.App.2d 105, 113 [noting that injunction is always subject to modification upon application to the trial court if its continued enforcement in the future in its present form would effect an injustice]; Code Civ. Proc., § 533 [court may modify injunction if the ends of justice would be served by the modification].) Courts considering discretionary stays

consider two issues: (1) whether a would-be appellant needs a stay to protect the benefit of a reversal of the judgment against [them], and (2) whether it is like[ly] that substantial questions will be raised on appeal. (*Veyna v. Orange Cty. Nursery, Inc.* (2009) 170 Cal.App.4th 146, 156-157.) The Court may also stay enforcement of any judgment or order through its own discretionary powers. (Code Civ. Proc., § 918, subd. (a); see also *Daly v. San Bernardino County Bd. of Supervisors* (2021) 11 Cal.5th 1030, 1039.)

ARGUMENT

I. THE INJUNCTION SHOULD BE MODIFIED BECAUSE IRREPARABLE HARM IS LIKELY TO BE CAUSED FROM THE DCP'S DELAY

The injunction should be modified to allow the limited geotechnical work described above. DWR believes the State will suffer irreparable harm if there is further delay to the DCP. Specifically, DWR seeks to avoid irreparable harm stemming from: (1) intolerable risks to Californians water supplies; (2) enormous, unrecoverable costs; and (3) an unnecessary multiplicity of administrative proceedings.

A. Intolerable Climate and Seismic Risks

Delay to the DCP presents intolerable climate and seismic risks risks that threaten water supplies for millions of Californians and hundreds of thousands of acres of farmland. Delay to the DCP e poses these water supplies to the twin threats of advancing sea level rise due to climate change and the predictable risk of a major seismic event in the Bay Area. (Bradner Decl., 27, E hs. B-H [COE I–III:30-305, 373-1260].)

Recent earthquake prediction models indicate that a major seismic disaster is highly likely to occur in the Bay Area in the ne t 20 years. (Bradner Decl., 27, E h. D [USGS, Earthquake Outlook for the San Francisco Bay Region 2014–2043. Fact Sheet 2016-3020. Version 1. August 2016] [COE I–II:302-305, 717-722].) The USGS estimates that the probability of a catastrophic seismic event in the San Francisco Region which e tends into the Delta in that time frame is: (1) 72 for an earthquake measuring magnitude 6.7 or greater; (2) 51 for an earthquake measuring magnitude 7 or greater; and (3) 20 for an earthquake measuring magnitude 7.5 or greater. (*Ibid*.) When a strong earthquake occurs in the Bay Area, it could lead to catastrophic

failure of earthen and fragile levee embankments that currently prevent salt water from intruding into critical parts of the Delta ecosystem. (*Id.,* 27, E hs. B, C, E, F, G, and H [COE I–III:302-305, 373-587, 724-750, 806-832, 851-874, 917-1260].) Many of the faults studied in the modeling e tend under and through the Delta. (*Id.,* 27, E h. D [COE I–II:303, 717-721].) If these levees fail, operations of the e isting State Water Project (SWP) facilities in the Delta could be disrupted for a year or more. (*Id.,* 27, E hs. D-F [COE I–II:303-304, 722, 736-740, 744-754, 764-773, 820-832].) Disruption at this scale would be calamitous to the State, its communities, and the economy. (*Id.,* 27, E hs. F, G [COE I–II:302-305, 875-880].) It could result in more than 15 billion in damages (using 2005 dollars) and also fatalities. (*Id.,* 27, E h. F [COE I–II:302-305, 813, 816-826].)

Moreover, the continuing effects of climate change on the Delta also are very serious. As the climate changes, sea levels continue to rise, and salt water will continue to intrude further into the Delta, reducing the State s ability to divert fresh water from e isting south Delta pumps. (Bradner Decl., 27, E hs. E, F, and H [COE I–III:302-305, 727, 736-740, 744-754, 764-773, 812, 830-832, 943, 952-961, 968-972, 977-990, 1132-1133, 1198-1199, 1240-1249].) The DCP with its intakes in the north Delta will help mitigate water supply losses that otherwise likely will occur due to sea level rise. (See *ibid.*)

In the absence of the DCP, these seismic and climate risks will be borne by millions of Californians. The two largest SWP contractors are Metropolitan Water District of Southern California (Metropolitan) and Kern County Water Agency (KCWA); their contractual rights entitle them to receive up to appro imately 46 and 25 of available SWP supplies, respectively. (Poly os Decl., 4 [COE IV:1725]; Wallace Decl., 8 [COE IV:1751].) Metropolitan, comprised of 26 member agencies, serves water to its member agencies that reach 19 million people almost half the California population in the counties of Ventura, Los Angeles, Riverside, San Bernardino, Orange and San Diego. (Poly os Decl., 3 [COE IV:1724-1725.) KCWA serves water to its members, which supply water to agricultural and municipal customers. (Wallace Decl., 5, [COE IV:1750].) On average, Metropolitan obtains 30 of its

water supplies from the SWP and KCWA obtains 40 . (Poly os Decl., 4-5 [COE IV:1725]; Wallace Decl., 5, 9 [COE IV:1750-1751].)

The risks associated with delays to the DCP are especially troubling at a time when water supplies are already under stress. Metropolitan is entitled to receive up to 1.911 million acre-feet (AF) per year of SWP supplies, and KCWA is entitled to up to 982,730 AF per year.[2] (Poly os Decl., 4 [COE IV:1725]; Wallace Decl., 7 [COE IV:1751].) However, the amount they actually receive is often lower because of unpredictable precipitation in the Delta watershed, as well as regulatory restrictions on SWP operations to meet environmental regulations. (Poly os Decl., 4, 6 [COE IV:1725-1727]; Wallace Decl., 7, 10 [COE IV:1751-1752].) For instance, in 2022, KCWA s SWP allocation was only 49,137 AF. (Wallace Decl., 7 [COE IV:1751].) In dry years like 2014, 2021, and 2022, Metropolitan s SWP allocation dropped as low as 96,000 AF. (Poly os Decl., 4 [COE IV:1725].) DWR s biannual SWP Delivery Capability Reports model long-term average SWP deliveries accounting for regulatory restrictions and climate change, and show a roughly 20-percent decline in long-term average annual deliveries, from 2,958 thousand AF per year in the 2005 Delivery Capability Report to 2,401 thousand AF per year in the Draft 2023 Delivery Capability Report a drop of 557,000 AF. (Poly os Decl., 6 [COE IV:1725-1727]; Wallace Decl., 10 [COE IV:1751-1752]; Buckman Decl., 11, E h. E [COE III:1265-1266, 1308]; see also Bradner Decl., 27, E h. G [COE I–II:302-305, 862].) DWR s modeling of a 2070 scenario with climate change and sea level rise shows an additional 570,000 AF decline in long-term average annual SWP deliveries from the Delta without the DCP, which, if the DCP were constructed and operated, would be cut to a 167,000 AF decline, erasing 403,000 AF of additional declines. (Poly os Decl., 7, E h. A [COE IV:1727, 1739-1740]; Wallace Decl., 11, E h. A [COE IV:1753, 1758-1759]; Buckman Decl., 11, E h. E [COE III:1265-1266, 1308]; see also Bradner Decl., 27, E h. G [COE I–II:302-305, 862].)

Both Metropolitan and Kern must manage highly variable water supplies to store water when it is abundant, and draw on storage and implement other measures to conserve water and

[2] One acre-foot equals about 326,000 gallons, or enough water to cover an acre of land one foot deep, and to serve three families in a year. (Poly os Decl., 4, fn. 1 [COE IV:1725].)

manage demand when SWP supplies are short. (Poly os Decl., 13-19 [COE IV:1731-1734]; Wallace Decl., 10, 16 [COE IV:1751-1753].) Investments in storage, water supply forecasting and integrated water management make this possible. (Poly os Decl., 8-15 [COE IV:1727-1732].) KCWA has invested 38.2 million in the planning and design for the DCP to attempt to safeguard its SWP supplies, in light of projected reductions due to climate change and regulatory restrictions. (Wallace Decl., 13-14 [COE IV:1753].)

The DCP would help safeguard these threatened water supplies. DWR conducted a hindcast calculation for the SWP allocation for 2021 that modeled SWP supplies assuming the DCP had been in place and operating in compliance with regulatory standards for protection of fisheries and water quality objectives. (Poly os Decl., 20 [COE IV:1734]; Wallace Decl., 17 [COE IV:1754].) The 2021-2022 water year was a critical dry year, but had DCP been operating as proposed to comply with all environmental regulations, the SWP could have diverted an additional 236,000 AF enough water for roughly 850,000 households for a year. (Poly os Decl., 20, E h. B [COE IV:1744, 1746]; Wallace Decl., 17, E h. B [COE IV:1754, 1765]; Buckman Decl., 12, E h. C [COE III:1266, 1272].) DWR conducted a similar hindcast for the start of 2024 and identified that an additional 909,000 AF of water could have been captured between January 1 and April 11, 2024 enough water for nearly 3.1 million households for one year. (Poly os Decl., 21, E h. B [COE IV:1735; 1746]; Wallace Decl., 18, E h. B [COE IV:1754, 1765]; Buckman Decl., 13, E h. C.) The hindcast modeling indicates that the DCP would e pand on this objective by capturing supplies during high flows from periodic storms which can occur even in below normal , dry , or critical water years. (Poly os Decl., 22 [COE IV:1735].) Delays to the DCP will significantly affect Metropolitan and KCWA s ability to supply water to millions. (Poly os Decl., 19 [COE IV:1734]; Wallace Decl., 22 [COE IV:1755].)

In sum, the DCP is essential to safeguarding water supplies for millions of Californians. DWR believes any delay to the DCP that is, delay to hardening California s water supply against looming seismic and climate risks constitutes irreparable harm.

B. Enormous, Unrecoverable Costs

Delay also threatens to cause enormous, unrecoverable costs. (Cf. *Mississippi Power & Light Co. v. United Gas Pipe Line Co.* (5th Cir. 1985) 760 F.2d 618, 623-624 [finding economic harm to the public interest for ratepayer charges].) DWR s planning and technical efforts are spearheaded by the Delta Conveyance Design and Construction Authority (DCA), a joint powers authority established between DWR and public water agency members. (Bradner Decl., 3-6 [COE I:292-293].) The DCA recently released an updated cost estimate for the DCP in the amount of 20.1 billion in 2023 dollars. (Bradner Decl., 24 [COE I:300-301].) If the 2024-2026 Proposed Geotechnical Activities are delayed, the DCP project timeline and critical path could be significantly delayed, causing cost increases that could reach 1.2 billion. (Bradner Decl., 24-26 [COE I:300-302].) Compounding the issue is that these delays will also prevent DWR from developing money-saving project innovations that would be informed by the 2024-2026 Proposed Geotechnical Activities. (Bradner Decl., 26 [COE I:301-302].) Savings from project innovations could amount to an additional 1.23 billion. (*Ibid*.)

The Court did not require any of the Petitioners to post a bond to offset DWR s costs or e penditures. Unless the Court modifies the injunction to allow DWR to perform the narrowly tailored 2024-2026 Proposed Geotechnical Activities, billions of dollars of public funds could be wasted, if the Ruling remains unmodified and is ultimately reversed on appeal. (See *Mills v. Cty. of Trinity* (1979) 98 Cal.App.3d 859, 861 [stays are necessary to protect the appellants from the irreparable injury they will necessarily sustain in the event their appeal is deemed meritorious].)

C. Needlessly Multiplied Proceedings

Unless the injunction is modified or stayed, DWR believes it will also suffer irreparable harm in the form of a needless multiplicity of administrative proceedings.

Specifically, DWR is concerned that the absence of data from the 2024-2026 Proposed Geotechnical Activities will multiply proceedings before the Delta Stewardship Council (Council). Past e perience suggests that geotechnical data like the geotechnical data to be gathered here is important to the Council when evaluating a large infrastructure project. In 2018, DWR submitted a certification of consistency for a previous tunnel project, called the

California WaterFi (WaterFi) (Marque Decl., 4, 12 [COE IV:1541-1542, 1544-1545].) Similar to the DCP, WaterFi s CEQA project description included a phased geotechnical investigation approach. (Marque Decl., 14 [COE IV:1546].) The administrative process for WaterFi informed DWR s understanding of the types of information the Council needs before substantial evidence can e ist for a certification of consistency and, therefore, informed DWR s approach to the DCP. (Marque Decl., 12 [COE IV:1544-1545].) During the WaterFi certification appeals, the Council s staff informed DWR that staff would be recommending that the Council remand the certification back to DWR because DWR lacked substantial evidence to support the conclusion that WaterFi was consistent with Delta Plan policy DP P2, codified in the California Code of Regulations, title 23, section 5011. (Marque Decl., 12 [COE IV:1541-1542, 1544-1545]; see also Henderson Decl., 4 [COE IV:1370-1371], E h. B [Staff Draft Determination, p. 144] [COE IV:1527].) This remand was based, in part, on DWR s plan to complete certain geotechnical activities identified in the WaterFi EIR after, instead of before, completing its certification of consistency.[3] (Henderson Decl., 4 [COE IV:1370-1371], E h. B [Staff Draft Determination, p. 89] [COE IV:1527]; Marque Decl., 14 [COE IV:1546].)

Additionally, unlike CEQA, Delta Plan Policy G P1(b)(3) requires that as relevant to the purpose and nature of the project, all covered actions must document use of *best available science*. (Cal. Code Regs., tit. 23, § 5002, subd. (b)(3) [emphasis added].) CEQA, by contrast, requires only substantial evidence on any significant environmental effects of a CEQA project. Critically, DWR cannot use a project s EIR as the *sole support* for a certification of consistency because CEQA analyses are *different* than Delta Plan analyses. (Marque Decl., 14-15 [COE IV:1546-1547].) Evidence that is sufficient to demonstrate CEQA compliance may not be sufficient to demonstrate that an agency has complied with the Delta Plan s best available science policy. (Marque Decl., 15 [COE IV:1546-1547].) To avoid potential multiple proceedings

[3] If DSC staff concluded that completing geotechnical activities identified in the WaterFi EIR constituted implementation of a covered action, DSC staff would not have directed DWR to complete further geotechnical activities on remand because an agency may not implement a covered action on remand. (Cal. Code Regs., tit. 23, § 5034 [covered action shall not be implemented until [a]fter remand]; Wat. Code, § 85225.25 [revised certification required prior to proceeding with the action].)

before the Council, DWR requests modification of the injunction. Filing a certification of consistency without sufficient geotechnical data to support project features may result in a multiplicity of unnecessary regulatory proceedings. (Marque Decl., 9 [COE IV:1543-1544].) This would result in wasted time, money, and resources, constituting irreparable harm to DWR.

II. PETITIONERS WILL SUFFER NO IRREPARABLE HARM

Petitioners, by contrast, will suffer no harm from the proposed modification. By requesting modification of the injunction, DWR is not asking to perform *all* work outlined in Chapter 3 of the DCP EIR. Rather, DWR is asking for permission to perform only a very limited scope of work that will be performed with protective measures in place, as was demonstrated by the geotechnical investigations that DWR already completed in May and June 2024 before the injunction. A complete halt to all geotechnical work unfairly prejudices DWR and irreparably harms the State, and public water agencies, relative to the harm purportedly suffered by Petitioners. (See *Mills v. Cty. of Trinity, supra,* 98 Cal.App.3d at p. 861.)

In Petitioners motions for a preliminary injunction, Petitioners failed to adequately establish any physical or actual harms associated with the geotechnical work proposed in the EIR including, in particular, the 2024-2026 Proposed Geotechnical Activities. The physical harms Petitioners asserted were without evidentiary support and largely concerned work not being proposed (i.e., over water work, on levee work, trenching, and permanent monuments).

Petitioners also would not have any procedural harm associated with the limited work if the Court modifies or stays the injunction. The limited work will not impact the achievement of either of the Delta Plan s coequal goals or be inconsistent with any of the Delta Plan s policies to trigger any requirements under the Delta Reform Act. (Marque Decl., 26-28 [COE IV:1554-1557].) And even if Petitioners could show procedural harm, it would not outweigh the potential irreparable harm to DWR and California if the DCP is delayed.

III. THE PROPOSED GEOTECHNICAL ACTIVITIES WILL NOT HARM THE ENVIRONMENT

Nor will there be environmental harm associated with the 2024-2026 Proposed Geotechnical Activities. (Marque Decl., 25 [COE IV:1550-1553].) As with DWR s completed Spring 2024 work, the 2024-2026 Proposed Geotechnical Activities will incorporate all

applicable environmental commitments and mitigation measures from the DCP EIR. (*Ibid*.) These measures include the Proposed 2024-2026 Preconstruction Field Investigations - Environmental Compliance, Clearance, and Monitoring Plan (EC-14 Plan) (Marque Decl., 25 [COE IV:1550-1553], E h. C [COE IV:1621]) and the Tribal Cultural Resources Management Plan: Phase I (*Id*., E h. D [COE IV:1705].) The EC-14 Plan for the 2024-2026 Proposed Geotechnical Activities will ensure avoidance of sensitive resources, including work in over-water and work on levees. (*Id*., 25 [COE IV:1550-1553].) Prior to the Ruling, DWR completed the Spring 2024 geotechnical investigations, which included 13 borings, one cone penetration test, and three water quality tests. (*Ibid*.) By utili ing the same environmental commitments as before, the 2024-2026 Proposed Geotechnical Activities will not cause any adverse change to the Delta ecosystem. Photographs of the Spring 2024 work demonstrate the scope of the work is minimal, and that the worksites will be restored upon completion. (*Ibid.*, [photos 1-3: pre-boring, active boring, and post-boring photos].)

IV. THE PROPOSED ACTIVITIES WILL NOT IMPACT ACHIEVEMENT OF EITHER OF THE DELTA PLAN'S COEQUAL GOALS OR IMPLICATE ANY DELTA PLAN POLICY

Furthermore, the 2024-2026 Proposed Geotechnical Activities are not a covered action[4] under the Delta Reform Act because: (i) they will not have a significant impact on achievement of one or both of the coequal goals or on implementation of government-sponsored flood control programs, and (ii) they are not covered by one or more of the regulatory policies. (Marque Decl., 25-28 [COE IV:1550-1557]); see also Wat. Code, § 85057.5, subd. (a)(1)-(4) [definition of covered action]; Cal Code Regs., tit. 23, § 5001, subds. (k)(1)(E), (k)(3).) The coequal goals are providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. (Pub. Resources Code, § 29702, subd. (a); Wat. Code, § 85054.) And significant impact means a substantial positive or negative impact on the achievement of one or

[4] The Court s Ruling relies on an analysis that the geotechnical work described in the EIR can on its own be considered a covered action. (Ruling, pp. 5, 10.) However, this argument was not raised in Petitioners opening briefs. When raised by the Court pre-hearing and again during the hearing, DWR requested further briefing prior to any ruling on the motions so that DWR would not be prejudiced by the Court s consideration of this issue. The Court issued its Ruling without allowing any supplemental briefing.

both of the coequal goals or the implementation of a government-sponsored flood control program . . . . (Cal. Code Regs., tit. 23, § 5001, subd. (jj).) The 2024-2026 Proposed Geotechnical Activities, by themselves, will not have a significant impact on achievement of the coequal goals of the Delta Plan. While minor land disturbances will occur, they will be temporary and mitigated because the land will be returned to its original condition when the work is completed. (Marque Decl., 25-26 [COE IV:1550-1554].)

Additionally, the 2024-2026 Proposed Geotechnical Activities will not implicate any of the Delta Plan s substantive policies because the activities will not: (1) involve e port, transfer, or use of water from the Delta [Delta Plan policy WR P1]; (2) involve entering into or amending a water supply or water transfer contract [policy WR P2]; (3) include over-water or in-water work, or work in wetlands or waters of the United States, or significantly affect flow in the Delta [policy ER P1]; (4) involve habitat restoration [policy ER P2]; (5) include work in the identified Priority Habitat Restoration Areas [policy ER P3]; (6) construct, reconstruct, or rehabilitate levees [policy ER P4]; (7) introduce or improve conditions for invasive species [policy ER P5]; (8) involve any urban development [policy DP P1]; (9) require construction of water management facilities, ecosystem restoration, or flood management infrastructure [policy DP P2]; (10) involve discretionary State investments in Delta flood risk management [policy RR P1]; (11) involve residential development [policy RR P2]; (12) encroach in floodways or regulated streams [policy RR P3]; or (13) encroach in floodplain areas [policy RR P4]. (See Marque Decl., 28 [COE IV:1554-1557].)

Because the 2024-2026 Proposed Geotechnical Activities will not result in any permanent physical change to the Delta ecosystem, have a significant impact on achievement of one or both of the coequal goals of the Delta Plan, or implicate any of the relevant Delta Plan policies, the Court should modify the injunction to allow DWR to do the limited work proposed.

V. IN THE ALTERNATIVE, THE INJUNCTION SHOULD BE STAYED BECAUSE SUBSTANTIAL QUESTIONS OF FIRST IMPRESSION ARE INVOLVED

If the Court is not inclined to modify the injunction, DWR respectfully requests that the Court stay the injunction pending DWR s appeal. Discretionary stays are appropriate when

difficult questions of law are involved and the fruits of a reversal would be irrevocably lost unless the status quo is maintained. (*People ex rel. S.F. Bay Conservation and Development Commission v. Town of Emeryville* (1968) 69 Cal.2d 533, 537.) For all of the above reasons, the Court s injunction threatens to cause irreparable harm to the State causing it to lose the fruits of any future reversal on appeal. And the Court s ruling presents substantial questions of law.

The Court s ruling raises substantial questions about the meaning of the Delta Reform Act. Petitioners cited no published decision for their interpretation of the Delta Reform Act, and none currently e ists. Instead, the Court ruled for Petitioners by construing the statute as a matter of first impression: the plain language of section 85225 requires the Department to prepare a certification of consistency prior to initiating implementation of the DCP, including the geotechnical component. (Ruling, pp. 4-5.) Moreover, by concluding that even preliminary, information-gathering geotechnical activities have a significant impact on the achievement of one or both of the coequal goals of the Delta Plan requiring certification *before* those activities are implemented the Court s novel ruling threatens to dramatically e pand the triggering events for the certification-of-consistency requirement under the Delta Reform Act. This creates uncertainty for DWR, the DCP, and possibly for other projects pending in the Delta.

DWR maintains (as it argued in opposing the preliminary injunction motions [PI Opp. at pp. 20–23]) that conducting the geotechnical work at issue here is not initiating the implementation of the DCP, which DWR has determined is a covered action. There is at least a reasonable probability that the Court of Appeal will overturn the Ruling and agree with DWR s position that conducting these pre-certification investigative activities is not initiating the implementation of a covered action. But even if DWR succeeds on appeal, necessary geotechnical work will be delayed risking the irreparable harm described above. Thus, if the injunction is not modified, it should be stayed while DWR appeals.

CONCLUSION

For the foregoing reasons, DWR respectfully requests that the Court modify the preliminary injunction or stay it for the duration of DWR s appeal.

Dated: July 24, 2024

Respectfully submitted,

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Exhibit F

FILED
Superior Court of California
County of Sacramento
08/22/2024
M. Lu, Deputy

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SACRAMENTO

TULARE LAKE BASIN WATER STORAGE DISTRICT, **Petitioner,** **v.** **CALIFORNIA DEPARTMENT OF WATER RESOURCES,** **Respondent,** And Related Cases.	Case Nos. 24WM000006 24WM000008 **24WM000009** **24WM000010** 24WM000011 **24WM000012** **24WM000014** **24WM000017** 24WM000062 24WM000076 Judge: Stephen Acquisto Dept.: 36

Nature of Proceedings:	**Respondent's Ex Parte Applications to Modify or Stay the Preliminary Injunction**

The following is the Court's tentative ruling on Respondent's Ex Parte Applications to Modify or Stay the Preliminary Injunction. As explained below, the applications are denied.

BACKGROUND

On December 21, 2023, Respondent the California Department of Water Resources approved the Delta Conveyance Project (the DCP) and certified its final environmental impact report (FEIR). The DCP is an expansive water infrastructure project to divert water, through a large tunnel, from the Sacramento River and the Sacramento-San Joaquin Delta. The DCP aims to improve the reliability and resiliency of the State Water Project, the existing infrastructure that delivers drinking water to millions of Californians. Following its approval, several writ petitions were filed challenging the DCP and the FEIR under the California Environmental Quality Act (CEQA), the Water Code, and other laws. There are now ten such related cases pending before this Court.

Petitioners in five of the related cases (case nos. 24WM000009, 24WM000010, 24WM000012, 24WM000014, and 24WM000017) filed motions for preliminary injunction seeking to enjoin the Department from undertaking geotechnical investigations, described in

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Chapter 3 of the FEIR as work to "identify geotechnical, hydrogeologic, agronomic, and other field conditions that will guide appropriate construction methods and monitoring programs for final engineering design and construction." Petitioners contended that before beginning any geotechnical work, the Department must first self-certify that the DCP is consistent with the Delta Plan as required by the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act), set forth in Water Code section 85000, et seq.

On June 20, 2024, following a hearing, the Court issued an order granting the requested preliminary injunction mainly based on an analysis of Water Code section 85225, which provides: "A state or local public agency that proposes to undertake a covered action, *prior to initiating the implementation of that covered action*, *shall prepare a written certification of consistency* with detailed findings as to whether the covered action is consistent with the Delta Plan and shall submit that certification to the [Delta Stewardship C]ouncil." (Wat. Code, § 85225 [emphasis added].) The Court found that because the geotechnical work described in Chapter 3 of the FEIR is part of a "covered action," section 85225 prohibits the Department from initiating the geotechnical work prior to preparing a certification of consistency.

The Court found that "Petitioners have established a strong likelihood of success on the merits on the mostly legal question of whether certification under Water Code section 85225 is required prior to the geotechnical investigations," and that the "procedural harm of being denied the opportunity to appeal the Department's certification prior to the completion of geotechnical investigations is sufficient to justify the issuance of a preliminary injunction." (Order, issued 6/20/24, p. 10.) Accordingly, the Court enjoined the Department "from undertaking the geotechnical work described in Chapter 3 of the FEIR prior to completion of the certification procedure that the Delta Reform Act requires." (*Id.*, pp. 10-11.)

The Department filed these ex parte applications to modify the preliminary injunction to allow a scaled-down version of the geotechnical investigations to take place, or in the alternative, stay the preliminary injunction pending appeal.

DISCUSSION

I. The Request to Modify the Preliminary Injunction

"In any action, the court may on notice modify or dissolve an injunction or temporary restraining order upon a showing that there has been a material change in the facts upon which the injunction or temporary restraining order was granted, that the law upon which the injunction

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or temporary restraining order was granted has changed, or that the ends of justice would be served by the modification or dissolution of the injunction or temporary restraining order." (Code Civ. Proc., § 533.)

The Department seeks an order modifying the preliminary injunction to allow it to proceed with some, but not all, of the geotechnical investigations outlined in Chapter 3 of the FEIR. The Department does not claim that a modification is required due to any change in law or facts, but that "ends of justice would be served by the modification." (Resp. App., pp. 9:21-10:6.) The Department argues that the preliminary injunction will cause irreparable harm in the form of severe climate and seismic risks to water supplies, an estimated cost of $1.2 billion caused by a delay in conducting the geotechnical activities, and costs associated with the multiplicity of proceedings before the Delta Stewardship Council due to the Department's inability to conduct geotechnical investigations prior to certification. The Department also argues that Petitioners will suffer no harm, and that the proposed scaled-down geotechnical work will not harm the environment and be consistent with the Delta Plan.

These grounds do not justify the requested modification. First, the Department's arguments regarding the climate and seismic risks, monetary cost of delay in construction, the potential for multiplicity of proceedings before the Council, and the potential harm to Petitioners are not new. The Department already argued these points during the proceedings on Petitioners' motions for preliminary injunction. There is no valid reason to litigate them again.[1]

Second, the fact that the proposed geotechnical investigations will be scaled down does not alter the principal reasons the Court granted the injunction. The Department places much emphasis on the statement in the injunction order that "the extensive geotechnical work at issue here, will likely—*on its own*—have a physical impact on the Delta's ecosystem." (Order, issued 6/20/24, p. 10.) Although this observation certainly supported the Court's conclusion, the main basis for the injunction was the language of section 85225 itself. The geotechnical investigations are part of the DCP as defined in Chapter 3 of the FEIR, which means they are part of the "covered action" for purposes of section 85225. (See Order, issued 6/20/24, p. 2.) And section

[1] As part of these applications, the Department submitted almost 1,500 pages of evidence. Petitioners submitted 44 evidentiary objections to the Department's evidence. The Court declines to rule on the evidentiary objections because the Court's ruling does not rely on the substance of the evidence offered by the Department.

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85225 requires certification "prior to initiating the implementation of that covered action." The scaled-down geotechnical work is still part of "covered action" under section 85225, which means the Department must still complete the certification process prior to initiating it.

II. The Request to Stay the Preliminary Injunction

The Department seeks, in the alternative, to stay the preliminary injunction on the basis that "difficult questions of law are involved and the fruits of a reversal would be irrevocably lost unless the status quo is maintained." (*People ex rel. San Francisco Bay Conservation and Development Commission v. Town of Emeryville* (1968) 69 Cal.2d 533, 537.)

The Court denies this request. The purpose of a preliminary injunction "is the preservation of the status quo until a final determination of the merits of the action." (*Continental Baking Co. v. Katz* (1968) 68 Cal.2d 512, 528.) Staying the preliminary injunction would allow the Department to undertake, and possibly complete, the proposed geotechnical investigations without completing the certification process required by section 85225. This would irreversibly change the status quo, and the issue of compliance with section 85225 would be rendered moot.

Town of Emeryville cited by the Department does not support its position. In that case, the trial court had issued a preliminary injunction restraining Emeryville from conducting certain fill projects, but dissolved the preliminary injunction after ruling on the merits in favor of Emeryville. (*Town of Emeryville*, *supra*, 69 Cal.2d at 536.) Highlighting the importance of instituting a stay restraining Emeryville's fill projects at the appellate level, the California Supreme Court stated:

> But where, as here, difficult questions of law are involved and the fruits of a reversal would be irrevocably lost unless the status quo is maintained, justice requires that an appellate court issue a stay order to preserve its own jurisdiction. While this power should be sparingly employed and reserved for the exceptional situation, the propriety of its exercise in this case cannot be seriously disputed: had Emeryville been permitted to resume its fill activities, it would have been able, as a practical matter, to render this appeal moot.

(*Id.* at p. 537.)

The Court declines to stay the preliminary injunction because doing so would allow the Department to perform the geotechnical investigations without certification, thereby changing the status quo and rendering moot the issue of compliance with section 85225.

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CONCLUSION

For these reasons, the Department's ex parte applications are denied.

* * *

This minute order is effective immediately. No formal order or other notice is required. (Code Civ. Proc., § 1019.5; Cal. Rules of Court, rule 3.1312.)

Document received by the CA 3rd District Court of Appeal.

SUPERIOR COURT OF CALIFORNIA, COUNTY OF SACRAMENTO

Gordon D. Schaber Superior Court, Department 36

JUDICIAL OFFICER: HONORABLE STEPHEN P. ACQUISTO

Courtroom Clerk: M.Lu CSR: None

24WM000010 August 27, 2024
9:34 AM

COUNTY OF SAN JOAQUIN, et al.
vs
CALIFORNIA DEPARTMENT OF WATER RESOURCES, et al.

MINUTES

APPEARANCES:

No Appearances

NATURE OF PROCEEDINGS: Respondent's Ex Parte Applications to Modify or Stay the Preliminary Injunction

Neither party requested oral argument with regard to the Court's tentative ruling issued August 22, 2024. The Court now affirms its tentative ruling.

By: /s/ M Lu
M. Lu, Deputy Clerk

Minutes of: 08/27/2024
Entered on: 08/27/2024

Document received by the CA 3rd District Court of Appeal.

Exhibit G

DELTA CONVEYANCE PROJECT: FINAL CERTIFICATION OF CONSISTENCY FOR 2024–2026 PROPOSED GEOTECHNICAL ACTIVITIES

California Department of Water Resources

PREPARED WITH ASSISTANCE FROM:

ICF
980 9th Street, Suite 1200
Sacramento, CA 95814

October 2024

California Department of Water Resources. 2024. *Delta Conveyance Project: Final Certification of Consistency for 2024–2026 Proposed Geotechnical Activities*. October. Sacramento, CA.

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Chapter 1
Introduction

This is a certification of consistency for certain preliminary geotechnical investigations to support the planning and design of the Delta Conveyance Project (the 2024–2026 Proposed Geotechnical Activities).

To be clear, this is not a certification of consistency for the Delta Conveyance Project, as described below. This certification of consistency is limited to certain preliminary geotechnical work, described herein, related to the Delta Conveyance Project's planning and design. The California Department of Water Resources (DWR) plans to submit a separate certification of consistency for the implementation of the Delta Conveyance Project at a later date.[1]

The 2024–2026 Proposed Geotechnical Activities are proposed to collect valuable data to refine the Delta Conveyance Project alignment and Delta Conveyance Project design. The 2024–2026 Proposed Geotechnical Activities consist of soil borings, cone penetration tests (CPTs), and water quality tests, as described below. These investigations are expected to yield important data about soil properties and water quality. This data, in turn, will inform the planning and design of the Delta Conveyance Project. Continued planning and design efforts will assist DWR in identifying and applying the applicable provisions of the *Delta Plan* when submitting a certification of consistency for the future implementation of the Delta Conveyance Project.

Planning and design geotechnical data collection from the 2024–2026 Proposed Geotechnical Activities will be important to inform the planning and design of the Delta Conveyance Project as well as future discretionary permitting and funding[2] decisions by DWR and other agencies.[3] Future permitting and funding decisions are prerequisites to DWR's implementation of the Delta Conveyance Project. Because the 2024–2026 Proposed Geotechnical Activities are proposed to inform the planning and design of the Delta Conveyance Project, as well as other future decisions

[1] The Final Environmental Impact Report (Final EIR) for the Delta Conveyance Project (which the California Department of Water Resources [DWR] certified in December 2023) acknowledges that the Delta Conveyance Project is a covered action for purposes of compliance with the Delta Reform Act (DRA). Consistent with this conclusion, DWR will prepare a written certification of consistency with detailed findings as to whether the infrastructure comprised by the Delta Conveyance Project covered action is consistent with applicable *Delta Plan* regulatory policies and will submit that certification to the Delta Stewardship Council (DSC) (California Department of Water Resources 2023a:3E-5).

[2] DWR and participating public water agencies have authorized funding for planning and design of the Delta Conveyance Project. Subsequent funding approvals are required to authorize construction and operations of the Delta Conveyance Project before DWR may initiate implementation and construction of the Delta Conveyance Project (Wat. Code § 85089).

[3] Future permitting and funding decisions required before DWR may move forward with implementation of the Delta Conveyance Project and commence construction include the those under the following authorities: (1) DWR (authorization of funding for construction and operation of the Delta Conveyance Project and acquisition of real property), (2) public water agencies (authorization of funding for construction and operation of the Delta Conveyance Project), (3) Delta Conveyance Design and Construction Authority (authorization of contracts for final design and construction of the Delta Conveyance Project), (4) California Department of Fish and Wildlife (incidental take permit), (5) State Water Resources Control Board (Change in Point of Diversion and Section 401 Water Quality Certification), (6) U.S. Army Corps of Engineers (compliance with Clean Water Act Section 404, Rivers and Harbors Act Section 10, Rivers and Harbors Act Section 14, and National Environmental Protection Act), (7) U.S. Fish and Wildlife Service (compliance with Section 7 of the Endangered Species Act), and (8) National Marine Fisheries Service (compliance with Section 7 of the Endangered Species Act and Marine Mammal Protection Act).

necessary prior to the implementation of the Delta Conveyance Project, and to comply with a state court ruling (as discussed below), DWR is filing this certification of consistency for the 2024–2026 Proposed Geotechnical Activities separately from a certification of consistency for the Delta Conveyance Project itself.

Because the 2024–2026 Proposed Geotechnical Activities only concern data collection, they are completely independent of the implementation of the Delta Conveyance Project itself—and, therefore, they may be analyzed independently.[4] Nothing about this certification of consistency, or the 2024–2026 Proposed Geotechnical Activities themselves, in any way predetermines any future outcomes related to the Delta Conveyance Project—including any future review by the Delta Stewardship Council (DSC) of a future certification of consistency for the implementation of the Delta Conveyance Project. This document does not legally compel or practically presume that the Delta Conveyance Project will be implemented in any particular way—or, indeed, that it will ultimately be implemented at all.

Rather, conducting the 2024–2026 Proposed Geotechnical Activities will ensure that DWR and other agency decisionmakers have sufficient planning and design details to make fully informed permitting and funding decisions necessary before DWR may implement the Delta Conveyance Project. DWR's approach here is also consistent with the DSC's Covered Action Checklist (Checklist) (Attachment 1, *Covered Action Checklist*). The Checklist discourages agencies from "[f]iling a Certification of Consistency prior to finalizing the design and operational elements of the project" (Attachment 1, section titled *Additional Considerations*). Consistent with the Checklist, DWR seeks to complete additional geotechnical data collection and design refinements prior to filing a certification of consistency for the Delta Conveyance Project.

Although this document is not a certification of consistency for the Delta Conveyance Project itself, it may nevertheless be helpful to review the broader context and importance of the Delta Conveyance Project. The Delta Conveyance Project will add two new water intakes along the Sacramento River in the north Delta and convey water through an underground tunnel to a new pumping plant that will lift the water into the existing Bethany Reservoir south of the Sacramento–San-Joaquin Delta (Delta). The Bethany Reservoir is a State Water Project (SWP) facility that connects to the South Bay Aqueduct and the California Aqueduct to provide safe, affordable water to the Bay Area, the Central Coast and Central Valley, and Southern California.

The Delta Conveyance Project is essential to ensuring that California's existing water infrastructure—which was built in the twentieth century and which serves water reaching nearly two-thirds of the state's population and 750,000 acres of farmland—can continue to meet

[4] To be clear, this is not "piecemealing" as one might use that term in the context of the California Environmental Quality Act (CEQA) (California Public Resources Code § 21159.27). Regarding thresholds, DWR is unaware of authority to suggest that "piecemealing" concerns apply outside the CEQA context. But even if they did, such concerns are not present here. This is not a situation where DWR seeks to "allow environmental considerations to become submerged by chopping a large project into many little ones—each with a minimal potential impact on the environment—which cumulatively may have disastrous consequences" (*Banning Ranch Conservancy v. City of Newport Beach* [2012] 211 Cal.App.4th 1209, 1222 [internal citations omitted]. This certification of consistency in no way diminishes the future review to which the Delta Conveyance Project will be subject; on the contrary, DWR is pursuing this certification of consistency to continue to collect data that may inform a future certification of consistency for the implementation of the Delta Conveyance Project. Indeed, DWR is pursuing this certification of consistency precisely so that a future certification of consistency (for the implementation of the Delta Conveyance Project) will be as thorough and informative as possible. This approach enhances, rather than diminishes, the DSC's and the public's interest in the robust and informed analysis of a proposed action.

Californians' water needs in the face of twenty-first-century threats. Without the Delta Conveyance Project, the state's water supply will continue to rely on aging facilities and levees that are vulnerable to the effects of climate change through increasingly unreliable weather patterns, sea level rise, and potential catastrophic seismic events. Recognizing the critical importance of the Delta Conveyance Project, DWR approved the Delta Conveyance Project in December 2023 after certification of the *Delta Conveyance Project Final Environmental Impact Report* (Final EIR) in compliance with the California Environmental Quality Act (CEQA).

DWR did not originally plan to submit a certification of consistency for these 2024–2026 Proposed Geotechnical Activities. DWR does not understand the 2024–2026 Proposed Geotechnical Activities to constitute "initiating the implementation of" the Delta Conveyance Project.[5] Rather, DWR understands the 2024–2026 Proposed Geotechnical Activities to be preliminary investigations related to the Delta Conveyance Project's planning and design, which DWR understands to be separate from the Delta Conveyance Project's implementation. However, on June 20, 2024, the Sacramento Superior Court (referring to the Delta Reform Act [DRA][6]) enjoined DWR "from undertaking the geotechnical work described in Chapter 3 of the Final EIR," which includes the 2024–2026 Proposed Geotechnical Activities, "prior to completion of the certification procedure that the DRA requires" (Attachment 2, *June 20, 2024, Sacramento Superior Court Ruling*).[7] DWR submits this certification of consistency for the 2024–2026 Proposed Geotechnical Activities to comply with the order of the Superior Court of California, County of Sacramento, while also ensuring that the Delta Conveyance Project (which, as already noted, is of paramount public importance) is not delayed.

So that DWR can undertake the 2024–2026 Proposed Geotechnical Activities in compliance with the June 20, 2024, ruling—thereby allowing DWR to continue to pursue the planning and design of the Delta Conveyance Project in a way that will promote consistency with the *Delta Plan* and otherwise contribute to informed public review and decision making regarding the Delta Conveyance Project—DWR respectfully submits this certification of consistency for the 2024–2026 Proposed Geotechnical Activities.

[5] Wat. Code § 85225.

[6] Sacramento–San Joaquin Delta Reform Act (SB X7-1) (2009).

[7] To be clear, DWR disagrees with the Superior Court's ruling, does not concede the correctness of any aspect of the Superior Court's ruling or waive any arguments to challenge it, and otherwise maintains the position it has taken in litigation over this issue (including DWR's understanding of its obligations under the DRA). DWR is currently challenging the Superior Court's ruling on appeal.

Chapter 2
Development of the Record

The full record index is provided in this document as Attachment 3, *Record Index*. No later than 5 calendar days after the DSC has posted a notice of appeal pursuant to California Code of Regulations, Title 23, Section 5023, DWR will submit to the DSC the final record that was before DWR at the time it made its certification.

Chapter 3
Description of Proposed Action

3.1 Government Agency Role

DWR is the project proponent, and lead agency under CEQA, for the Delta Conveyance Project. The Final EIR for the Delta Conveyance Project evaluates potentially significant impacts of the project at multiple development phases, including continued project design and planning activities (such as preconstruction field investigations, including the 2024–2026 Proposed Geotechnical Activities), Delta Conveyance Project construction, Delta Conveyance Project operations, and Delta Conveyance Project maintenance. The ability to collect site-specific geotechnical information (through the 2024–2026 Proposed Geotechnical Activities) would support design and planning of the Delta Conveyance Project in meeting the objectives of the Delta Conveyance Project, including the following: to protect SWP water supply reliability; to address anticipated impacts of sea level rise and climate change on SWP water supplies; to minimize SWP water supply disruption due to seismic risk; and to provide operational flexibility to improve aquatic conditions in the Delta.

3.2 CEQA Compliance

DWR has certified the Final EIR for the Delta Conveyance Project, executed a Notice of Determination documenting project approval of the Delta Conveyance Project, adopted project findings of fact and a statement of overriding considerations, and adopted a Mitigation Monitoring and Reporting Program (MMRP) (California Department of Water Resources 2023b). DWR also specifically considered whether subsequent, additional environmental review was required pursuant to CEQA[8] for the 2024–2026 Proposed Geotechnical Activities in the memo titled *2024–2026 Proposed Geotechnical Activities—Evaluation of Consistency with the Delta Conveyance Project's Final EIR* (Evaluation of Consistency memo) (Attachment 4). The Evaluation of Consistency memo considered the proposed investigations for the years 2024 through 2026, including specific locations, depths, and downhole testing and whether this testing had the potential to result in any new or substantially more severe environmental impacts than those analyzed in the Delta Conveyance Project Final EIR. The Evaluation of Consistency memo finds that the 2024–2026 Proposed Geotechnical Activities are described in Chapter 3, *Description of the Proposed Project and Alternatives*, of the Final EIR, that the potential environmental impacts associated with the activities are disclosed and evaluated in the Final EIR, and that no conditions exist triggering the requirement for subsequent CEQA review.

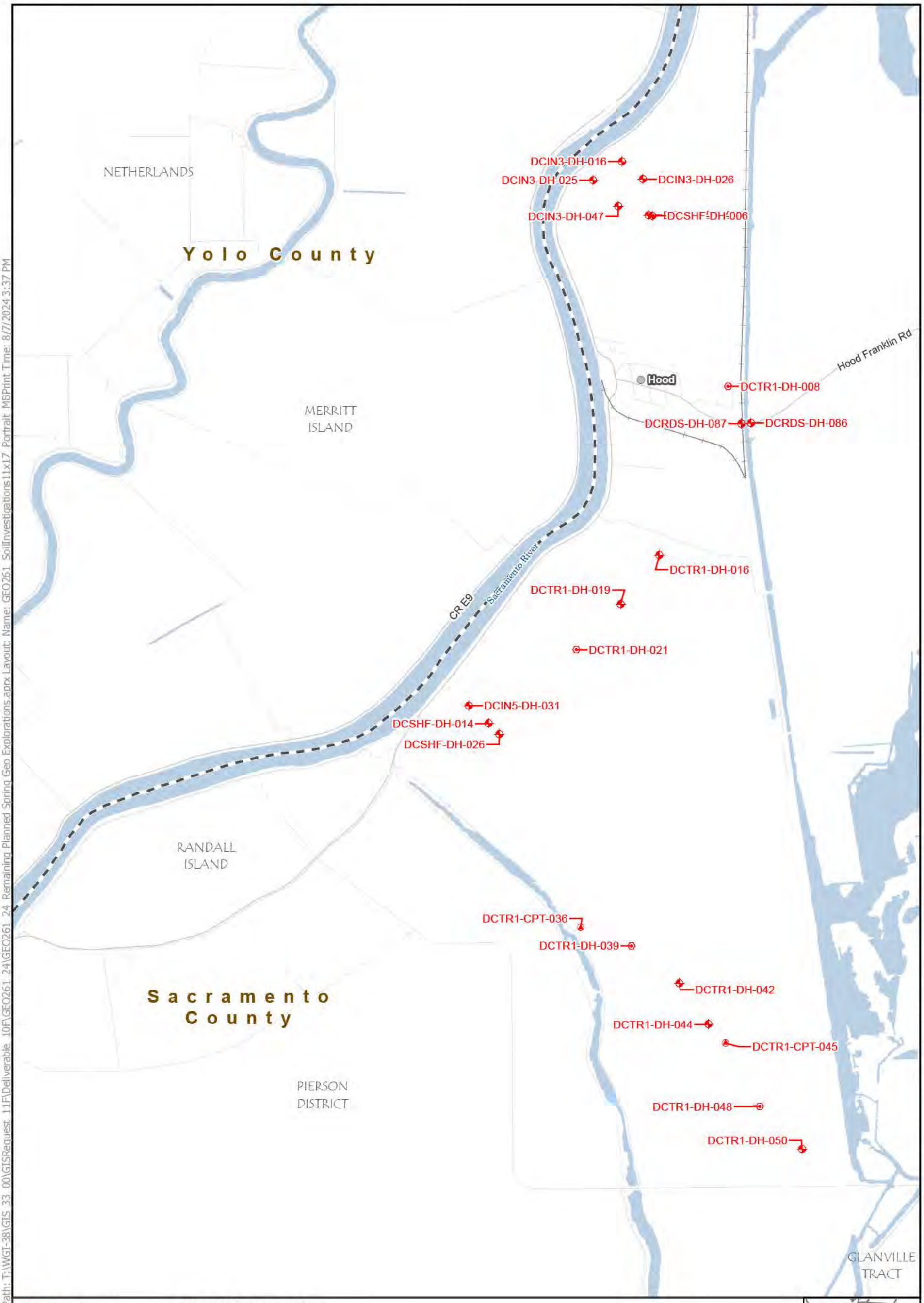
3.3 Location

The 2024–2026 Proposed Geotechnical Activities work is located in Sacramento, San Joaquin, Contra Costa, and Alameda Counties, from north of the town of Hood in the north to Bethany Reservoir in the south.

[8] CEQA Guidelines §§ 15162–15164.

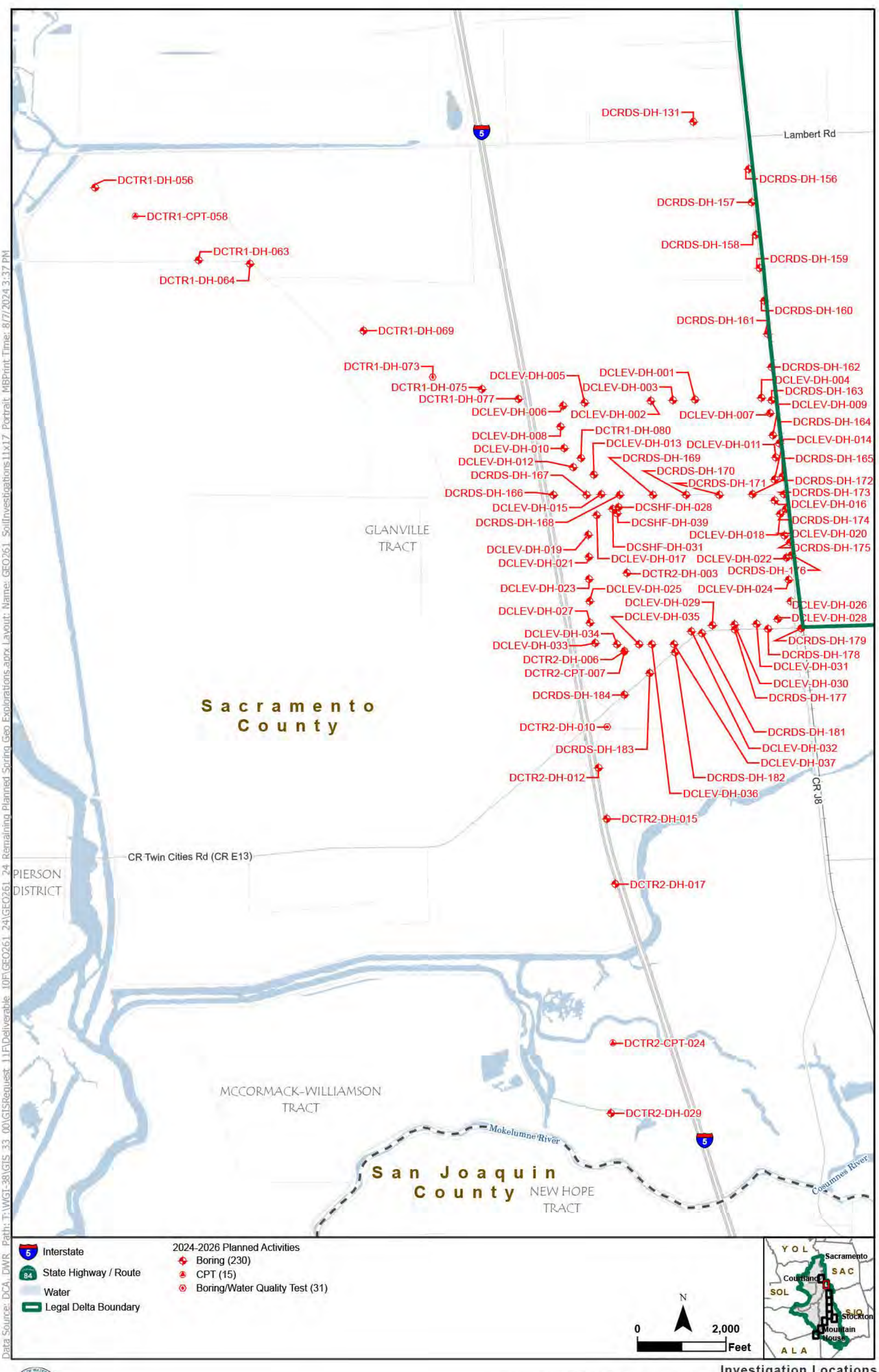
Yolo County
Sacramento County
Solano County
Contra Costa County
San Joaquin County
Alameda County
Hood
Courtland
Ryde
Locke
Walnut Grove
Thornton
Isleton
Rio Vista
Terminous
Lodi
Bethel Island
Oakley
Knightsen
Brentwood
Discovery Bay
Byron
Banks Pumping Plant
Jones Pumping Plant
Mountain House
Lathrop
Manteca
Tracy
Stockton
Port of Stockton
Holt
French Camp
Sacramento River
San Joaquin River
Old River
Middle River
Mokelumne River
Calaveras River
Cosumnes River
1
2
3
4
5
6
7
8
9
10
5 Interstate
84 State Highway / Route
Map Page
Legal Delta Boundary
Water
2024-2026 Planned Activities
Boring (230)
CPT (15)
Boring/Water Quality Test (31)
N
0 3.5 Miles
YOL
SAC
SOL
SJQ
ALA
Sacramento
Courtland
Stockton
Mountain House
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Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook



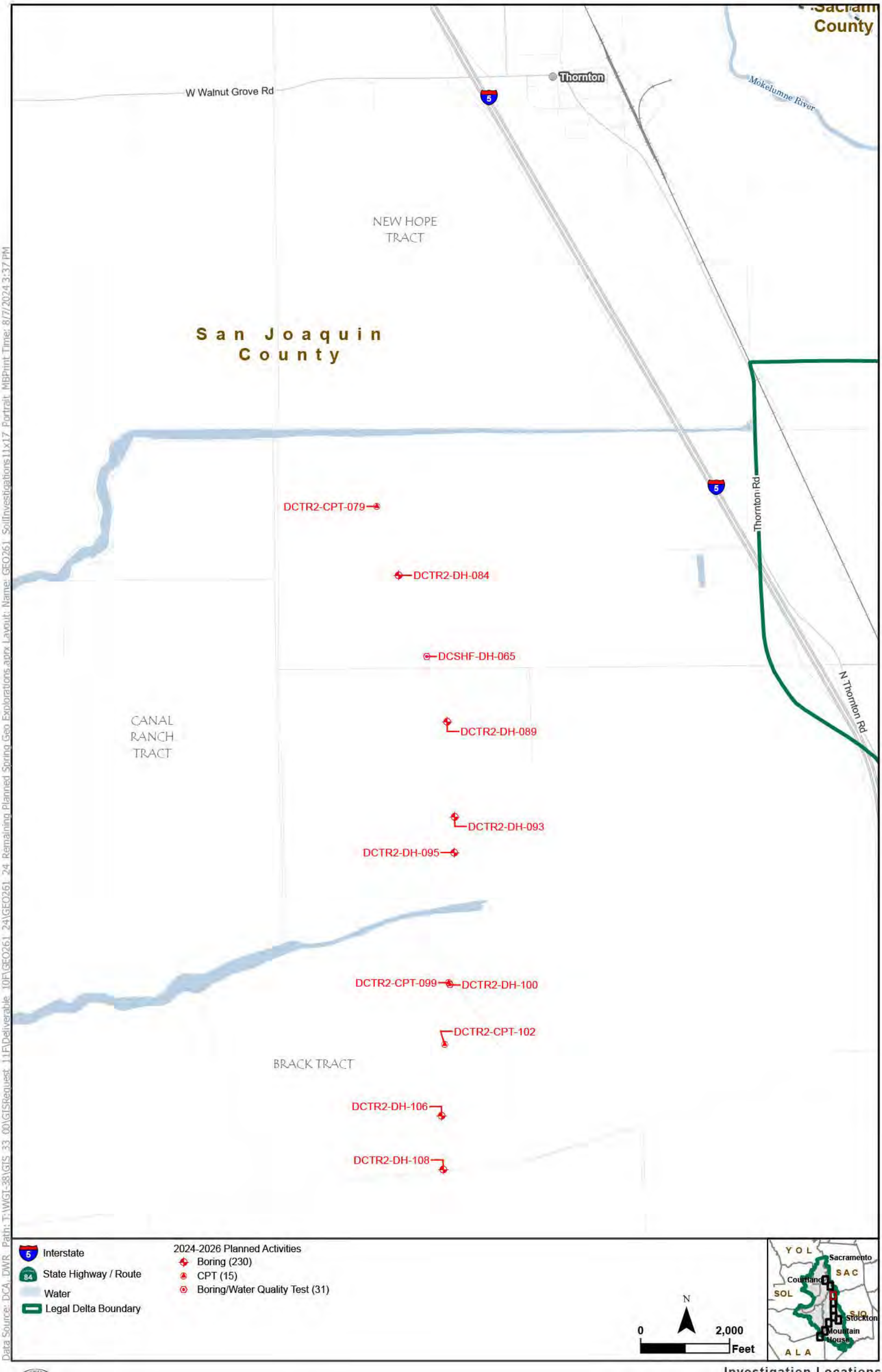
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Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook
Page 1



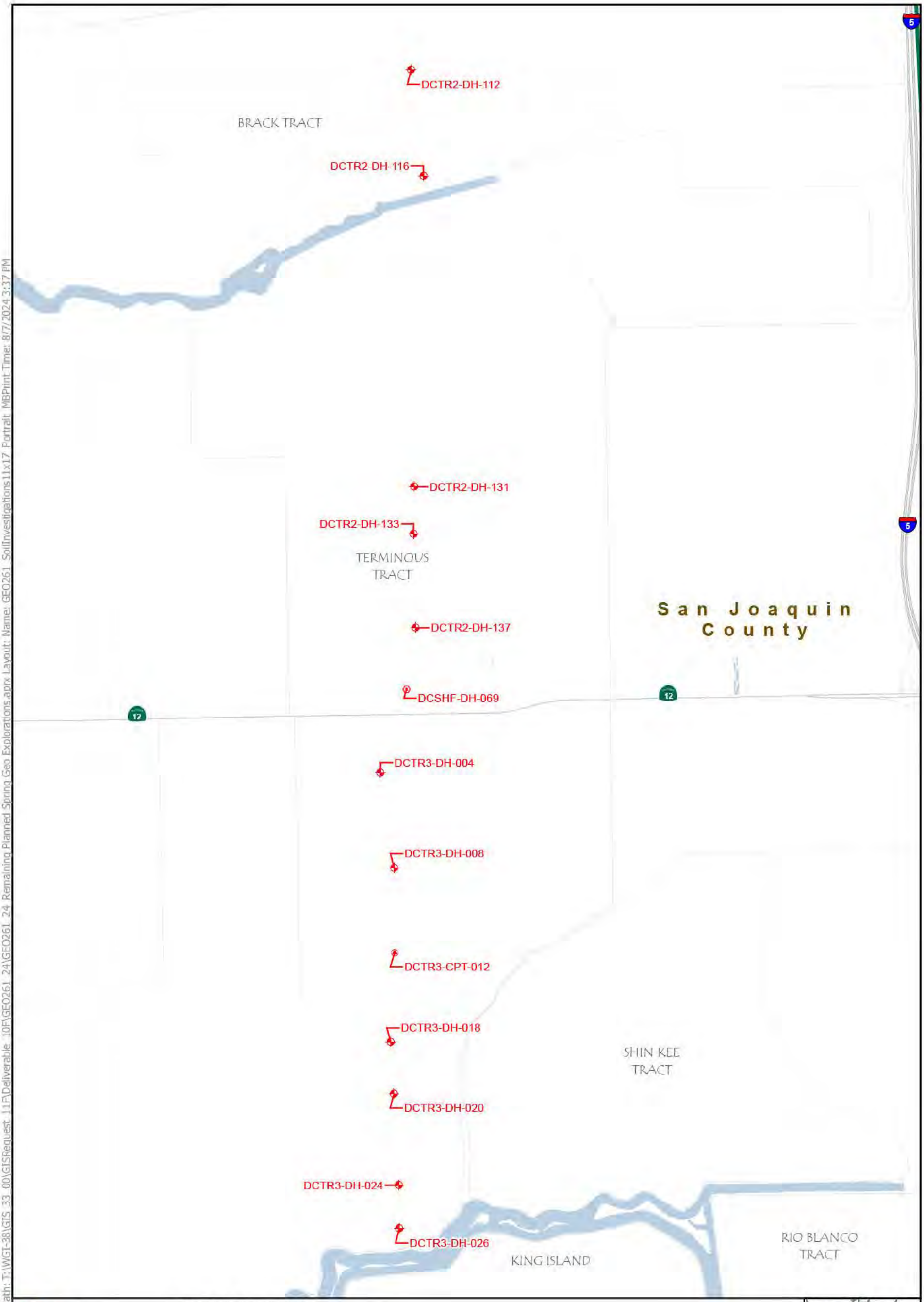
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Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook
Page 2



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Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook



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Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook

TERMINOUS TRACT

RIO BLANCO TRACT

DCTR3-DH-031

DCTR3-DH-035

DCTR3-CPT-037

EMPIRE TRACT

KING ISLAND

DCTR3-DH-042

DCSHF-DH-080

DCSHF-DH-091

BISHOP TRACT

San Joaquin County

DCTR3-DH-049

DCTR3-DH-053

SHIMA TRACT

DCTR3-DH-060

RINDGE TRACT

DCTR3-DH-070

San Joaquin River

DCTR3-DH-075

MCDONALD ISLAND

Interstate

State Highway / Route

Water

Legal Delta Boundary

2024-2026 Planned Activities

Boring (230)

CPT (15)

Boring/Water Quality Test (31)

N

0 2,000 Feet

YOL

Sacramento

SAC

Courtland

SOL

SJQ

Stockton

Mountain House

ALA

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Investigation Locations

Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook

RINDGE TRACT

DCTR3-DH-087

MCDONALD ISLAND

WRIGHT-ELMWOOD TRACT

San Joaquin River

DCTR3-DH-094

DCRDS-DH-245
DCRDS-DH-246
DCRDS-DH-244
DCRDS-DH-248
DCRDS-DH-247
DCRDS-DH-241
DCRDS-DH-243
DCRDS-DH-250
DCRDS-DH-251
DCRDS-DH-252
DCRDS-DH-253
DCRDS-DH-255
DCSHF-DH-093
DCSHF-DH-092
DCSHF-DH-103
DCSHF-DH-104
DCSHF-DH-097
DCTR3-DH-099
DCRDS-DH-259
DCSHF-DH-098
DCSHF-DH-100
DCRDS-DH-256
DCRDS-DH-257
DCRDS-DH-258
DCRDS-DH-260
DCTR4-DH-004
DCRDS-DH-262
DCRDS-DH-263
DCRDS-DH-264
DCRDS-DH-265
DCRDS-DH-266
DCRDS-DH-268
DCRDS-DH-267
DCRDS-DH-270
DCTR4-DH-006
DCRDS-DH-284
DCTR4-DH-008
DCRDS-DH-285
DCRDS-DH-290
DCTR4-DH-011

LOWER ROBERTS ISLAND

DCTR4-DH-017
DCTR4-DH-020
DCTR4-CPT-024
DCTR4-DH-023
DCTR4-DH-025
DCTR4-DH-029

San Joaquin County

LOWER JONES TRACT

HONKER LAKE TRACT

Holt

Interstate
State Highway / Route
Water
Legal Delta Boundary

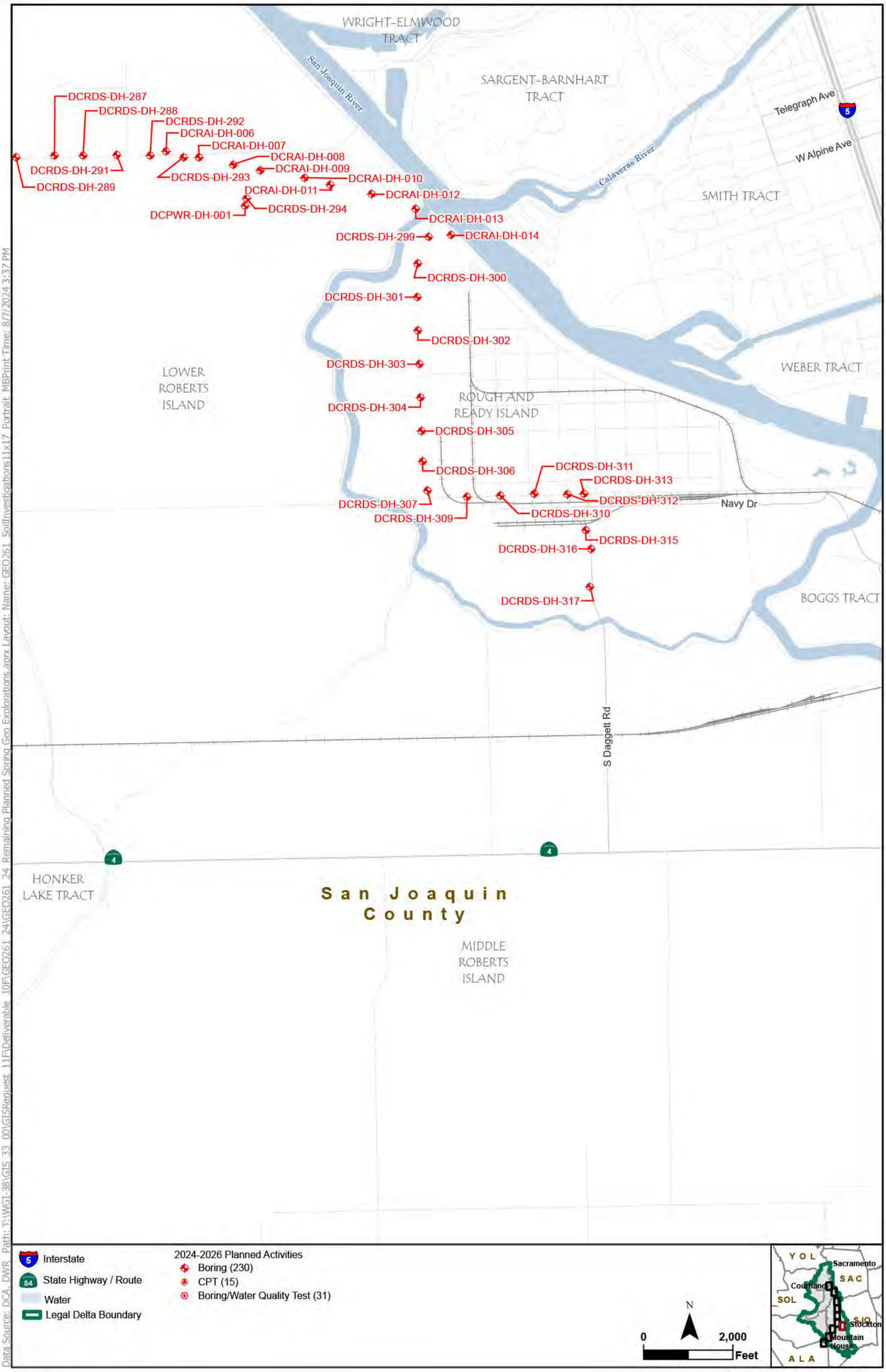
2024-2026 Planned Activities
Boring (230)
CPT (15)
Boring/Water Quality Test (31)

N
0 2,000 Feet

YOL
Sacramento
SAC
Courtland
SOL
SJQ
Stockton
Mountain House
ALA

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Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook



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Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook

LOWER
JONES
TRACT

DCTR4-DH-039

DCTR4-DH-044

ARD ISLAND

San Joaquin
County

DCTR4-DH-048

DCTR4-CPT-049

DCTR4-DH-050

DCTR4-DH-054

UPPER
JONES
TRACT

DCTR4-DH-056

DCSHF-DH-118

DCSHF-DH-105

DCSHF-DH-112

DCSHF-DH-111

DCSHF-DH-113

DCSHF-DH-117

DCTR4-DH-057

WOODWARD
ISLAND

DCTR4-DH-062

DCTR4-CPT-064

DCTR4-DH-068

Middle River

DCTR4-DH-072

Tracy Blvd

DCTR4-DH-074

DCTR4-DH-076

DCTR4-DH-078

VICTORIA
ISLAND

DREXLER TRACT

DCTR4-DH-081

DCTR4-DH-083

DCTR4-DH-085

DCTR4-DH-087

DCTR4-DH-088

UNION ISLAND

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Interstate

State Highway / Route

Water

Legal Delta Boundary

2024-2026 Planned Activities

Boring (230)

CPT (15)

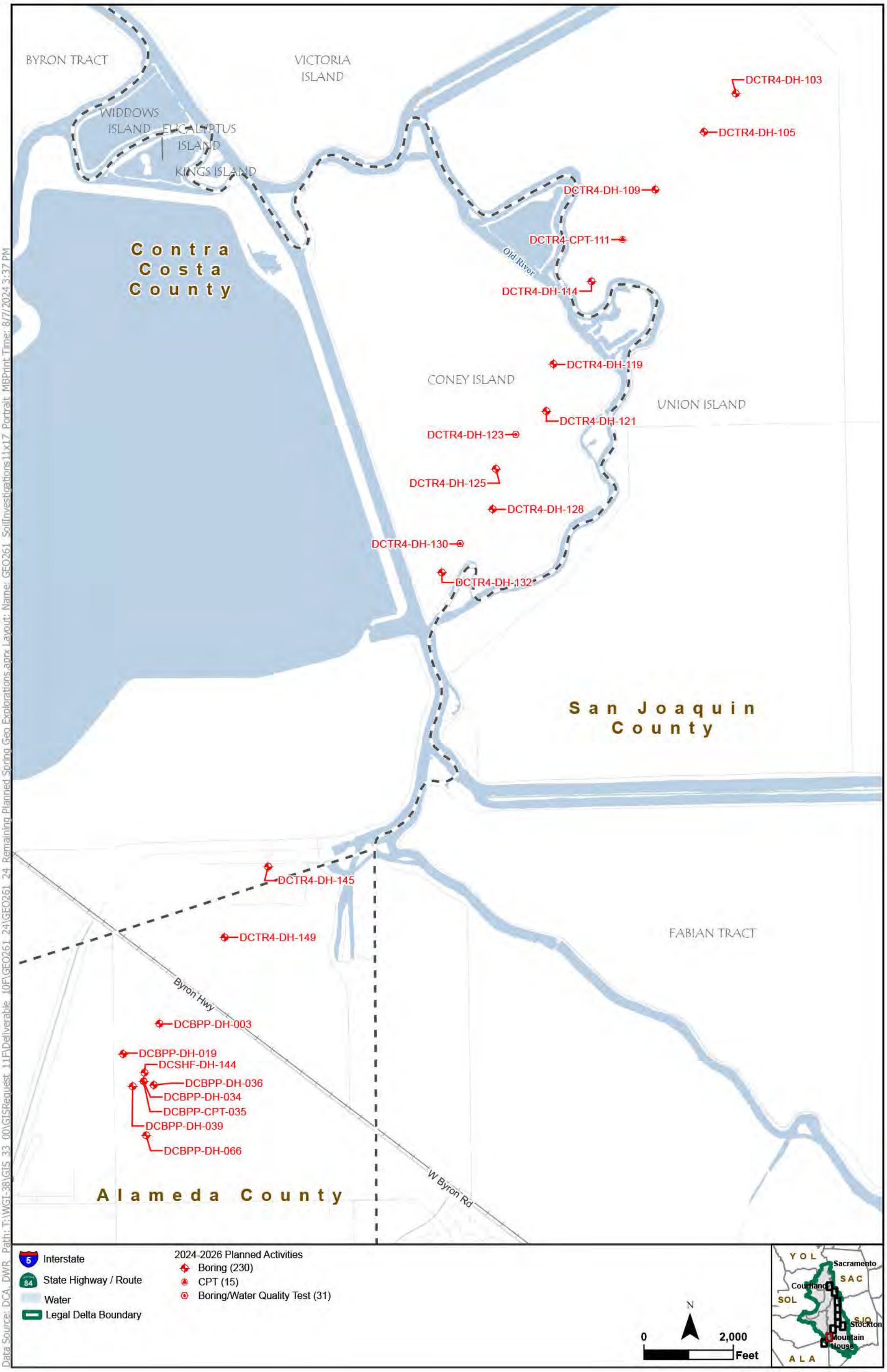
Boring/Water Quality Test (31)

N

0 2,000 Feet

YOL
Sacramento
SAC
Courtland
SOL
SJQ
Stockton
Mountain House
ALA

Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities
Mapbook Page 8



Data Source: DCA, DWR Path: T:\WGI-38\GIS 33 00\GISRequest 11F\Deliverable 10F\GEO261 24\GEO261 24 Remaining Planned Spring Geo Explorations.aprx Layout: Name: GEO261 SoilInvestigations11x17 Portrait MBPrint Time: 8/7/2024 3:37 PM

Investigation Locations
Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook

Contra Costa County

Banks Pumping Plant

Jones Pumping Plant

DCBDS-DH-056

DCBDS-DH-059

Alameda County

W Grant Line Rd

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Interstate

State Highway / Route

Water

Legal Delta Boundary

2024-2026 Planned Activities

Boring (230)

CPT (15)

Boring/Water Quality Test (31)

N

0 2,000 Feet

YOL

Sacramento

SAC

Courtland

SOL

SJO

Stockton

Mountain House

ALA

Investigation Locations

Figure 1. 2024-2026 Proposed Geotechnical Activities Mapbook

3.4 Timeline

This work would commence as soon as possible and conclude by the end of 2026.

3.5 Estimated Cost

The estimated cost for this work is $45,000,000.

3.6 Description of 2024–2026 Proposed Geotechnical Activities

3.6.1 Background

Section 3.15, *Field Investigations*, of the Delta Conveyance Project Final EIR describes DWR's "data collection efforts to inform more detailed design and construction" related to the Delta Conveyance Project (California Department of Water Resources 2023a:3-134). The field investigations described in this chapter are divided into three categories: (1) investigations to support the DRW's Rivers and Harbors Act Section 408 permit application to the U.S. Army Corps of Engineers for permission to modify and cross under federally constructed levees, (2) other field investigation activities that will occur prior to the Delta Conveyance Project construction phase, and (3) activities that will occur during the construction phase (California Department of Water Resources 2023a:3-134–3-141). The first two categories include geotechnical investigations and activities: for example, soil borings and CPTs that collect information "used to develop detailed design criteria for structure foundations" and "to determine the specific structural capabilities of the soil" (California Department of Water Resources 2023a:3-135–3-136). The 2024–2026 Proposed Geotechnical Activities consist of a subset of the geotechnical activities described in Section 3.15 of the Final EIR that are proposed to collect data to inform both the alignment and design of the project and the future certification of consistency related to implementation of the Delta Conveyance Project.

The 2024–2026 Proposed Geotechnical Activities will generate information (1) to refine Delta Conveyance Project feature layouts and configurations and to develop design and engineering criteria for Delta Conveyance Project facilities; and (2) to support applications and requests to other agencies for permits, authorizations, or conditional approvals. The information gathered will help maintain the overall program design and construction schedule.

Soil and rock samples obtained from soil borings and soil data from CPTs will be analyzed to determine the engineering properties of the soil and rock to validate and, if needed, to determine modifications to the conceptual design and layout of Delta Conveyance Project features. Soil and water quality tests will be conducted to assess the potential for the presence of high concentrations of metals, organic compounds, dissolved gasses, or other constituents that may be designated as hazardous; this assessment will help determine whether such constituents can be avoided and otherwise ensure that Delta Conveyance Project features and infrastructure are designed, planned, and constructed to allow for required treatment or disposal methods in consideration of the constituents identified.

As explained below, additional geotechnical data would inform the substantial evidence supporting a future certification of the Delta Conveyance Project's consistency with the *Delta Plan*. At DWR's request, the Delta Conveyance Design and Construction Authority (DCA) is currently evaluating a series of potential design or construction innovations that could reduce construction footprints, refine schedules, or improve constructability. Additional subsurface data provides important information for these potential refinements to the Delta Conveyance Project relevant to future consideration by regulatory agencies.

Additional geotechnical data will be used to inform concept and design work submitted to the DSC in a future certification of consistency related to the implementation of the Delta Conveyance Project. The Delta Conveyance Project spans nearly the entire north-south limits of the Delta, extending approximately 48 miles from the two new intakes on the Sacramento River in the north Delta to Bethany Reservoir just outside of the southern Delta. Subsurface conditions in the Delta are highly variable as an interwoven network of historic stream channels overlain in many areas by thick deposits of peat and highly organic soils. More consolidated competent soil deposits are expected at depths approximately coinciding with the intended tunnel depth profile. The exact conditions along the Delta Conveyance Project alignment can only be confirmed through site-specific investigations, which would be used to refine all aspects of below-grade construction, as well as surface configurations for a more thorough and refined representation of the Delta Conveyance Project. Additionally, the conceptual designs prepared to support DWR's evaluation of alternatives as documented in the Final EIR were based on limited information available at the time, resulting in the use of appropriately conservative design assumptions regarding ground conditions and construction approaches that must be verified.

Based on this, the proposed 2024–2026 Proposed Geotechnical Activities will inform the refinement of important Delta Conveyance Project features. These refinements also would inform the record of evidence that the DSC will review for substantial evidence when adjudicating any appeal of DWR's certification of the Delta Conveyance Project's consistency with the *Delta Plan*. For example, the current plan for the tunnel alignment may shift within the corridor identified in the Final EIR depending on soil and other conditions. These modifications may result in new or different parcels or areas within parcels being affected by permanent land easements required for the tunnel or associated with modification of existing features from the ground surface that would require new site access.

Another way to consider the importance of the 2024–2026 Proposed Geotechnical Activities is to consider their ability to further the design of the Delta Conveyance Project. The current stage of Delta Conveyance Project design is "conceptual" and would generally be considered at an approximately 10% design level. The Association for the Advancement of Cost Engineering (AACE) uses a classification system to provide an approximate representation of the relationship between the level of project design and the accuracy of project cost estimates to, in part, assist stakeholders in project decision making. The AACE classification system includes five classes, Class 1 to 5. A "project maturity" table from AACE's *Recommended Practice No. 17R-97, Cost Estimate Classification System* (Association for the Advancement of Cost Engineering International 2020) outlines the class of a project to its level of project definition (i.e., design). Table 2 is adapted from and summarizes relevant portions of the AACE project maturity table.

Table 1. Maturity Level of Delta Conveyance Project

Estimate Class Level	Project Definition
Class 5	0% to 2%
Class 4	1% to 15%
Class 3	10% to 40%
Class 2	30% to 75%
Class 1	65% to 100%

Source: Association for the Advancement of Cost Engineering International 2020.

In relation to the planning process for the Delta Conveyance Project, when DWR commenced preparation of the EIR in January 2020, Delta Conveyance Project design was within the Class 5 (0% to 2%) range for each of the proposed project alternatives. Field investigations completed during preparation of the Delta Conveyance Project EIR, in reliance on the 2020 *Soil Investigations for Data Collection in the Delta. Final Initial Study/Mitigated Negative Declaration* (California Department of Water Resources 2020), enabled DWR to reach an overall approximate 10% design level for each of the proposed project alternatives by December 2023, when DWR certified the Final EIR and approved the Bethany Reservoir Alignment Alternative (Delta Conveyance Project EIR Alternative 5) for further planning and design. However, the majority of tunnel reaches remain at about a 2% level of design development due to lack of subsurface information. Therefore, the facility layouts presented in the Final EIR conservatively overestimate acreage to allow for ground improvement areas to strengthen weak soils, peat soil remediation to reduce greenhouse gas (GHG) emissions, and methods to address potential water quality issues. DWR anticipates that data collected as part of the 2024–2026 Proposed Geotechnical Activities will allow the design for the Bethany Reservoir Alignment Alternative to be between Class 4 and Class 3 by the end of 2026—at which point the Delta Conveyance Project planning will have progressed to an overall approximate 15% to 30% design level. This design level will provide greater specificity regarding all Delta Conveyance Project features, including refining the tunnel route and the location and design of aboveground facilities for a project construction footprint and duration that reflects potential reductions in disturbance to biological resources, land uses, traffic, air quality, and noise. While the Delta Conveyance Project would still remain in the relatively early stages of design, DWR would have more data and refined project details to inform DWR's evaluation and written certification of the Delta Conveyance Project's consistency with the *Delta Plan*.

3.6.2 Overview of 2024–2026 Proposed Geotechnical Activities

The 2024–2026 Proposed Geotechnical Activities are to be completed on properties with landowner approval or, if necessary, through court-ordered entry. Wherever possible, DWR seeks landowners' approval for entry via voluntary temporary entry agreements. Under these agreements, work will be conducted consistent with ongoing landowner operations, and landowners will be compensated as appropriate. Alternatively, where it is not possible to reach an agreement and it is necessary for DWR to enter onto a landowner's property, DWR will file petitions for court-ordered entry. If the court grants the petitions (which would occur after each person who claimed an interest was given a due process opportunity to be heard on all issues), field investigations would occur in a manner consistent with the court's order.

DWR's footprint at each site will be limited. Workspace at each site, not including staging areas, is expected to be approximately 0.022 acres, or 10 feet by 100 feet.

DWR's activities will likewise be limited. The 2024–2026 Proposed Geotechnical Activities will not include all of the geotechnical activities described in Chapter 3 of the Final EIR. In particular, the 2024–2026 Proposed Geotechnical Activities will not include the following: work on levees, overwater activities, activities that involve trenching (e.g., "test trenches"), activities within the West Tracy Fault or Bethany Fault, pile driving, vibratory testing of dynamic properties, potholing, monument installation, test fills for settlement studies, 800-foot inclined boreholes, or ground improvement test zones.

Specifically, the 2024–2026 Proposed Geotechnical Activities include subsurface exploration and testing consisting of one or more of the following:

- Borings with small-diameter (less than 8-inch diameter) auger and/or mud rotary drill and soil and rock sampling.
- CPTs using a truck-mounted rig equipped with a 1-to-2-inch diameter cone.
- Installation and removal of a temporary slotted polyvinyl chloride (PVC) pipe with a small submersible pump and water level transducer inside for water quality testing.

The 2024–2026 Proposed Geotechnical Activities include up to 261 soil borings (including 31 soil borings with water quality tests[9]) and up to 15 CPTs. The information obtained from the 2024–2026 Proposed Geotechnical Activities will inform the continued planning and design of the Delta Conveyance Project, including subsequent investigation programs to support that planning and design.

3.6.3 Soil Borings and CPTs

Borings will be drilled using removable hollow-stem augers with up to an 8-inch diameter or using mud-rotary drilling techniques with up to a 5-inch diameter. The depth of drilling explorations will vary from approximately 15 to 250 feet. Soil samples will be collected from the soil borings for testing. Cuttings and excess drilling fluid will be contained in drums, large containers, or vacuum trucks and disposed of off-site at an appropriate landfill. Drums may be stored on-site during environmental testing, before removal and landfill disposal. Based on the environmental test results, the cuttings and excess drilling fluid will be disposed of by the environmental consultant at an approved location, in accordance with State of California environmental regulations and industry standards. An individual soil boring (250 feet deep) activity can take an average of 9 working days, and a maximum of 11 working days, to complete, while borings less than 50 feet deep will take a maximum of 2 working days to complete. Following completion of each soil exploration, the borehole will be sealed using cement-bentonite grout in accordance with State of California regulations and industry standards.

Drilling equipment is usually mounted on a heavy-duty truck, although track-mounted drilling equipment may be used as required. The specific drill rig mobilized to a site will depend on site-specific access conditions and the purpose and depth of the soil boring. The drill rigs are powered by a 120-to-550-horsepower diesel engine. Track-mounted or rubber tire all-terrain drilling rigs will be

[9] Two of these 31 soil borings with water quality tests are located outside the geographic scope of the "Delta" as defined in the DRA (Wat. Code § 85058).

used, if needed, to minimize access impacts over soft or uneven ground; these rigs will be hauled to the site by a lowboy tractor trailer rig.

In addition to the drill rig, other vehicles at the site during this work may include a water truck, a liftgate truck, a tractor-trailer lowboy truck, and up to 12 additional personnel vehicles. The 12 additional personnel vehicles include vehicles for the geotechnical consultant, traffic control, DWR and DCA engineers, geologists, surveyors, scientists, the biological and cultural resource team, and at least two regulatory agencies. Not all of these vehicles would necessarily be on-site simultaneously.

For CPTs, a 1-to-2-inch-diameter cone-tipped rod is pushed through the ground to measure various parameters including tip resistance, side friction, pore pressure, inclination, and shear wave velocity of the soil layers. The depth of the CPTs will range from approximately 200 feet to 250 feet. Following completion of each of CPT, the hole will be sealed using cement-bentonite grout in accordance with State of California regulations and industry standards. CPTs take an average of 2 days to complete, up to a maximum of 4 days.

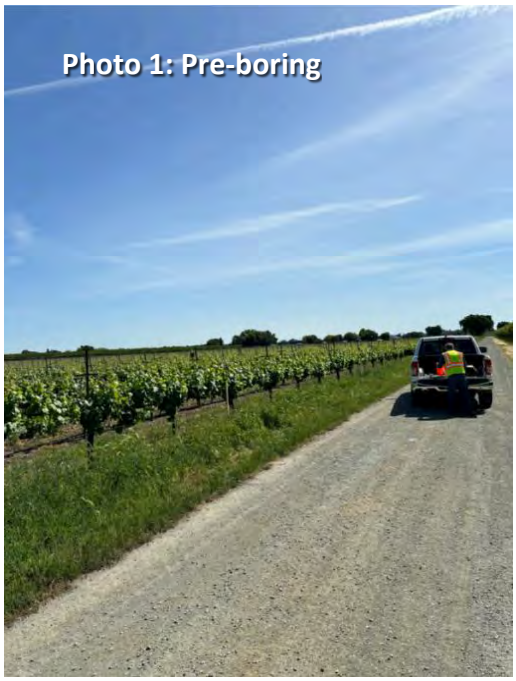






Figure 2. Soil Boring Example Photos 1–3





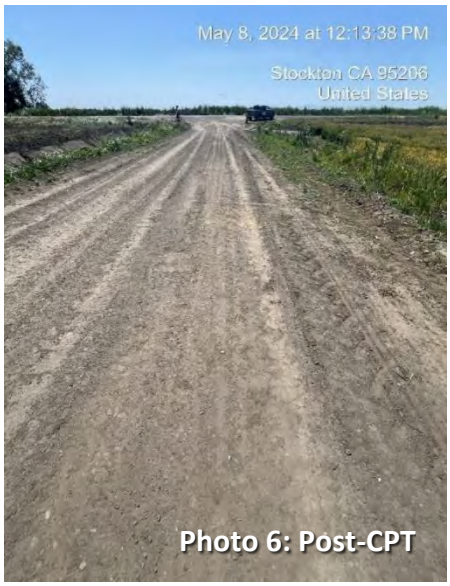


Figure 3. CPT Example Photos 4–6

3.6.4 Soil Borings with Water Quality Testing

For the 31 soil borings with water quality tests, a temporary PVC pipe will be installed within the borehole following drilling. The PVC pipe will be up to 4 inches in diameter and will be slotted over an interval up to 40 feet in length. The remainder of the PVC pipe will be solid wall. The annular space between the boring and the slotted interval of the PVC pipe will be backfilled with commercially available well pack sand and gravel, while the solid wall section will be backfilled with bentonite to the surface. A submersible pump will be installed in the PVC pipe along with a water-level meter. Accumulated mud and water at the bottom of the temporary PVC pipe would be pumped into a water tank. All mud and groundwater, pumped in preparation for and during the water quality test, will be collected in a water tank and tested for presences of hazardous materials

(environmental testing) by a licensed environmental firm prior to disposal. Based on the environmental test results, the mud and water will be disposed of, by the environmental consultant, at an approved location, in accordance with State of California environmental regulations and industry standards.

As part of the water quality test, DWR and DCA engineers or geologists will measure the groundwater levels and sample the representative groundwater for boron, chloride, sulfate, dissolved gas, hydrogen sulfide and methane, and potentially other water quality constituents.

These field activities will take an average of 3 additional working days with a maximum of 5 days following completion of the soil boring. Following the completion of this water quality sample collection, the temporary PVC casing will be removed, and the drill hole will be backfilled using cement-bentonite grout in accordance with State of California regulations and industry standards.

Vehicles at each site where soil boring with water quality sampling take place may include a water truck and additional personnel vehicles for technical consultants but would not exceed the maximum number of vehicles described previously in Section 3.6.3, *Soil Boring and CPTs*.

3.6.5 2024–2026 Proposed Geotechnical Activities Field Logistics

On completion of borings, CPTs, and water quality testing, the holes will be sealed with cement-bentonite grout. Borings, CPTs, and tests on each site will occur for a duration of 1 day up to 14 workdays. Work is planned for Monday through Friday unless alternative arrangements are made with the landowner and are consistent with all other requirements. Work would take place during daylight hours for up to approximately 10 hours each day except when prohibited by specific Delta Conveyance Project environmental commitments and mitigation measures identified by DWR. The exploration drills used to perform soil borings, water quality, and CPT equipment are vehicle-mounted and powered by a commercial or industrial engine.

The exploration crews will comply with environmental commitments and mitigation measures set forth in the Delta Conveyance Project Final EIR and MMRP and associated mitigation plans including the environmental compliance monitoring plan (Final EIR Appendix 3B, *Environmental Commitments and Best Management Practices*, Environmental Commitment EC-14: *Construction Best Management Practices for Biological Resources*), the Tribal Cultural Resources Management Plan (Final EIR Chapter 32, *Tribal Cultural Resources*, Mitigation Measure TCR-1b: *Plans for the Management of Tribal Cultural Resources*), and Noise Control Plan for the 2024–2026 Proposed Geotechnical Activities (Final EIR Chapter 24, *Noise and Vibration*, Mitigation Measure NOI-1: *Develop and Implement a Noise Control Plan*). Field crews will also adhere to the requirements of the DCA Health and Safety Plan for the Delta Conveyance Project (Delta Conveyance Design and Construction Authority 2024), which is revised every year to address lessons learned and best practices.

Chapter 4
Consistency with the *Delta Plan*

Again, DWR emphasizes that the proposed action covered by this certification of consistency is the 2024–2026 Proposed Geotechnical Activities, rather than implementation of the broader Delta Conveyance Project.

In analyzing an action's consistency with the *Delta Plan*, the first step is to evaluate whether the proposed action (here, the 2024–2026 Proposed Geotechnical Activities), separate from implementation of the Delta Conveyance Project, is a "covered action" within the meaning of the DRA.[10] The DSC's Covered Action Checklist (Attachment 1) provides a stepwise process for determining whether a project is a covered action.

Step 1 of the Checklist states if "the plan, program, or project is exempt from the definition of a 'covered action,'" then it is not a covered action, and "no further steps [are] required." Proposed actions that are exempt from CEQA may be exempt from the definition of a covered action.[11] The CEQA Guidelines provide that basic data collection, research, experimental management, and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource are generally exempt from CEQA where the study is for a project that has not yet been approved, adopted, or funded.[12] While the 2024–2026 Proposed Geotechnical Activities consist of data collection and resource evaluation activities, they are for the purpose of further planning and designing the Delta Conveyance Project as approved in December 2023 after certification of the Final EIR. Because these data collection and resource evaluation activities are for a project that has been approved, CEQA's categorical exemption for information collection is not applicable. Therefore, the 2024–2026 Proposed Geotechnical Activities (a subset of what was described as future field investigations in the Delta Conveyance Project Final EIR) are not exempt pursuant to Water Code Section 85057.5(b).

Step 2, Question 1 of the Checklist asks whether this is "a plan, program, or project as defined pursuant to Public Resources Code section 21065." As defined under California Public Resources Code Section 21065, the 2024–2026 Proposed Geotechnical Activities meet the definition of a CEQA project because they are being undertaken by a public agency and have a potential for resulting in either a direct change in the environment or a reasonably foreseeable indirect physical change in the environment.

Step 2, Question 2 of the Checklist asks whether the project "will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh." The 2024–2026 Proposed Geotechnical Activities would primarily occur within the boundaries of the Delta.

Step 2, Question 3 of the Checklist asks whether the project "will be carried out, approved, or funded by the State or a local public agency." DWR, as a State agency, would be the proponent of the proposed action.

[10] Wat. Code § 85057.5, subd. (a).

[11] Cal. Code Regs., tit. 23, § 5001(jj)(4).

[12] California Code of Regulations [Cal. Code Regs.], tit. 14, § 15306.

Step 2, Question 4 of the Checklist asks whether the project "will have a significant impact on the achievement of one or both of the coequal goals or on the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta." As discussed further in Section 4.1, *Coequal Goals*, the 2024–2026 Proposed Geotechnical Activities, which involve only temporary activities at discrete locations to test soil and water quality conditions, would have no impact (and therefore would not have the potential to result in a significant impact) on the achievement of one or both of the coequal goals or on the implementation of a government-sponsored flood control program.

Step 3 of the Checklist asks whether the proposed action "is covered by one or more of the regulatory policies contained in Chapters 3, 4, 5, and 7 [of the *Delta Plan*]." As discussed further in Section 4.1.4, *Conclusion: Step 2*, the 2024–2026 Proposed Geotechnical Activities are not covered by one or more regulatory *Delta Plan* policies contained in Article 3 of the DSC's regulations codified at California Code of Regulations, Title 23, Sections 5003–5015.

Step 4 of the Checklist says, "In addition to the above policies, the Delta Plan includes a General Policy with four subdivisions that applies to the entire covered action. Note: Policy G P1 does not on its own cause a plan, program, or project to be a covered action." As discussed further in Section 4.2.14, *Conclusion: Step 3 (Article 3 Policies)*, and Section 4.3.2, *Conclusion: Step 4 (Article 2 Policies)*, the 2024–2026 Proposed Geotechnical Activities are consistent with the four general Article 2 subdivisions of DSC's regulations codified at California Code of Regulations, Title 23, Section 5002(a).

4.1 Coequal Goals

As established in Public Resources Code Section 29702 and defined by Section 85054 of the Water Code, the coequal goals for the Delta are providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. A proposed action is considered a covered action only if it will have a significant impact on the achievement of one or both of the coequal goals or on the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta.

4.1.1 Coequal Goal: Providing a More Reliable Water Supply for California

Achieving the coequal goal of providing a more reliable water supply for California means (1) better matching the state's demands for reasonable and beneficial uses of water to the available water supply; (2) reducing regional reliance on water from the Delta watershed for reasonable and beneficial uses, and improving regional self-reliance; and (3) more closely matching water exported from the Delta with water supplies available to be exported.[13] As stated in the *Delta Plan*'s amended Chapter 3, *A More Reliable Water Supply for California* (Delta Stewardship Council 2018:66), the DRA mandates many strategies that the *Delta Plan* must address to improve water supply reliability for California: promote, implement, and invest in water efficiency and conservation; implement and invest in wastewater reclamation and water recycling; increase and invest in desalination and advanced water treatment technologies; promote and implement options for improved water

[13] Cal. Code Regs., tit. 23, § 5001(i)(1).

conveyance; expand and invest in storage; improve water quality to protect human health and the environment; invest in local and regional water supply projects and coordination; and prohibit waste and unreasonable use, consistent with Article X, Section 2 of the California Constitution, and protect public trust resources consistent with the Public Trust Doctrine.

The 2024–2026 Proposed Geotechnical Activities will have no impact on any of the strategies that the DRA mandates for achievement of a more reliable water supply for California and as such would have no impact (and therefore would not have the potential to result in a significant impact) on the achievement of this coequal goal. The proposed action consists of data collection activities, with a minimal footprint. The proposed action will have only temporary impacts, with sites being brought to pre-activity conditions when the relevant geotechnical activity (i.e., the individual boring or CPT) is completed. The proposed action will not include any in-water work, will not affect groundwater, and will not have any water supply impacts.

4.1.2 Coequal Goal: Protecting, Restoring, and Enhancing the Delta Ecosystem

Achieving the coequal goal of protecting, restoring, and enhancing the Delta ecosystem means successfully establishing a resilient, functioning estuary and surrounding terrestrial landscape capable of supporting viable populations of native resident and migratory species with diverse and biologically appropriate habitats, functional corridors, and ecosystem processes.[14] The *Delta Plan*'s amended Chapter 4, *Protect, Restore, and Enhance the Delta Ecosystem*, identifies five core strategies to achieve the coequal goal of protecting, restoring, and enhancing the Delta ecosystem, as set forth in the Delta Reform Act: create more natural, functional flows; restore ecosystem function; protect land for restoration and safeguard against land loss; protect native species and reduce the impact of nonnative invasive species; and improve institutional coordination to support implementation of ecosystem protection, restoration, and enhancement (Delta Stewardship Council 2022a:1).

The 2024–2026 Proposed Geotechnical Activities will have no impact on any of the strategies identified to support the achievement of protecting, restoring, and enhancing the Delta ecosystem and as such would have no impact (and therefore would not have the potential to result in a significant impact) on the achievement of this coequal goal. The proposed action avoids impacts to sensitive habitats and biological resources. The 2024–2026 Proposed Geotechnical Activities consist of temporary soil and water quality testing activities at discrete locations. Due to the limited scope and duration of the work, they will have no impact on the successful establishment of a resilient, functioning estuary and surrounding terrestrial landscape capable of supporting viable populations of native resident and migratory species with diverse and biologically appropriate habitats, functional corridors, and ecosystem processes.

4.1.3 Government-Sponsored Flood Control Program

A government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta means any State or federal strategy, project, approval, funding, or other effort that is intended to reduce the likelihood and/or consequences of flooding of real property and/or improvements, including risks to people, property, and State interests in the Delta.[15]

[14] Cal. Code Regs., tit. 23, §5001(i)(2).

[15] Cal. Code Regs., tit. 23, § 5001(v).

The proposed action (the 2024–2026 Proposed Geotechnical Activities) will not include any work on levees or encroach on any floodplains or floodways. Additionally, the 2024–2026 Proposed Geotechnical Activities will generate minimal traffic and will be conducted in coordination with property owners. Furthermore, DWR is committed to coordinating with local agencies, including reclamation districts, and would collaborate on a case-by-case basis to ensure that the geotechnical activities would not have the potential to affect any ongoing or future efforts intended to reduce the likelihood or consequences of flooding in the Delta. Therefore, the 2024–2026 Proposed Geotechnical Activities will have no impact (and therefore would not have the potential to result in a significant impact) on the achievement of one or both of the coequal goals or on the implementation of any government-sponsored flood control program.

4.1.4 Conclusion: Step 2

The DSC's Covered Action Checklist (Attachment 1) provides that if the answer to any of the Step 2 questions evaluated here is no, then "the plan, program, or project, for purposes of the Delta Plan, does not meet the definition of [a] Covered Action [and] NO FURTHER STEPS [ARE] REQUIRED." Therefore, because the 2024–2026 Proposed Geotechnical Activities would have no impact (and therefore would not have the potential to result in a significant impact) on the achievement of one or both of the coequal goals or on the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta, the DRA does not require this certification to address Step 3 or to include an evaluation of the regulatory *Delta Plan* policies contained in Article 3 provisions of the DSC's regulations.[16]

Nevertheless, for the sake of thoroughness and to err on the side of facilitating the DSC's informed decision-making process, the analysis that follows additionally considers Step 3 of the Checklist to determine whether the 2024–2026 Proposed Geotechnical Activities are covered by one or more regulatory *Delta Plan* policies contained in Article 3 of the DSC's regulations codified at California Code of Regulations, Title 23, Sections 5003–5015.

4.2 Step 3 Summary of Article 3 Consistency Findings

Table 2. Article 3 *Delta Plan* Policies

***Delta Plan* Policy**	**Policy Description**	**Findings**
WR P1 Cal. Code Regs., tit. 23, § 5003	Reduce Reliance on the Delta through Improved Regional Water Self-Reliance	Does not apply
WR P2 Cal. Code Regs., tit. 23, § 5004	Transparency in Water Contracting	Does not apply
ER P1 Cal. Code Regs., tit. 23, § 5005	Delta Flow Objectives	Does not apply
ER P2 Cal. Code Regs., tit. 23, § 5006	Restore Habitats at Appropriate Elevations	Does not apply

[16] Cal. Code Regs., tit. 23, § 5001(k)(1).

Delta Plan Policy	Policy Description	Findings
ER P3 Cal. Code Regs., tit. 23, § 5007	Protect Opportunities to Restore Habitat	Does not apply
ER P4 Cal. Code Regs., tit. 23, § 5008	Expand Floodplains and Riparian Habitats in Levee Projects	Does not apply
ER P5 Cal. Code Regs., tit. 23, § 5009	Avoid Introductions of and Habitat Improvements for Invasive Nonnative Species	Does not apply
DP P1 Cal. Code Regs., tit. 23, § 5010	Locate New Urban Development Wisely	Does not apply
DP P2 Cal. Code Regs., tit. 23, § 5011	Respect Local Use When Siting Water or Flood Facilities or Restoring Habitats	Does not apply
RR P1 Cal. Code Regs., tit. 23, § 5012	Prioritization of State Investments in Delta Levees and Risk Reduction	Does not apply
RR P2 Cal. Code Regs., tit. 23, § 5013	Require Flood Protection for Residential Development in Rural Areas	Does not apply
RR P3 Cal. Code Regs., tit. 23, § 5014	Protect Floodways	Does not apply
RR P4 Cal. Code Regs., tit. 23, § 5015	Floodplain Protection	Does not apply

Cal. Code Regs. = California Code of Regulations; tit. = title.

4.2.1 WR P1—Reduce Reliance on the Delta through Improved Regional Water Self-Reliance

The following is taken from California Code of Regulations, Title 23, Section 5003.

(a) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:

(1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);

(2) That failure has significantly caused the need for the export, transfer, or use; and

(3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of... Chapter [2 of Division 6 of title 23 of the California Code of Regulations], this policy covers a proposed action to export water from, transfer water through, or use water in the Delta, but does not cover any such action unless one or more water suppliers would receive water as a result of the proposed action.

(c)

(1) Water suppliers that have done all of the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and

(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

(2) Programs and projects that reduce reliance could include, but are not limited to, improvements in water use efficiency, water recycling, stormwater capture and use, advanced water technologies, conjunctive use projects, local and regional water supply and storage projects, and improved regional coordination of local and regional water supply efforts.

4.2.1.1 WR P1 Detailed Findings

As described in *Delta Plan* Policy WR P1, Reduce Reliance on the Delta through Improved Regional Water Self-Reliance, this policy covers a proposed action to export water from, transfer water through, or use water in the Delta. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities, which do not include exporting water from, transferring water through, or using water in the Delta.

4.2.2 WR P2—Transparency in Water Contracting

The following is taken from California Code of Regulations, Title 23, Section 5004.

(1) The contracting process for water from the State Water Project and/or the Central Valley Project must be done in a publicly transparent manner consistent with applicable policies of the California Department of Water Resources and the Bureau of Reclamation referenced below.

(2) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers the following:

(a) With regard to water from the State Water Project, a proposed action to enter into or amend a water supply or water transfer contract subject to California Department of Water Resources Guidelines 03-09 and/or 03-10 (each dated July 3, 2003), which are attached as Appendix 2A; and

(b) With regard to water from the Central Valley Project, a proposed action to enter into or amend a water supply or water transfer contract subject to section 226 of P.L. 97-293, as amended or section 3405(a)(2)(B) of the Central Valley Project Improvement

Act, Title XXXIV of Public Law 102-575, as amended, which are attached as Appendix 2B, and Rules and Regulations promulgated by the Secretary of the Interior to implement these laws.

4.2.2.1 WR P2 Detailed Findings

As described in *Delta Plan* Policy WR P2, Transparency in Water Contracting, this policy covers a proposed action to enter into or amend a water supply or water transfer contract subject to California Department of Water Resources Guidelines 03-09 and/or 03-10 or a proposed action to enter into or amend a water supply or water transfer contract subject to Section 226 of Public Law 97-293, as amended, or to Section 3405(a)(2)(B) of the Central Valley Project Improvement Act, Title XXXIV of Public Law 102-575, as amended. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here does not include entering into or amending a water supply or water transfer contract.

4.2.3 ER P1—Delta Flow Objectives

The following is taken from California Code of Regulations, Title 23, Section 5005.

(a) The State Water Resources Control Board's Bay Delta Water Quality Control Plan flow objectives shall be used to determine consistency with the Delta Plan. If and when the flow objectives are revised by the State Water Resources Control Board, the revised flow objectives shall be used to determine consistency with the Delta Plan.

(b) For purposes of Water Code sections 85057.5(a)(3) and 5001(j)(1)(E) of this Chapter, the policy set forth in subsection (a) covers a proposed action that could significantly affect flow in the Delta.

4.2.3.1 ER P1 Detailed Findings

As described in *Delta Plan* Policy ER P1, Delta Flow Objectives, this policy covers a proposed action that could significantly affect flow in the Delta. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here would not include in-water work and would not affect flow in the Delta.

4.2.4 ER P2—Restore Habitats at Appropriate Elevations

The following is taken from California Code of Regulations, Title 23, Section 5006.

(a) Habitat restoration must be carried out consistent with Appendix 3, which is Section II of the Draft Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions (California Department of Fish and Wildlife 2011). The elevation map attached as Appendix 4 should be used as a guide for determining appropriate habitat restoration actions based on an area's elevation. If a proposed habitat restoration action is not consistent with Appendix 4, the proposal shall provide rationale for the deviation based on best available science.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action that includes habitat restoration.

4.2.4.1 ER P2 Detailed Findings

As described in *Delta Plan* Policy ER P2, Restore Habitats at Appropriate Elevations, this policy covers a proposed action that includes habitat restoration. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here does not include habitat restoration.

4.2.5 ER P3—Protect Opportunities to Restore Habitat

The following is taken from California Code of Regulations, Title 23, Section 5007.

(a) Within the priority habitat restoration areas depicted in Appendix 5, significant adverse impacts to the opportunity to restore habitat as described in section 5006, must be avoided or mitigated.

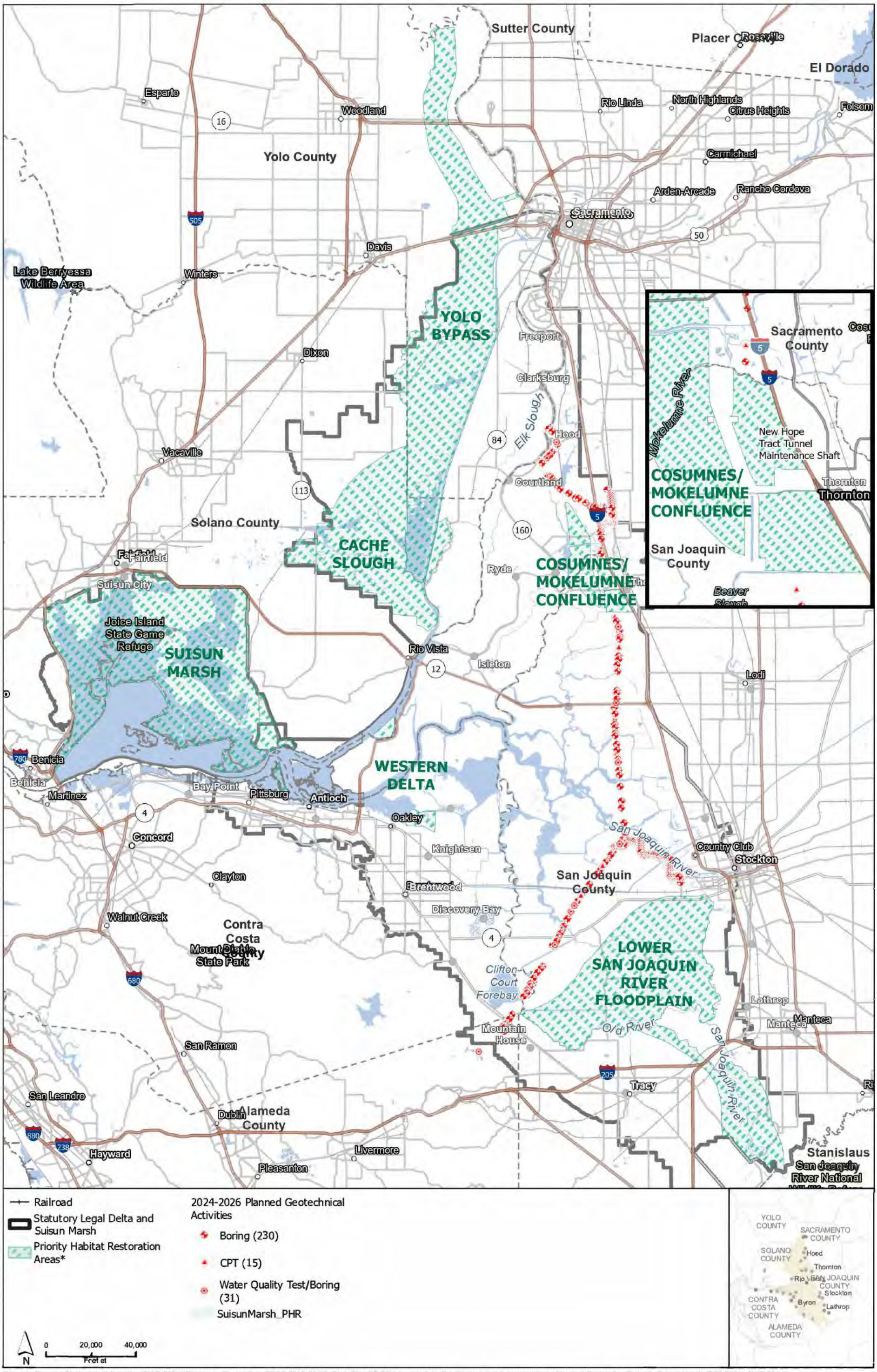
(b) Impacts referenced in subsection (a) will be deemed to be avoided or mitigated if the project is designed and implemented so that it will not preclude or otherwise interfere with the ability to restore habitat as described in section 5006.

(c) Impacts referenced in subsection (a) shall be mitigated to a point where the impacts have no significant effect on the opportunity to restore habitat as described in section 5006. Mitigation shall be determined, in consultation with the California Department of Fish and Wildlife, considering the size of the area impacted by the covered action and the type and value of habitat that could be restored on that area, taking into account existing and proposed restoration plans, landscape attributes, the elevation map shown in Appendix 4, and other relevant information about habitat restoration opportunities of the area.

(d) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers proposed actions in the priority habitat restoration areas depicted in Appendix 5. It does not cover proposed actions outside those areas.

4.2.5.1 ER P3 Detailed Findings

As described in *Delta Plan* Policy ER P3, Protect Opportunities to Restore Habitat, this policy covers proposed actions in the priority habitat restoration areas depicted in Appendix 5 of the *Delta Plan*. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here does not include proposed actions in the priority habitat restoration areas depicted in Appendix 5 (Figure 4).



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Sources: Planned Geotechnical Activities (DWR 2024); Floodplain Restoration (BDCP 2010, 2012); Delta Plan ER P3 Appendix 5 for Prioritization and Implementation of Habitat Restoration Projects; Suisun Marsh (DSC 2024); NAIP 2014

ER P3 Priority Habitat Restoration

Figure 4. ER P3 2024-2026 Proposed Geotechnical Activities Overlay Map

Prepared by Crystal Schiffbauer-Bowles;
Reviewed by Connor Block

4.2.6 ER P4—Expand Floodplains and Riparian Habitats in Levee Projects

The following is taken from California Code of Regulations, Title 23, Section 5008.

(a) Levee projects must evaluate and where feasible incorporate alternatives, including the use of setback levees, to increase floodplains and riparian habitats. Evaluation of setback levees in the Delta shall be required only in the following areas (shown in Appendix 8): (1) The Sacramento River between Freeport and Walnut Grove, the San Joaquin River from the Delta boundary to Mossdale, Paradise Cut, Steamboat Slough, Sutter Slough; and the North and South Forks of the Mokelumne River, and (2) Urban levee improvement projects in the cities of West Sacramento and Sacramento.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action to construct new levees or substantially rehabilitate or reconstruct existing levees.

4.2.6.1 ER P4 Detailed Findings

As described in *Delta Plan* Policy ER P4, Expand Floodplains and Riparian Habitats in Levee Projects, this policy covers a proposed action to construct new levees or substantially rehabilitate or reconstruct existing levees. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here does not include constructing new levees or substantially rehabilitating or reconstructing existing levees. (As already stated, there are no soil borings or CPTs proposed on levees as part of the 2024–2026 Proposed Geotechnical Activities.)

4.2.7 ER P5—Avoid Introductions of and Habitat Improvements for Invasive Nonnative Species

The following is taken from California Code of Regulations, Title 23, Section 5009.

(a) The potential for new introductions of or improved habitat conditions for nonnative invasive species, striped bass, or bass must be fully considered and avoided or mitigated in a way that appropriately protects the ecosystem.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(o)(1)(E) of this Chapter, this policy covers a proposed action that has the reasonable probability of introducing or improving habitat conditions for nonnative invasive species.

4.2.7.1 ER P5 Detailed Findings

As described in *Delta Plan* Policy ER P5, Avoid Introductions of and Habitat Improvements for Invasive Nonnative Species, this policy covers a proposed action that has the reasonable probability of introducing or improving habitat conditions for nonnative invasive species. The 2024–2026 Proposed Geotechnical Activities may consist of mowing, removing a limited number of tree limbs, or trimming bushes for site access, along with driving to and from the activity location and boring into the soil. These activities would result in temporary impacts on agricultural lands and natural habitat; there would be minimal land disturbance occurring primarily in already disturbed areas (such as agricultural roads and staging areas).

Consistent with the environmental commitments and best management practices (BMPs) set forth in Final EIR Appendix 3B, *Environmental Commitments and Best Management Practices*, and specifically the requirements in EC-14: *Construction Best Management Practices for Biological Resources*, DWR will restore disturbed areas to as close to pre-project conditions as possible directly following the completion of the field investigation activity.

Since the level of disturbance associated with the proposed action would be minor and the proposed action includes immediately restoring the temporarily disturbed areas, the proposed action would not have a reasonable probability of improving habitat conditions for nonnative invasive species. Additionally, pursuant to EC-14, a biological monitor will be present during all geotechnical activities. During geotechnical activities, measures that will be implemented for the protection of special-status fish, wildlife, and plant species and their habitats include the requirement that all equipment used during field investigations be cleaned and inspected by the qualified biologist for terrestrial invasive plant and animal species prior to entering the work areas and before moving between work areas (California Department of Water Resources 2023a:3B-29). Consistent with California Invasive Plant Council (Cal-IPC) recommendations, tools used for equipment cleaning would include brushes, brooms, a scraper, an air compressor, a vacuum, or other hand tools. Prior to entering a new site, equipment will be washed at an off-site commercial facility or returned to the company yard for cleaning if the qualified biologist determines that equipment washing is warranted after the on-site cleaning (California Invasive Plant Council 2012). By following Cal-IPC guidance to inspect and clean equipment before entering new areas, the 2024–2026 Proposed Geotechnical Activities would prevent the spread of invasive species and would not have a reasonable probability to introduce nonnative invasive species.

As such, this policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because, in consideration of the scope of and procedures applicable to the 2024–2026 Proposed Geotechnical Activities, the proposed action here does not have a reasonable probability of introducing or improving habitat conditions for nonnative invasive species.

4.2.8 DP P1—Locate New Urban Development Wisely

The following is taken from California Code of Regulations, Title 23, Section 5010.

(a) New residential, commercial, and industrial development must be limited to the following areas, as shown in Appendix 6 and Appendix 7:

(1) Areas that city or county general plans as of May 16, 2013, designate for residential, commercial, and industrial development in cities or their spheres of influence;

(2) Areas within Contra Costa County's 2006 voter-approved urban limit line, except no new residential, commercial, and industrial development may occur on Bethel Island unless it is consistent with the Contra Costa County general plan effective as of May 16, 2013;

(3) Areas within the Mountain House General Plan Community Boundary in San Joaquin County; or

(4) The unincorporated Delta towns of Clarksburg, Courtland, Hood, Locke, Ryde, and Walnut Grove.

(b) Notwithstanding subsection (a), new residential, commercial, and industrial development is permitted outside the areas described in subsection (a) if it is consistent with the land uses designated in county general plans as of May 16, 2013, and is otherwise consistent with this Chapter.

(c) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers proposed actions that involve new residential, commercial, and industrial development that is not located within the areas described in subsection (a). In addition, this policy covers any such action on Bethel Island that is inconsistent with the Contra Costa County general plan effective as of May 16, 2013. This policy does not cover commercial recreational visitor serving uses or facilities for processing of local crops or that provide essential services to local farms, which are otherwise consistent with this Chapter.

(d) This policy is not intended in any way to alter the concurrent authority of the Delta Protection Commission to separately regulate development in the Delta's Primary Zone.

4.2.8.1 DP P1 Detailed Findings

As described in *Delta Plan* Policy DP P1, Locate New Urban Development Wisely, this policy covers proposed actions that involve new residential, commercial, and industrial development that is not located within the areas described in California Code of Regulations, Title 23, Section 5010(a). This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here does not include new residential, commercial, or industrial development.

4.2.9 DP P2—Respect Local Use When Siting Water or Flood Facilities or Restoring Habitats

The following is taken from California Code of Regulations, Title 23, Section 5011.

(a) Water management facilities, ecosystem restoration, and flood management infrastructure must be sited to avoid or reduce conflicts with existing uses or those uses described or depicted in city and county general plans for their jurisdictions or spheres of influence when feasible, considering comments from local agencies and the Delta Protection Commission. Plans for ecosystem restoration must consider sites on existing public lands, when feasible and consistent with a project's purpose, before privately owned sites are purchased. Measures to mitigate conflicts with adjacent uses may include, but are not limited to, buffers to prevent adverse effects on adjacent farmland.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers proposed actions that involve the siting of water management facilities, ecosystem restoration, and flood management infrastructure.

4.2.9.1 DP P2 Detailed Findings

As described in *Delta Plan* Policy DP P2, Respect Local Use When Siting Water or Flood Facilities or Restoring Habitats, this policy covers proposed actions that involve the siting of water management facilities, ecosystem restoration, and flood management infrastructure. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here would only include temporary information collection activities and does not involve the physical placing (siting)

of water management facilities, ecosystem restoration, and flood management infrastructure. The 2024–2026 Proposed Geotechnical Activities will inform the alignment and design of the Delta Conveyance Project, but the preliminary data collection does not commit DWR to site Delta Conveyance Project facilities in the specific investigation locations proposed in the 2024–2026 Proposed Geotechnical Activities.

4.2.10 RR P1—Prioritization of State Investments in Delta Levees and Risk Reduction

The following is taken from California Code of Regulations, Title 23, Section 5012.

(a) Fund levee operation and maintenance. For the purposes of Water Code Section 85306, State investments in levee operation and maintenance of Delta project levees and nonproject levees shall be prioritized as follows:

(1) For project levees, funding should be prioritized to ensure levees are operated and maintained in accordance with Code of Federal Regulations, Title 33, Part 208.10 and applicable federal Operation and Maintenance manuals, active in federal Public Law 84-99 Rehabilitation Program, and consistent with Central Valley Flood Protection Board Resolution No. 2018-06 for Acceptable Operation and Maintenance of the State Plan of Flood Control.

(2) For nonproject levees, funding should be prioritized to ensure levees are operated and maintained to protect the Delta's physical characteristics.

(b) Delta levees investment strategy. The priorities listed in Table 1 and depicted in Delta Plan Appendix P dated August 2021, which is incorporated by reference, shall guide State discretionary investments in the improvement of Delta levees. The California Department of Water Resources' funding decisions are subject to its consideration of the benefits, costs, engineering considerations, and other factors. As the California Department of Water Resources selects levee improvement projects for funding through its levee funding programs, it should fund projects at the Very-High priority islands or tracts, before funding projects at High Priority or Other Priority islands or tracts. If available funds are sufficient to fully fund levee improvement projects at the Very-High Priority islands or tracts, then funds for levee improvement projects on High Priority islands or tracts should be funded and after those projects have been fully funded, then levee improvement projects at Other Priority islands or tracts may be funded.

(c) Annual Report

(1) The California Department of Water Resources shall submit a written annual report, as described in paragraph (2), to the Council, as well as present the report to Council, on State funds distributed or provided by the California Department of Water Resources within the legal Delta. At least 45 days prior to the oral presentation before the Council, and no later than March 1 of each calendar year, the California Department of Water Resources shall submit the written annual report to the Council and make the report publicly available.

(2) The report shall include: (A)A description of all discretionary State funding for levees awarded by the California Department of Water Resources, during the reporting year; including both of the following: (i)Levee improvement. (ii)Levee operation and

maintenance. (B)A list of each levee improvement project proposal submitted to the California Department of Water Resources for funding, regardless of whether the California Department of Water Resources awarded funding to the project; (C)A list of the improvement projects awarded funding, the funding level awarded, the local cost share, and the applicable priority of the island or tract from Table 1 in subsection (b), where the levee improvement project is located; (D)A description, for each awarded project, of changes (when completed) to levee geometry, the specific locations of those changes, and expected changes in the level of flood protection provided or standard achieved; (E) If the California Department of Water Resources awards funds for any levee improvement project that is inconsistent with the priorities identified in subsection (b), the annual report shall identify for each project: how the funding is inconsistent with the priorities, describe why variation from the priorities is necessary, and explain how the funding nevertheless protects lives, property, or other State interests, such as infrastructure, agriculture, water supply reliability, Delta ecosystem, or Delta communities; (F) A summary of the California Department of Water Resources' rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year; and (G) A summary of all previous California Department of Water Resources funded levee improvement project activities completed during the reporting year and location of those activities.

(d) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action that involves discretionary State investments in Delta flood risk management, including levee operations, maintenance, and improvements. Nothing in this policy establishes or otherwise changes existing levee standards.

Note: Authority cited: Sections 85210 and 85306, Water Code. Reference: Sections 85020, 85022, 85054, 85057.5, 85300, 85305, 85306, 85307, and 85309, Water Code.

4.2.10.1 RR P1 Detailed Findings

As described in *Delta Plan* Policy RR P1, Prioritization of State Investments in Delta Levees and Risk Reduction, this policy covers a proposed action that involves discretionary State investments in Delta flood risk management, including levee operations, maintenance, and improvements. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here involves no investment in Delta levees or flood risk reduction. In addition, the activities would be funded through contributions from public water agencies that may participate in the Delta Conveyance Project and that have contributed or will contribute funds for the environmental review, planning, permitting and certain preconstruction activities related to design and engineering. The 2024–2026 Proposed Geotechnical Activities do not involve discretionary State investments in Delta flood risk management, including levee operations, maintenance, and improvements.

4.2.11 RR P2—Require Flood Protection for Residential Development in Rural Areas

The following is taken from California Code of Regulations, Title 23, Section 5013.

(a) New residential development of five or more parcels shall be protected through floodproofing to a level 12 inches above the 100-year base flood elevation, plus sufficient

additional elevation to protect against a 55-inch rise in sea level at the Golden Gate, unless the development is located within:

(1) Areas that city or county general plans, as of May 16, 2013, designate for development in cities or their spheres of influence;

(2) Areas within Contra Costa County's 2006 voter-approved urban limit line, except Bethel Island;

(3) Areas within the Mountain House General Plan Community Boundary in San Joaquin County; or

(4) The unincorporated Delta towns of Clarksburg, Courtland, Hood, Locke, Ryde, and Walnut Grove, as shown in Appendix 7.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action that involves new residential development of five or more parcels that is not located within the areas described in subsection (a).

4.2.11.1 RR P2 Detailed Findings

As described in *Delta Plan* Policy RR P2, Require Flood Protection for Residential Development in Rural Areas, this policy covers a proposed action that involves new residential development of five or more parcels that is not located within the areas described in California Code of Regulations, Title 23, Section 5013(a). This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here does not involve new residential development of five or more parcels.

4.2.12 RR P3—Protect Floodways

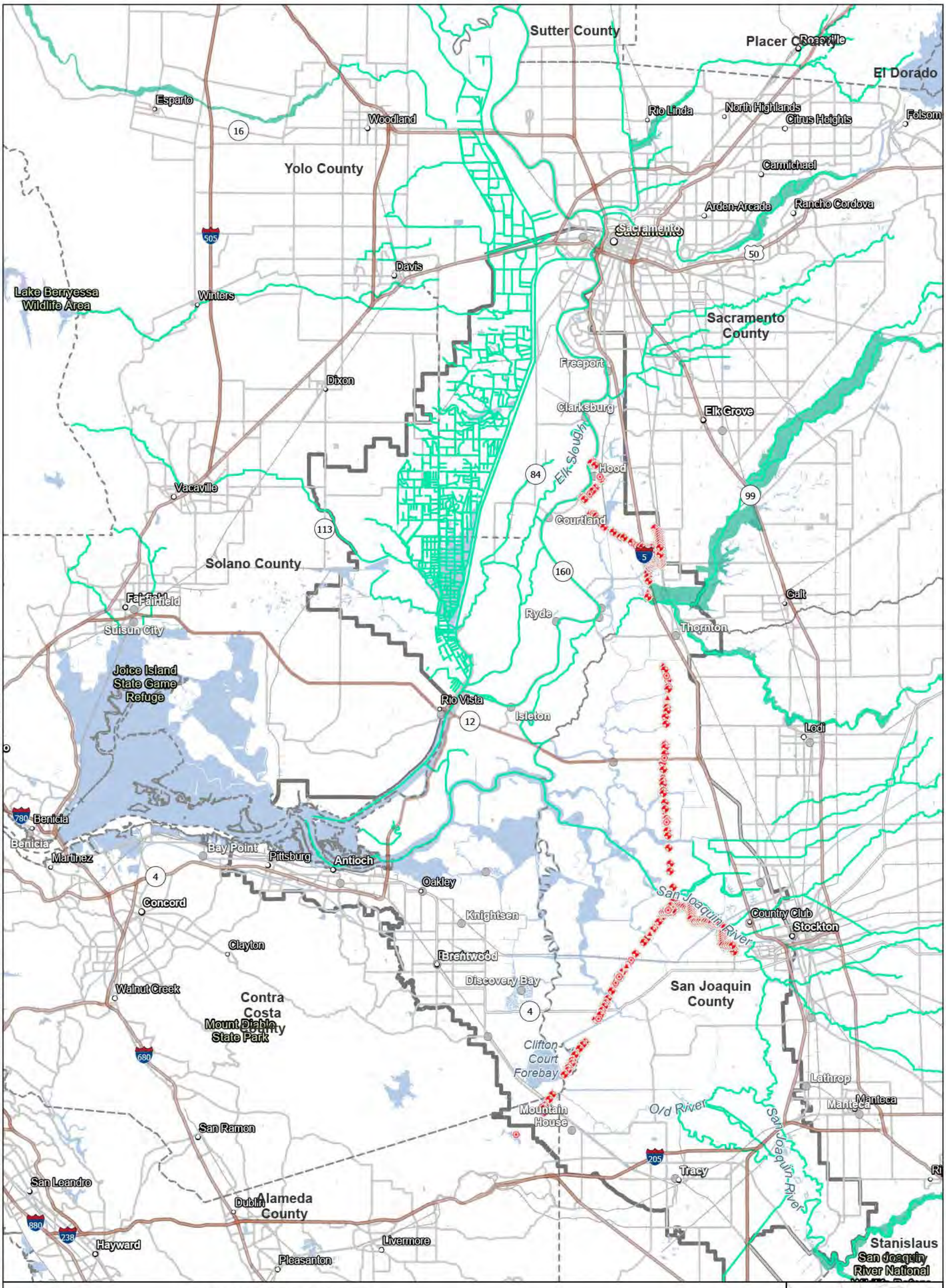
The following is taken from California Code of Regulations, Title 23, Section 5014.

(a) No encroachment shall be allowed or constructed in a floodway, unless it can be demonstrated by appropriate analysis that the encroachment will not unduly impede the free flow of water in the floodway or jeopardize public safety.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action that would encroach in a floodway that is not either a designated floodway or regulated stream.

4.2.12.1 RR P3 Detailed Findings

As described in *Delta Plan* Policy RR P3, Protect Floodways, this policy covers a proposed action that would encroach in a floodway that is not either a designated floodway or regulated stream. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here would not include any in-water work and would not encroach in a floodway that is not either a designated floodway or regulated stream (Figure 5).



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Sources: Planned Geotechnical Activities (DWR 2024); Floodplain Restoration (BDCP 2010, 2012); Lower San Joaquin Flood Bypass Proposal (DSC 2011); RR 4 (23 CCR section 5015) – Floodplain Protection

RR P3 Regulated Floodway & Stream

Figure 5. RR P3 2024-2026 Proposed Geotechnical Activities Overlay Map

Prepared by Crystal Schiffbauer-Bowles;
Reviewed by Connor Block

4.2.13 RR P4—Floodplain Protection

The following is taken from California Code of Regulations, Title 23, Section 5015.

(a) No encroachment shall be allowed or constructed in any of the following floodplains unless it can be demonstrated by appropriate analysis that the encroachment will not have a significant adverse impact on floodplain values and functions:

(1) The Yolo Bypass within the Delta;

(2) The Cosumnes River-Mokelumne River Confluence, as defined by the North Delta Flood Control and Ecosystem Restoration Project (McCormack-Williamson), or as modified in the future by the California Department of Water Resources or the U.S. Army Corps of Engineers (California Department of Water Resources 2010); and

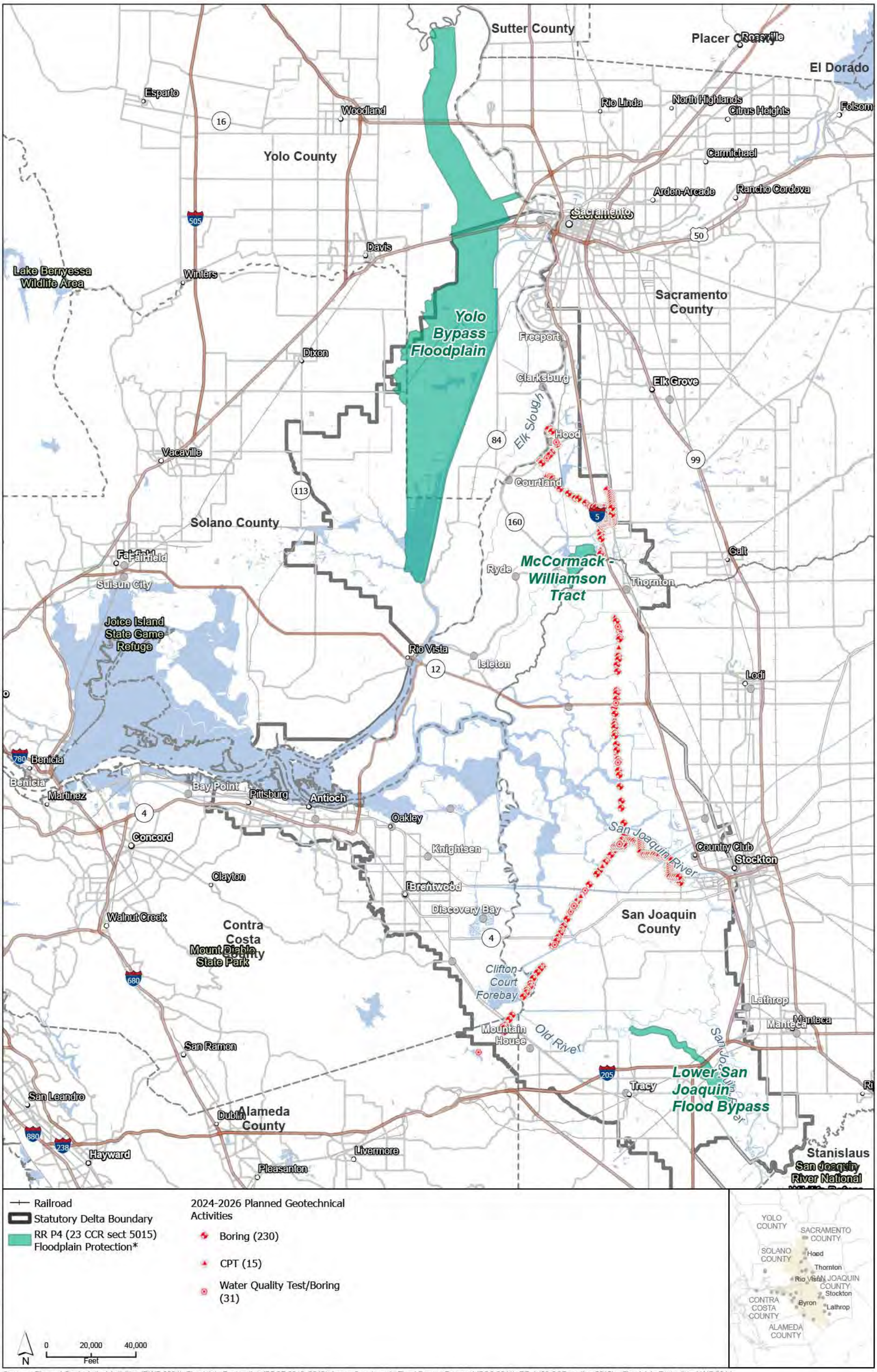
(3) The Lower San Joaquin River Floodplain Bypass area, located on the Lower San Joaquin River upstream of Stockton immediately southwest of Paradise Cut on lands both upstream and downstream of the Interstate 5 crossing. This area is described in the Lower San Joaquin River Floodplain Bypass Proposal, submitted to the California Department of Water Resources by the partnership of the South Delta Water Agency, the River Islands Development Company, Reclamation District 2062, San Joaquin Resource Conservation District, American Rivers, the American Lands Conservancy, and the Natural Resources Defense Council, March 2011. This area may be modified in the future through the completion of this project.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action that would encroach in any of the floodplain areas described in subsection (a).

(c) This policy is not intended to exempt any activities in any of the areas described in subsection (a) from applicable regulations and requirements of the Central Valley Flood Protection Board.

4.2.13.1 RR P4 Detailed Findings

As described in *Delta Plan* Policy RR P4, Floodplain Protection, this policy covers a proposed action that would encroach in any of the floodplain areas described in California Code of Regulations, Title 23, Section 5015(a). This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here would not encroach in any of the floodplain areas described in California Code of Regulations, Title 23, Section 5015(a) (Figure 6).



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Sources: Planned Geotechnical Activities (DWR 2024); Floodplain Restoration (BDCP 2010, 2012); Lower San Joaquin Flood Bypass Proposal (DSC 2011); RR 4 (23 CCR section 5015) – Floodplain Protection; NAIP 2014

Prepared by Crystal Schiffbauer-Bowles;
Reviewed by Connor Block

RR P4 Floodplain Protection
Figure 6. RR P4 2024-2026 Proposed Geotechnical Activities Overlay Map

4.2.14 Conclusion: Step 3 (Article 3 Policies)

The DSC's Covered Action Checklist provides that if the answer to the Step 3 question evaluated above is no, then the proposed action "is not covered by any of the Delta Plan regulatory policies above and therefore [it is] exempt from the Council's regulatory authority [and] NO FURTHER STEPS ARE REQUIRED." Therefore, because the 2024–2026 Proposed Geotechnical Activities are not covered by one or more of the Article 3 regulatory policies evaluated here, the DRA does not require this certification to include an evaluation of the four general Article 2 subdivisions of DSC's regulations.[17]

Nevertheless, for the sake of thoroughness and to err on the side of facilitating the DSC's informed decision-making process, the analysis below additionally considers whether the 2024–2026 Proposed Geotechnical Activities are consistent with the four general Article 2 subdivisions of DSC's regulations.

4.3 Step 4 Summary of Article 2 Consistency Findings

Table 3. G P1 Policies

***Delta Plan* Policy**	**Policy Description**	**Findings**
G P1 (b)(2) Cal. Code Regs., tit. 23, § 5002(b)(2)	Delta Plan Mitigation Measures	Does not apply
G P1 (b)(3) Cal. Code Regs., tit. 23, § 5002(b)(3)	Use of Best Available Science	Does not apply
G P1 (b)(4) Cal. Code Regs., tit. 23, § 5002(b)(4)	Incorporation of Adaptive Management	Does not apply
G P1 (c) Cal. Code Regs., tit. 23, § 5002(c)	Incorporation of Conservation Measures	Does not apply

4.3.1 G P1—Detailed Findings to Establish Consistency with the *Delta Plan*

The following is taken from California Code of Regulations, Title 23, Section 5002.

(a) This policy specifies what must be addressed in a certification of consistency filed by a State or local public agency with regard to a covered action. This policy only applies after a "proposed action" has been determined by a State or local public agency to be a covered action because it is covered by one or more of the regulatory policies contained in Article 3. Inconsistency with this policy may be the basis for an appeal.

(b) Certifications of consistency must include detailed findings that address each of the following requirements:

(1) Covered actions not exempt from CEQA must include applicable feasible mitigation measures identified in the Delta Plan's Program EIR (unless the measure(s) are within

[17] Cal. Code Regs., tit. 23, § 5002(b)(1)–(4).

the exclusive jurisdiction of an agency other than the agency that files the certification of consistency), or substitute mitigation measures that the agency that files the certification of consistency finds are equally or more effective.

(2) As relevant to the purpose and nature of the project, all covered actions must document use of best available science.

(3) Ecosystem restoration and water management covered actions must include adequate provisions, appropriate to the scope of the covered action, to assure continued implementation of adaptive management. This requirement shall be satisfied through both of the following:

(A) An adaptive management plan that describes the approach to be taken consistent with the adaptive management framework in Appendix 1B, and

(B) Documentation of access to adequate resources and delineated authority by the entity responsible for the implementation of the proposed adaptive management process.

(c) A conservation measure proposed to be implemented pursuant to a natural community conservation plan or a habitat conservation plan that was:

(1) Developed by a local government in the Delta; and

(2) Approved and permitted by the California Department of Fish and Wildlife prior to May 16, 2013 is deemed to be consistent with sections 5005 through 5009 of this Chapter if the certification of consistency filed with regard to the conservation measure includes a statement confirming the nature of the conservation measure from the California Department of Fish and Wildlife.

4.3.1.1 G P1 Detailed Findings

The 2024–2026 Proposed Geotechnical Activities will have no impact on the achievement of the coequal goals or on the implementation of a government-sponsored flood control program and are not covered by one or more of the regulatory policies in Article 3; therefore, DWR does not believe the 2024–2026 Proposed Geotechnical Activities are required to include an assessment of consistency with G P1 (or its sub-policies). Nevertheless, for the sake of thoroughness and to err on the side of facilitating the DSC's informed decision-making process, the analysis below considers the G P1 sub-policies.

4.3.1.2 G P1 (b)(2) Detailed Findings

The 2024–2026 Proposed Geotechnical Activities are consistent with *Delta Plan* Policy G P1 (b)(2) because the 2024–2026 Proposed Geotechnical Activities' environmental commitments and mitigation measures are the same as, equal to, or more effective than the applicable measures identified in the Delta Plan Program Environmental Impact Report (Delta Plan PEIR) at reducing impacts on the environment related to the 2024–2026 Proposed Geotechnical Activities evaluated in the certification of consistency. All of the applicable mitigation measures proposed in the Delta Conveyance Project Final EIR have been adopted and incorporated into the enforceable MMRP for the Delta Conveyance Project.[18] For more information on the specific measures that are applicable

[18] Cal. Code Regs., tit. 23, § 5002(b)(1)–(4).

to, and that will be implemented for, the 2024–2026 Proposed Geotechnical Activities, see the *2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan* (Attachment 5). See the section titled *Delta Plan Mitigation Measure Comparison* in this report for a detailed comparison of the 2024–2026 Proposed Geotechnical Activities' environmental commitments and mitigation measures and the corresponding Delta Plan mitigation measures.

The *Delta Plan* and the Delta Conveyance Project are two different individual and separate projects (i.e., a plan vs. a project), and the Delta Plan PEIR broadly evaluates the potential actions that proponents of covered activities could pursue in the Delta. The *Delta Plan* is a long-term management plan for the Delta prepared pursuant to the DRA, which was adopted in 2013 and was last amended in 2024 (Delta Stewardship Council 2013). The Delta Plan PEIR is a programmatic EIR that evaluates the potential effects of the policies and recommendations of the *Delta Plan*, including an evaluation of a broad range of projects that could occur as a result of *Delta Plan* implementation (Delta Stewardship Council 2022b:1-1). The *Delta Plan* and the Delta Conveyance Project have very different scopes and levels of effects on the environment that lead to different mitigation needs. Additionally, the 2024–2026 Proposed Geotechnical Activities include subsurface exploration and testing to help inform the Delta Conveyance Project, but they do not include all of the activities described in Chapter 3, *Description of the Proposed Project and Alternatives,* of the Delta Conveyance Project Final EIR. As such, even if a Delta Plan mitigation measure is applicable to the Delta Conveyance Project, it may not be applicable to the 2024–2026 Proposed Geotechnical Activities.

The section titled *Delta Plan Mitigation Measure Comparison* first considers whether a given Delta Plan impact prompting a specific Delta Plan mitigation measure applies to the 2024–2026 Proposed Geotechnical Activities; then it considers whether that impact is significant for the 2024–2026 Proposed Geotechnical Activities. If the impact is potentially significant, the discussion provides more details on which Delta Conveyance Project Final EIR mitigation measures apply to that impact as well as a determination of whether they are equal to or more effective than the applicable portions of the corresponding Delta Plan mitigation measure. Due to the programmatic nature of the analysis in the Delta Plan PEIR, which considered potential types and locations of reasonably foreseeable actions (e.g., covered actions) that may be proposed in the Delta, it can be expected that the PEIR will identify mitigation measures that are not applicable to some projects. Not all proposed projects required to evaluate consistency with the *Delta Plan* will include every component considered in the impact analysis in the Delta Plan PEIR. This certification evaluates only the 2024–2026 Proposed Geotechnical Activities. Therefore, the Delta Conveyance Project Final EIR may identify impacts for which there are applicable Delta Plan mitigation measures, but when considering just the 2024–2026 Proposed Geotechnical Activities, no impact is likely to occur and therefore the Delta Plan mitigation measure does not apply. Where applicable, the discussion identifies potentially significant impacts of the Delta Conveyance Project evaluated in the Final EIR but explains why DWR does not identify the 2024–2026 Proposed Geotechnical Activities as a contributor to the impact.

Delta Plan Mitigation Measure Comparison

Delta Plan Resource Area: Water Resources

Delta Plan impact: Violate Any Water Quality Standards or Waste Discharge Requirements or Substantially Degrade Water Quality

Delta Plan Mitigation Measure: 3-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in no impact (Impact WQ-17), a less-than-significant impact (Impacts WQ-1 through WQ-5, and WQ-7 through WQ-16) and a less-than-significant impact with mitigation (Impact WQ-6) on water quality.

The 2024–2026 Proposed Geotechnical Activities do not contribute to the potentially significant impact identified in the analyses for Impact WQ-6 and do not require implementation of Delta Conveyance Project Mitigation Measures WQ-4: *Contra Costa Water District Interconnection Facility* and WQ-6: *Develop and Implement a Mercury Management and Monitoring Plan* because—as discussed in Attachment 4, *2024–2026 Proposed Geotechnical Activities—Evaluation of Consistency with the Delta Conveyance Project's Final EIR* (Evaluation of Consistency memo), and in Attachment 5, *2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan*—the 2024–2026 Proposed Geotechnical Activities will not take place at the Contra Costa Water District Interconnection facility and will not involve the design or construction of the Compensatory Mitigation Plan.

The 2024–2026 Proposed Geotechnical Activities do not involve construction activities associated with terrestrial or aquatic facilities construction, construction preparation, or other general construction activities, including dewatering. Additionally, the 2024–2026 Proposed Geotechnical Activities will not involve overwater activities. The 2024–2026 Proposed Geotechnical Activities are temporary, involve a minimal footprint, and are used to inform project planning; and although geotechnical activities will not affect in-river water quality, DWR will implement Delta Conveyance Project Environmental Commitments EC-2: *Develop and Implement Hazardous Materials Management Plans* and EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans* as part of the general geotechnical activities Health and Safety Plan (Delta Conveyance Design and Construction Authority 2024) to reduce the likelihood of contamination during field investigation activities.

The 2024–2026 Proposed Geotechnical Activities are comparatively short-term and temporary, and they are typically within a small footprint; when completed, holes will be sealed using cement-bentonite grout in accordance with State of California regulations and industry standards to ensure that groundwater water quality will not be contaminated by the borings in a way that would cause surface water quality to be substantially degraded. Therefore, impacts to the specific constituents evaluated in the Final EIR water quality impacts analysis will not occur and no mitigation is required.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 3-1. Therefore, Delta Plan Mitigation Measure 3-1 is not applicable to the 2024–2026 Proposed Geotechnical

Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 3-1 is not required.

Delta Plan Impact: Substantially Deplete Groundwater Supplies or Interfere Substantially with Groundwater Recharge

Delta Plan Mitigation Measure: 3-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts with mitigation (Impacts GW-1 through GW-5) and less-than-significant impacts (Impacts GW-6 through GW-7) on groundwater.

The 2024–2026 Proposed Geotechnical Activities will include water quality testing in boreholes. A steady-state pumping test may occur for up to 4 hours at a flow rate selected to prevent dewatering and resulting in pump cavitation. (The 4-hour duration is specific to the 2024–2026 Proposed Geotechnical Activities; the Potential Future Field Investigations—Bethany Reservoir Alternative technical memorandum [Delta Conveyance Design and Construction Authority 2022] includes up to 10 days in duration. The flow rate would be up to 50 gallons per minute [gpm] specifically for 2024–2026 Proposed Geotechnical Activities; the Potential Future Field Investigations technical memorandum gave up to 1,500 gpm.) A period equal to the pumping test would follow the pumping test, during which the water level would be allowed to recover to the pre-pumping level. Water levels before, during, and following the various tests would be monitored using automated data loggers.

The 2024–2026 Proposed Geotechnical Activities will not involve facility construction, dewatering activities (a potential cause of subsidence in certain soil types and formations and a potential cause of water quality degradation), installation of slurry cut-off walls (a potential cause for groundwater elevation increases) or sheet piles; the activities are temporary with a minimal footprint, and they do not constitute Delta Conveyance Project operations. As such, the 2024–2026 Proposed Geotechnical Activities do not require implementation of Delta Conveyance Project Mitigation Measures GW-1: *Maintain Groundwater Supplies in Affected Areas* and GW-5: *Reduce Potential Increases in Groundwater Elevations Near Project Intake Facilities*. When geotechnical activities are completed, holes will be sealed using cement-bentonite grout in accordance with State of California regulations and industry standards. Therefore, the 2024–2026 Proposed Geotechnical Activities will not affect stream gains or losses, impact elevations, or impact groundwater levels of supply wells, and no mitigation is required.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 3-2. Therefore, Delta Plan Mitigation Measure 3-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 3-2 is not required.

Delta Plan Resource Area: Biological Resources

Delta Plan Impact: Substantial Adverse Effects on Sensitive Natural Communities, including Wetlands and Riparian Habitat

Delta Plan Mitigation Measure: 4-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in no impact (Impact BIO-6), a less-than-significant impact (Impact BIO-52), and less-than-significant impacts with mitigation (Impacts BIO-1 through BIO-5, Impact BIO-7, and Impact BIO-8) on sensitive natural communities.

The 2024–2026 Proposed Geotechnical Activities do not require implementation of Delta Conveyance Project Mitigation Measures CMP: *Compensatory Mitigation Plan*, BIO-2b: *Avoid and Minimize Impacts on Terrestrial Biological Resources from Maintenance Activities*, and BIO-2c: *Electrical Power Line Support Placement* because, as discussed in the Evaluation of Consistency memo (Attachment 4), the geotechnical activities will not involve construction or placement of powerlines, will avoid take of listed species and habitat loss, and will not involve surface disturbance that would disrupt terrestrial wildlife connectivity and movement and because the investigations will not involve maintenance activities.

Terrestrial biological resources may be temporarily impacted by the 2024–2026 Proposed Geotechnical Activities. To avoid, minimize, or reduce impacts to the terrestrial biological resources analyzed in the Final EIR, DWR will employ applicable environmental commitments and mitigation measures to reduce potential impacts. Specific compliance with Environmental Commitments EC-1: *Conduct Environmental Resources Worker Awareness Training*, EC-2: *Develop and Implement Hazardous Materials Management Plans*, EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans*, and EC-14: *Construction Best Management Practices for Biological Resources* would reduce potential impacts as described in the *2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan* (Attachment 5) by (1) training construction staff on protecting sensitive biological resources, reporting requirements, and the ramifications for not following these measures; (2) implementing spill prevention and containment plans that would avoid material spills that could affect the viability of nearby aquatic and upland habitat; (3) having a biological monitor present to ensure that non-disturbance buffers and all other protective measures are being implemented, where applicable; and (4) avoiding impacts to biological resources by moving investigation locations or abandoning a site altogether.

In addition, the study area contains both aquatic and terrestrial plant species that have been designated as invasive plants or noxious weeds. Although these two descriptive terms are sometimes used interchangeably, it is important to note that there are implications associated with the use of each term. The term *noxious weed* is a designation used by government agencies, such as the U.S. Department of Agriculture and the California Department of Food and Agriculture, for plant species that have been identified as pests by law or regulation. Species labeled *invasive plants* may be considered as such from a scientific perspective because of their ability to spread to areas that are far from their point of introduction. Plant species can also be identified as invasive through recognition by nongovernmental organizations, such as the California Invasive Plant Council (Cal-IPC), which maintains a list of invasive plants that threaten

California's wildlands. The study area does not contain any known populations of noxious weeds identified by the U.S. Department of Agriculture (Final EIR Chapter 13, *Terrestrial Biological Resources*, Section 13.1.5.1, *Definitions*). However, invasive plant species as identified by Cal-IPC are present in all of the natural communities and agricultural areas in the study area (Final EIR Chapter 13, Section 13.1.5.3, *Invasive Plant Species in Natural Communities*). For the 2024–2026 Proposed Geotechnical Activities, those invasive plant species that likely affect the natural communities in the study area primarily include perennial pepperweed, yellow star-thistle, medusahead, purple star-thistle, bar goatgrass, Italian ryegrass, Italian thistle, wild radish, bindweed, fennel, field mustard, and Bermuda grass.

The discussion of Impact BIO-52 evaluates potential impacts of invasive species resulting from construction activities, including geotechnical activities, on established vegetation (Final EIR Chapter 13, pp. 13-432 through 13-435). The removal of established vegetation can create opportunities for the introduction and spread of invasive and noxious plant species into the study area. However, opportunities for the introduction and spread of invasive and noxious plant species are directly proportional to the level of disturbance associated with the activity (Final EIR Chapter 13, p. 13-432). As such, the 2024–2026 Proposed Geotechnical Activities will consist of minor disturbances such as mowing, removal of a few tree limbs, and trimming of bushes for site access, along with driving to and from the activity location and boring into the soil. These minor disturbances would be further minimized by the requirement that the sites be restored to as close to pre-project conditions as possible directly following the completion of the field investigation activity. Furthermore, the Delta Conveyance Project includes environmental commitments and BMPs set forth in Final EIR Appendix 3B, *Environmental Commitments and Best Management Practices*. As previously described, these requirements include EC-14, which requires a biological monitor be present during the geotechnical activities. As a BMP—consistent with the requirement that the on-site biologist ensure protective measures are being implemented as intended for the protection of special-status species, natural communities, and the environment in general (Final EIR Appendix 3B, p. 3B-26)—measures will be implemented for the protection of special-status fish, wildlife, and plant species and their habitats. These measures will include the requirement that all equipment used during geotechnical activities will be cleaned and inspected by the qualified biologist for terrestrial invasive plant and animal species prior to entering the work areas and before moving between work areas (Final EIR Appendix 3B, p. 3B-29). Consistent with Cal-IPC recommendations, tools used for equipment cleaning would include brushes, brooms, a scraper, an air compressor, a vacuum, or other hand tools (California Invasive Plant Council 2012).Prior to entering a new site, equipment will be washed at an off-site commercial facility or returned to the company yard for cleaning if the qualified biologist determines that equipment washing is warranted after the on-site equipment cleaning (California Invasive Plant Council 2012).

In consideration of the minimal footprint for each geological activity, DWR will restore the temporarily disturbed areas and inspect and clean equipment before entering new areas so that the potential for the geotechnical activities to introduce or improve habitat conditions for invasive plants would be less than significant. The Final EIR identifies this as a potential project impact and identifies geotechnical activities as a contributor to this impact. The 2024–2026 Proposed Geotechnical Activities will be temporary, will have a minimal footprint, have been sited to avoid areas such as wetlands, only have the potential for minimal vegetation removal (mowing or trimming of limbs for safety and access reasons), and would not result in the permanent loss of sensitive natural communities.

Delta Plan Mitigation Measure 4-1 includes measures to avoid, minimize, and compensate for reduction in area or habitat quality of sensitive natural communities. These measures consider site selection, design, restoration planning, construction BMPs, and invasive species management. Implementation of Delta Conveyance Project Environmental Commitments EC-1: *Conduct Environmental Resources Worker Awareness Training*, EC-2: *Develop and Implement Hazardous Materials Management Plans*, EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans*, and EC-14: *Construction Best Management Practices for Biological Resources* include measures regarding construction BMPs, including invasive species considerations. All of the following Delta Conveyance Project mitigation measures consider site selection, design, and restoration planning to avoid, minimize, and compensate for reduction in area or habitat quality of sensitive natural communities.

- Mitigation Measure BIO-2a: *Avoid or Minimize Impacts on Special-Status Natural Communities and Special-Status Plants*
- Mitigation Measure BIO-14: *Avoid and Minimize Impacts on Vernal Pool Aquatic Invertebrates and Critical Habitat for Vernal Pool Fairy Shrimp*
- Mitigation Measure BIO-18: *Avoid and Minimize Impacts on Valley Elderberry Longhorn Beetle*
- Mitigation Measure BIO-21: *Avoid and Minimize Impacts on Crotch Bumble Bees*
- Mitigation Measure BIO-22a: *Avoid and Minimize Impacts on California Tiger Salamander*
- Mitigation Measure BIO-23: *Avoid and Minimize Impacts on Western Spadefoot Toad*
- Mitigation Measure BIO-24a: *Avoid and Minimize Impacts on California Red-Legged Frog and Critical Habitat*
- Mitigation Measure BIO-25: *Avoid and Minimize Impacts on Western Pond Turtle*
- Mitigation Measure BIO-26: *Avoid and Minimize Impacts on Special-Status Reptiles*
- Mitigation Measure BIO-30: *Avoid and Minimize Impacts on Giant Garter Snake*
- Mitigation Measure BIO-31: *Avoid and Minimize Impacts on Western Yellow-Billed Cuckoo*
- Mitigation Measure BIO-32: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of California Black Rail*
- Mitigation Measure BIO-33: *Avoid and Minimize Disturbance of Sandhill Cranes*
- Mitigation Measure BIO-34: *Avoid California Least Tern Nesting Colonies and Minimize Indirect Effects on Colonies*
- Mitigation Measure BIO-35: *Avoid and Minimize Impacts on Cormorant, Heron, and Egret Rookeries*
- Mitigation Measure BIO-36a: *Conduct Nesting Surveys for Special-Status and Non–Special-Status Birds and Raptors and Implement Protective Measures to Avoid Disturbance of Nesting Birds and Raptors*
- Mitigation Measure BIO-36b: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of White-Tailed Kite*

- Mitigation Measure BIO-37: *Conduct Surveys for Golden Eagle and Avoid Disturbance of Occupied Nests*
- Mitigation Measure BIO-39: *Conduct Preconstruction Surveys and Implement Protective Measures to Minimize Disturbance of Swainson's Hawk*
- Mitigation Measure BIO-40: *Conduct Surveys and Minimize Impacts on Burrowing Owl*
- Mitigation Measure BIO-42: *Conduct Surveys and Minimize Impacts on Least Bell's Vireo*
- Mitigation Measure BIO-44: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of Tricolored Blackbird*
- Mitigation Measure BIO-45b: *Avoid and Minimize Impacts on Roosting Bats*
- Mitigation Measure BIO-46: *Conduct Preconstruction Survey for San Joaquin Kit Fox and Implement Avoidance and Minimization Measures*
- Mitigation Measure BIO-47: *Conduct Preconstruction Survey for American Badger*

Implementation of the previously mentioned Delta Conveyance Project environmental commitments and mitigation measures is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 4-1.

Delta Plan Impact: Substantial Adverse Effects on Special-Status Species

Delta Plan Mitigation Measure: 4-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts with mitigation (Impacts AQUA-1 through AQUA-7 and AQUA-20) and less-than-significant impacts (Impacts AQUA-8 through AQUA-19). However, as the 2024–2026 Proposed Geotechnical Activities will not involve in-water or over-water activities, potential impacts on fish and aquatic resources are less than significant without mitigation for these activities. Therefore, the associated Delta Conveyance Project mitigation measures relevant to fish and aquatic resources do not apply to the 2024–2026 Proposed Geotechnical Activities.

The Final EIR also concludes the Delta Conveyance Project will result in less-than-significant impacts with mitigation (Impacts BIO-9 through BIO-14, BIO-16, BIO-18, BIO-20 through BIO-42, and BIO-44 through BIO-48) and no impacts (Impacts BIO-15, BIO-17, BIO-19, BIO-43, BIO-49, and BIO-50) on special-status species.

Terrestrial biological resources may be temporarily impacted by the 2024–2026 Proposed Geotechnical Activities. To avoid, minimize, or reduce impacts to the terrestrial biological resources analyzed in the Final EIR, DWR will employ applicable environmental commitments and mitigation measures that reduce potential impacts. Specific compliance with EC-1: *Conduct Environmental Resources Worker Awareness Training*, EC-2: *Develop and Implement Hazardous Materials Management Plans*, EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans*, and EC-14: *Construction Best Management Practices for Biological Resources* (among other commitments) would reduce potential impacts as described in the *2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan* (Attachment 5) by (1) training construction staff on protecting sensitive biological resources, reporting requirements, and the ramifications for not following these

measures; (2) implementing spill prevention and containment plans that would avoid material spills that could affect the viability of nearby aquatic and upland habitat; (3) having a biological monitor present to ensure that non-disturbance buffers and all other protective measures are being implemented, where applicable; and (4) avoiding impacts to biological resources by moving investigation locations or abandoning a site altogether.

The 2024–2026 Proposed Geotechnical Activities do not require implementation of Delta Conveyance Project Mitigation Measures CMP: *Compensatory Mitigation Plan*, BIO-2b: *Avoid and Minimize Impacts on Terrestrial Biological Resources from Maintenance Activities*, BIO-2c: *Electrical Power Line Support Placement*, BIO-22b: *Avoid and Minimize Operational Traffic Impacts on Wildlife*, BIO-24b: *Compensate for Impacts on California Red-Legged Frog Habitat Connectivity*, BIO-45a: *Compensate for the Loss of Bat Roosting Habitat on Bridges and Overpasses*, AES-4b: *Minimize Fugitive Light from Portable Sources Used for Construction*, and AES-4c: *Install Visual Barriers along Access Routes, Where Necessary, to Prevent Light Spill from Truck Headlights toward Residences* because, as discussed in the Evaluation of Consistency memo (Attachment 4), the geotechnical activities will not involve construction or placement of powerlines, will only take place in the daytime (will not require lighting), will avoid take of listed species and habitat loss, and will not involve surface disturbance that would disrupt terrestrial wildlife connectivity and movement and because the investigations will not involve maintenance activities.

The 2024–2026 Proposed Geotechnical Activities will be temporary, will have a minimal footprint, have been sited to avoid areas such as wetlands, only have the potential for minimal vegetation removal (mowing or trimming of limbs for safety and access reasons), and would not result in the permanent loss of sensitive natural communities.

Delta Plan Mitigation Measure 4-2 includes avoiding habitats of special-status species both spatially and temporally, conducting surveys, establishing buffers, construction monitoring, relocating special-status species (when necessary), and compensating for impacts. As discussed, the 2024–2026 Proposed Geotechnical Activities will avoid take of listed species and habitat loss and will not require relocation of listed species or compensatory mitigation for impacts to special-status species. Implementation of Delta Conveyance Project Environmental Commitments EC-1: *Conduct Environmental Resources Worker Awareness Training*, EC-2: *Develop and Implement Hazardous Materials Management Plans*, EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans*, and EC-14: *Construction Best Management Practices for Biological Resources* include BMPs regarding general avoidance, buffers, and monitoring. The following Delta Conveyance Project mitigation measures include species-specific commitments regarding spatially and temporally avoiding habitat of special-status species, conducting surveys, establishing buffers, and monitoring construction.

- Mitigation Measure BIO-2a: *Avoid or Minimize Impacts on Special-Status Natural Communities and Special-Status Plants*
- Mitigation Measure BIO-14: *Avoid and Minimize Impacts on Vernal Pool Aquatic Invertebrates and Critical Habitat for Vernal Pool Fairy Shrimp*
- Mitigation Measure BIO-18: *Avoid and Minimize Impacts on Valley Elderberry Longhorn Beetle*
- Mitigation Measure BIO-21: *Avoid and Minimize Impacts on Crotch Bumble Bees*
- Mitigation Measure BIO-22a: *Avoid and Minimize Impacts on California Tiger Salamander*

- Mitigation Measure BIO-23: *Avoid and Minimize Impacts on Western Spadefoot Toad*
- Mitigation Measure BIO-24a: *Avoid and Minimize Impacts on California Red-Legged Frog and Critical Habitat*
- Mitigation Measure BIO-25: *Avoid and Minimize Impacts on Western Pond Turtle*
- Mitigation Measure BIO-26: *Avoid and Minimize Impacts on Special-Status Reptiles*
- Mitigation Measure BIO-30: *Avoid and Minimize Impacts on Giant Garter Snake*
- Mitigation Measure BIO-31: *Avoid and Minimize Impacts on Western Yellow-Billed Cuckoo*
- Mitigation Measure BIO-32: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of California Black Rail*
- Mitigation Measure BIO-33: *Avoid and Minimize Disturbance of Sandhill Cranes*
- Mitigation Measure BIO-34: *Avoid California Least Tern Nesting Colonies and Minimize Indirect Effects on Colonies*
- Mitigation Measure BIO-35: *Avoid and Minimize Impacts on Cormorant, Heron, and Egret Rookeries*
- Mitigation Measure BIO-36a: *Conduct Nesting Surveys for Special-Status and Non–Special-Status Birds and Raptors and Implement Protective Measures to Avoid Disturbance of Nesting Birds and Raptors*
- Mitigation Measure BIO-36b: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of White-Tailed Kite*
- Mitigation Measure BIO-37: *Conduct Surveys for Golden Eagle and Avoid Disturbance of Occupied Nests*
- Mitigation Measure BIO-39: *Conduct Preconstruction Surveys and Implement Protective Measures to Minimize Disturbance of Swainson's Hawk*
- Mitigation Measure BIO-40: *Conduct Surveys and Minimize Impacts on Burrowing Owl*
- Mitigation Measure BIO-42: *Conduct Surveys and Minimize Impacts on Least Bell's Vireo*
- Mitigation Measure BIO-44: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of Tricolored Blackbird*
- Mitigation Measure BIO-45b: *Avoid and Minimize Impacts on Roosting Bats*
- Mitigation Measure BIO-46: *Conduct Preconstruction Survey for San Joaquin Kit Fox and Implement Avoidance and Minimization Measures*
- Mitigation Measure BIO-47: *Conduct Preconstruction Survey for American Badger*

Implementation of the previously mentioned Delta Conveyance Project environmental commitments and mitigation measures is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 4-2.

Delta Plan Impact: Substantial Adverse Effects on Fish or Wildlife Species Habitat

Delta Plan Mitigation Measure: 4-3

2024–2026 Proposed Geotechnical Activities Assessment

See the previous discussion for Delta Plan Mitigation Measures 4-1 and 4-2. The Delta Conveyance Project impacts referenced in the those discussions also considered potential adverse effects on fish or wildlife species habitat.

Delta Plan Mitigation Measure 4-3 includes site selection and design for avoidance of substantial reductions in fish and wildlife habitat as well as compensation for loss of fish and wildlife habitat. Implementation of the Delta Conveyance Project environmental commitments and mitigation measures referenced in the previous discussions of Delta Plan Mitigation Measures 4-1 and 4-2 is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 4-3.

Delta Plan Impact: Interfere Substantially with the Movement of Any Native Resident or Migratory Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors

Delta Plan Mitigation Measure: 4-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact BIO-53) on migration and wildlife corridors.

Terrestrial biological resources may be temporarily impacted by the 2024–2026 Proposed Geotechnical Activities. To avoid, minimize, or reduce impacts to the terrestrial biological resources analyzed in the Final EIR, DWR will employ applicable environmental commitments and mitigation measures that reduce potential impacts. Specific compliance with EC-1: *Conduct Environmental Resources Worker Awareness Training*, EC-2: *Develop and Implement Hazardous Materials Management Plans*, EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans*, and EC-14: *Construction Best Management Practices for Biological Resources* (among other commitments) would reduce potential impacts as described in the *2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan* (Attachment 5) by (1) training construction staff on protecting sensitive biological resources, reporting requirements, and the ramifications for not following these measures; (2) implementing spill prevention and containment plans that would avoid material spills that could affect the viability of nearby aquatic and upland habitat; (3) having a biological monitor present to ensure that non-disturbance buffers and all other protective measures are being implemented, where applicable; and (4) avoiding impacts to biological resources by moving investigation locations or abandoning a site altogether.

The 2024–2026 Proposed Geotechnical Activities do not require implementation of Delta Conveyance Project Mitigation Measures CMP: *Compensatory Mitigation Plan*, BIO-2b: *Avoid and Minimize Impacts on Terrestrial Biological Resources from Maintenance Activities*, BIO-22b: *Avoid and Minimize Operational Traffic Impacts on Wildlife*, AES-4b: *Minimize Fugitive Light from Portable Sources Used for Construction*, and AES-4c: *Install Visual Barriers along Access Routes, Where Necessary, to Prevent Light Spill from Truck Headlights toward Residences* for Impact BIO-53 because, as discussed in the Evaluation of Consistency memo (Attachment 4), the

geotechnical activities will not involve construction or placement of powerlines, will only take place in the daytime (will not require lighting), will avoid take of listed species and habitat loss, and will not involve surface disturbance that would disrupt terrestrial wildlife connectivity and movement and because the investigations will not involve maintenance activities.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 4-4. Therefore, Delta Plan Mitigation Measure 4-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 4-4 is not required.

Delta Plan Impact: Conflict with Any Local Policies or Ordinances Protecting Biological Resources or the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Protection Plan

Delta Plan Mitigation Measure: 4-5

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts with mitigation (Impact BIO-54 and Impact BIO-55) on local policies or ordinances protecting biological resources or the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat protection plan.

Terrestrial biological resources may be temporarily impacted by the 2024–2026 Proposed Geotechnical Activities. To avoid, minimize, or reduce impacts to the terrestrial biological resources analyzed in the Final EIR, employing applicable environmental commitments and mitigation measures will reduce potential impacts. Specific compliance with Environmental Commitments EC-1: *Conduct Environmental Resources Worker Awareness Training*, EC-2: *Develop and Implement Hazardous Materials Management Plan*s, EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans*, and EC-14: *Construction Best Management Practices for Biological Resources* (among other commitments) would reduce potential impacts as described in the *2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan* (Attachment 5) by (1) training construction staff on protecting sensitive biological resources, reporting requirements, and the ramifications for not following these measures; (2) implementing spill prevention and containment plans that would avoid material spills that could affect the viability of nearby aquatic and upland habitat; (3) having a biological monitor present to ensure that non-disturbance buffers and all other protective measures are being implemented, where applicable; and (4) avoiding impacts to biological resources by moving investigation locations or abandoning a site altogether.

The 2024–2026 Proposed Geotechnical Activities do not require implementation of Delta Conveyance Project Mitigation Measures CMP: *Compensatory Mitigation Plan* or AG-1: *Preserve Agricultural Land* for Impacts BIO-54 and BIO-55 because, as discussed in the Evaluation of Consistency memo (Attachment 4), the geotechnical activities will not involve construction or maintenance, will avoid take of listed species and habitat loss, and will not permanently convert Important Farmland.

Delta Plan Mitigation Measure 4-5 states that prior to construction, the project proponent will evaluate impacts to trees or other biological resources protected by local policies and ordinances and abide by any permit requirements associated with these policies and ordinances. The following Delta Conveyance Project mitigation measures are meant to reduce, avoid, or minimize construction impacts on special-status species habitat as analyzed in Final EIR Chapter 13, *Terrestrial Biological Resources*, and therefore are not expected to conflict with local policies or ordinances protecting biological resources.

- Mitigation Measure BIO-2a: *Avoid or Minimize Impacts on Special-Status Natural Communities and Special-Status Plants*
- Mitigation Measure BIO-14: *Avoid and Minimize Impacts on Vernal Pool Aquatic Invertebrates and Critical Habitat for Vernal Pool Fairy Shrimp*
- Mitigation Measure BIO-18: *Avoid and Minimize Impacts on Valley Elderberry Longhorn Beetle*
- Mitigation Measure BIO-22a: *Avoid and Minimize Impacts on California Tiger Salamander*
- Mitigation Measure BIO-24a: *Avoid and Minimize Impacts on California Red-Legged Frog and Critical Habitat*
- Mitigation Measure BIO-25: *Avoid and Minimize Impacts on Western Pond Turtle*
- Mitigation Measure BIO-26: *Avoid and Minimize Impacts on Special-Status Reptiles*
- Mitigation Measure BIO-30: *Avoid and Minimize Impacts on Giant Garter Snake*
- Mitigation Measure BIO-31: *Avoid and Minimize Impacts on Western Yellow-Billed Cuckoo*
- Mitigation Measure BIO-32: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of California Black Rail*
- Mitigation Measure BIO-33: *Avoid and Minimize Disturbance of Sandhill Cranes*
- Mitigation Measure BIO-35: *Avoid and Minimize Impacts on Cormorant, Heron, and Egret Rookeries*
- Mitigation Measure BIO-36a: *Conduct Nesting Surveys for Special-Status and Non–Special-Status Birds and Raptors and Implement Protective Measures to Avoid Disturbance of Nesting Birds and Raptors*
- Mitigation Measure BIO-36b: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of White-Tailed Kite*
- Mitigation Measure BIO-39: *Conduct Preconstruction Surveys and Implement Protective Measures to Minimize Disturbance of Swainson's Hawk*
- Mitigation Measure BIO-40: *Conduct Surveys and Minimize Impacts on Burrowing Owl*
- Mitigation Measure BIO-44: *Conduct Preconstruction Surveys and Implement Protective Measures to Avoid Disturbance of Tricolored Blackbird*
- Mitigation Measure BIO-47: *Conduct Preconstruction Survey for American Badger*

Implementation of the Delta Conveyance Project mitigation measures referenced previously is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 4-5.

Delta Plan Resource Area: Delta Flood Risk

Delta Plan Impact: 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

Delta Plan Mitigation Measure: 5-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact FP-2) on flood protection.

The 2024–2026 Proposed Geotechnical Activities do not involve excavation, grading, or stockpiling that could have the potential to block, reroute, or temporarily detain and impound surface water in existing drainages and velocities. The 2024–2026 Proposed Geotechnical Activities, therefore, not cause alterations in drainage patterns or impact flood protection.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 5-1. Therefore, Delta Plan Mitigation Measure 5-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 5-1 is not required.

Delta Plan Impact: 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

Delta Plan Mitigation Measure: 5-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts (Impact FP-2, Impact WQ-16, Impact PH-2, Impact PH-3, and Impact PH-5) associated with runoff water, drainage systems, water quality, and polluted runoff.

With regard to Delta Conveyance Project Impact FP-2, the 2024–2026 Proposed Geotechnical Activities do not involve excavation, grading, or stockpiling that could have the potential to block, reroute, or temporarily detain and impound surface water in existing drainages and velocities. The 2024–2026 Proposed Geotechnical Activities would, therefore, not cause alterations in drainage patterns or impact flood protection.

With regard to Delta Conveyance Project Impact WQ-16, geotechnical activities are comparatively short-term and temporary, and they are typically within a small footprint; when completed, holes will be sealed using cement-bentonite grout in accordance with State of California regulations and industry standards to ensure that groundwater water quality will not be contaminated by the borings in a way that would cause surface water quality to be substantially degraded. Therefore, impacts to the specific constituents evaluated in the Final EIR water quality impacts analysis will not occur because of the 2024–2026 Proposed Geotechnical Activities.

With regard to Delta Conveyance Project Impact PH-2, Impact PH-3, and Impact PH-5, ground-disturbing activities as part of 2024–2026 Proposed Geotechnical Activities or exposure of disturbed sites immediately following geotechnical activities could result in precipitation-related soil erosion and runoff to surface waterbodies in the study area. Any existing trace metals, pesticides, other contaminants, or organic matter in the soil could incrementally increase concentrations in surface water. However, this potential effect on water quality would be temporary and fairly localized to areas of construction. The development and implementation of site-specific erosion and sediment control plans (Delta Conveyance Project Environmental Commitment EC-4a: *Develop and Implement Erosion and Sediment Control Plans*) for the 2024–2026 Proposed Geotechnical Activities would minimize the potential for this impact by controlling erosion and runoff to surface water and ensure that activities would not substantially increase or substantially mobilize legacy organochlorine pesticides or methylmercury during the geotechnical activities. The 2024–2026 Proposed Geotechnical Activities will not occur over water and thus will not contribute to an increase in cyanobacterial harmful algal blooms (CHABs). The 2024–2026 Proposed Geotechnical Activities do not involve facilities management. For these reasons, the impact of 2024–2026 Proposed Geotechnical Activities is less than significant because they do not have the potential to create or contribute to runoff that would exceed capacity of existing stormwater systems or to create a substantial additional source of polluted runoff.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 5-2. Therefore, Delta Plan Mitigation Measure 5-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 5-2 is not required.

Delta Plan Impact: 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

Delta Plan Mitigation Measure: 5-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact GEO-5) regarding the loss of property, personal injury, or death from structural failure resulting from project-related ground motions.

The 2024–2026 Proposed Geotechnical Activities will not introduce very-high-pressure fluids into the ground. During geotechnical drilling, the downhole drilling fluid pressures are limited to those required to balance the soil and water pressures at depths less than 200 feet, typically less than 150 pounds per square inch (psi). (Less than 25 psi of additional pressure could be exerted by increasing boring depths by 50 feet.) In contrast, downhole drilling fluid pressures used to stimulate oil and gas production often exceed 9,000 psi.

The 2024–2026 Proposed Geotechnical Activities would occur in areas subject to ground shaking. However, because the investigators would not be working in structures, the likelihood of an injury caused by a strong earthquake event occurring while the investigations are being conducted is low; and because the investigation activities would not trigger an earthquake, the investigations are unlikely to cause a loss of property, personal injury, or death from strong earthquake-induced ground shaking. Given the infrequency of strong ground shaking in the

project area, the likelihood that earthquake-induced liquefaction would occur at the time that personnel are conducting geotechnical activities is low. Further, the personnel would not be in any structures during the investigations; therefore, they would not be subject to liquefaction-induced structural hazards and damage should a strong earthquake occur.

The 2024–2026 Proposed Geotechnical Activities would involve a variety of ground-disturbing activities. However, none of these activities are likely to cause an increase in the hazard settlement or slope failure. Geotechnical activities would involve conducting geotechnical investigations along the alignments for the intakes, tunnels, shafts, levees, rail, powerlines, asphalt overlays, and roadways. The soil borings would be drilled to create a 4-to-8-inch-diameter hole from which soil samples would be recovered. The CPTs would involve hydraulically pressing a 1-to-2-inch-diameter cone-tipped rod into the ground. The water quality testing would involve installing a temporary PVC pipe within the borehole. The PVC pipe will be up to 4 inches in diameter and will be slotted over an interval up to 40 feet in length. The remainder of the PVC pipe will be solid wall. The annular space between the boring and the slotted interval of the PVC pipe will be backfilled with commercially available well pack sand and gravel, while the solid wall section will be backfilled with bentonite to the surface. Based on DWR's 30 years of well drilling and deep-soil investigations in the Delta, none of the investigations are likely to cause a ground vibration sufficiently strong enough to initiate liquefaction or ground settlement. The 2024–2026 Proposed Geotechnical Activities would, therefore, result in a less-than-significant impact regarding the loss of property, personal injury, or death from structural failure resulting from project-related ground motions.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 5-4. Therefore, Delta Plan Mitigation Measure 5-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 5-4 is not required.

Delta Plan Impact: Place within a 100-Year Flood Hazard Area Structures which Would Impede or Redirect Flood Flows, or Inundation by Seiche, Tsunami, or Mudflow

Delta Plan Mitigation Measure: 5-5

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact GEO-6) on geology and seismicity. The 2024–2026 Proposed Geotechnical Activities would not increase the hazard of a seiche or tsunami occurring in the project area because the locations of the geotechnical activities would not be sufficient to generate seiche waves and are beyond the reach of tsunami waves. The 2024–2026 Proposed Geotechnical Activities would, therefore, result in a less-than-significant impact regarding loss of property, personal injury, or death from seiche or tsunami.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 5-5. Therefore, Delta Plan Mitigation Measure 5-5 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 5-5 is not required.

Delta Plan Resource Area: Land Use and Planning

Delta Plan Impact: Physical Division of an Established Community

Delta Plan Mitigation Measure: 6-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in no impact (Impact LU-3) on physical division of an established community. The 2024–2026 Proposed Geotechnical Activities may temporarily interfere with the existing land uses, such as agricultural operations, in the vicinity where sampling is taking place. Field investigation work is not expected to result in a change to the underlying land use of any properties because all affected areas would be returned to as close to pre-activity conditions as possible. Similarly, the 2024–2026 Proposed Geotechnical Activities would not result in permanent incompatibilities with land use plans, policies, or designations, nor would investigations result in the permanent conversion of lands to another land use. Activities such as the geotechnical activities are generally allowed in all land use designations by policy and regulation. They also would be compatible with the applicable land use policies in the study area that have been adopted to avoid and mitigate environmental effects.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 6-1. Therefore, Delta Plan Mitigation Measure 6-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 6-1 is not required.

Delta Plan Impact: Conflict of Constructed Facilities with an Applicable Land Use Plan, Policy, Regulation, or Restriction on Land That Was Adopted for the Purpose of Avoiding or Mitigating an Environmental Impact

Delta Plan Mitigation Measure: 6-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact LU-2) on land use and planning. The 2024–2026 Proposed Geotechnical Activities may temporarily interfere with the existing land uses, such as agricultural operations, in the vicinity where sampling is taking place. The 2024–2026 Proposed Geotechnical Activities are not expected to result in a change to the underlying land use of any properties, because all affected areas would be returned to as close to pre-activity conditions as possible. Similarly, the 2024–2026 Proposed Geotechnical Activities would not result in permanent incompatibilities with land use plans, policies, or designations, nor would investigations result in the permanent conversion of lands to another land use. Activities such as the geotechnical activities are generally allowed in all land use designations by policy and regulation. They also would be compatible with the applicable land use policies in the study area that have been adopted to avoid and mitigate environmental effects. The 2024–2026 Proposed Geotechnical Activities would, therefore, result in a less-than-significant impact regarding incompatibility with applicable land use designations, goals, and policies adopted for the purpose of avoiding or mitigating environmental effects as a result of the activities.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 6-2. Therefore, Delta Mitigation Measure 6-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 6-2 is not required.

Delta Plan Resource Area: Agriculture and Forestry Resources

Delta Plan Impact: Conversion of Farmland to Nonagricultural Use

Delta Plan Mitigation Measure: 7-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (Impact AG-1) on conversion of farmland to nonagricultural use. However, the 2024–2026 Proposed Geotechnical Activities' temporary impact on agricultural land would be less than significant, as the geotechnical activities will not convert Important Farmland, land subject to Williamson Act contract, or land in Farmland Security Zones. As the 2024–2026 Proposed Geotechnical Activities will have a less-than-significant impact, Delta Conveyance Project Mitigation Measure AG-1: *Preserve Agricultural Land* is not applicable.

The 2024–2026 Proposed Geotechnical Activities may have temporary impacts on existing agricultural lands. The geotechnical activities analyzed under this resource in the Final EIR include geotechnical and hydrogeologic sampling and other construction test projects supporting geotechnical analysis. These investigations would be used to refine project alignment and design and to more specifically identify appropriate construction methodologies given existing site conditions. Although these geotechnical activities may temporarily interfere with agricultural operations in the vicinity where sampling is taking place, field investigation work is not expected to result in conversion of agricultural properties to nonagricultural use. Any proposed investigation activities that occur on agricultural lands would be grouted with materials from the full depth to 5 feet (1.5 meters) below the surface, with the final 5 feet of topsoil replaced to return the affected area to as close to pre-activity conditions as possible. The various geotechnical activities involving hydrogeologic sampling and other test projects would be used to more specifically identify the appropriate groundwater monitoring programs that may be required in the construction phase. Given that groundwater elevations are not expected to change because of 2024–2026 Proposed Geotechnical Activities (Attachment 4, Section 3.2.5, *Groundwater [Final EIR Chapter 8]*), groundwater levels would not prevent agricultural uses on neighboring properties mapped as Important Farmland.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 7-1. Therefore, Delta Plan Mitigation Measure 7-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 7-1 is not required.

Delta Plan Impact: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

Delta Plan Mitigation Measure: 7-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (Impact AG-2) on conversion of farmland to nonagricultural use. However, the 2024–2026 Proposed Geotechnical Activities' temporary impact on agricultural land would be less than significant, as the geotechnical activities will not convert Important Farmland, land subject to Williamson Act contract, or land in Farmland Security Zones. As the 2024–2026 Proposed Geotechnical Activities will have a less-than-significant impact, Delta Conveyance Project Mitigation Measure AG-1: *Preserve Agricultural Land* is not applicable.

The geotechnical activities may have temporary impacts on existing agricultural lands. The geotechnical activities analyzed under this resource in the Final EIR include geotechnical and hydrogeologic sampling and other construction test projects supporting geotechnical analysis. These investigations would be used to refine project alignment and design and to more specifically identify appropriate construction methodologies given existing site conditions. Although these geotechnical activities may temporarily interfere with agricultural operations in the vicinity where sampling is taking place, field investigation work is not expected to result in conversion of agricultural properties to nonagricultural use. Any proposed investigation activities that occur on agricultural lands would be grouted with materials from the full depth to 5 feet (1.5 meters) below the surface, with the final 5 feet of topsoil replaced to return the affected area to as close to pre-activity conditions as possible. The various geotechnical activities involving hydrogeologic sampling and other test projects would be used to more specifically identify the appropriate groundwater monitoring programs that may be required in the construction phase. Given that groundwater elevations are not expected to change because of 2024–2026 Proposed Geotechnical Activities (Attachment 4, Section 3.2.5, *Groundwater [Final EIR Chapter 8]*), groundwater levels would not prevent agricultural uses on neighboring properties mapped as Important Farmland.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 7-2. Therefore, Delta Plan Mitigation Measure 7-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 7-2 is not required.

Delta Plan Impact: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

Delta Plan Mitigation Measure: 7-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the study area contains no forests used for timber production or areas designated as a Timberland Production Zone (Final EIR Chapter 15, *Agricultural Resources*, p. 15-1). The 2024–2026 Proposed Geotechnical Activities will be temporary, will have a minimal footprint, and would not require any zoning changes, and the site will be returned to pre-activity conditions after the investigation is completed.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 7-3. Therefore, Delta Plan Mitigation Measure 7-3 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 7-3 is not required.

Delta Plan Impact: Loss of Forestland or Conversion of Forestland to Nonforest Use

Delta Plan Mitigation Measure: 7-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the study area contains no forests used for timber production or areas designated as a Timberland Production Zone. The 2024–2026 Proposed Geotechnical Activities will be temporary, will have a minimal footprint, and would not require any zoning changes, and the site will be returned to pre-activity conditions after the investigation is completed.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 7-4. Therefore, Delta Plan Mitigation Measure 7-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 7-4 is not required.

Delta Plan Resource Area: Aesthetics

Delta Plan Impact: Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and its Surroundings in Non-Urbanized Areas

Delta Plan Mitigation Measure: 5.2-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in significant and unavoidable impacts (Impact AES-1 and Impact AES-2) on aesthetics and visual resources. However, the 2024–2026 Proposed Geotechnical Activities' temporary impact on aesthetics and visual resources would be less than significant. As the 2024–2026 Proposed Geotechnical Activities will have a less-than-significant impact, Delta Conveyance Project Mitigation Measures AES-1a: *Install Visual Barriers between Construction Work Areas and Sensitive Receptors*, AES-1b: *Apply Aesthetic Design Treatments to Project Structures*, and AES-1c: *Implement Best Management Practices in Project Landscaping Plan* are not applicable.

The 2024–2026 Proposed Geotechnical Activities would require the use of heavy equipment such as drill rigs, CPT trucks, grout trucks, water trucks, and work vehicles and staff to perform the geotechnical activities. These elements would temporarily be visible in the viewshed of all affected viewers wherever such geotechnical activities would occur. However, the 2024–2026 Proposed Geotechnical Activities will not have visible permanent facilities and would not substantially degrade the existing visual character or quality of public views and their surroundings in nonurbanized areas; nor would they have a significant impact on scenic vistas visible from the identified work areas. And although geotechnical activities may be visible from State Route 160 (a State scenic highway), due to the short-term nature of the activities, the geotechnical activities will not result in any long-term or permanent changes to scenic resources

visible from State Route 160. Impacts on aesthetic and visual resources resulting from execution of the 2024–2026 Proposed Geotechnical Activities would be less than significant because they are short-term or temporary, will not result in any long-term or permanent changes to scenic resources visible from a scenic highway, and will not involve permanent features and because holes will be backfilled to pre-project conditions. Delta Conveyance Project Mitigation Measures AES-1a, AES-1b, and AES-1c do not apply to the 2024–2026 Proposed Geotechnical Activities because they relate specifically to long-term construction, the construction of permanent structures, and postconstruction reclamation. The 2024–2026 Proposed Geotechnical Activities' temporary impact on aesthetics and visual resources would be less than significant.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 5.2-1. Therefore, Delta Plan Mitigation Measure 5.2-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 5.2-1 is not required.

Delta Plan Resource Area: Visual Resources

Delta Plan Impact: Substantial Degradation of Visual Qualities

Delta Plan Mitigation Measure: 8-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in significant and unavoidable impacts (Impact AES-1 and Impact AES-2) on aesthetics and visual resources. However, the 2024–2026 Proposed Geotechnical Activities' temporary impact on aesthetics and visual resources would be less than significant. As the 2024–2026 Proposed Geotechnical Activities will have a less-than-significant impact, Delta Conveyance Project Mitigation Measures AES-1a: *Install Visual Barriers between Construction Work Areas and Sensitive Receptors*, AES-1b: *Apply Aesthetic Design Treatments to Project Structures*, and AES-1c: *Implement Best Management Practices in Project Landscaping Plan* are not applicable.

The 2024–2026 Proposed Geotechnical Activities would require the use of heavy equipment such as drill rigs, CPT trucks, grout trucks, water trucks, and work vehicles and staff to perform the geotechnical activities. These elements would temporarily be visible in the viewshed of all affected viewers wherever such geotechnical activities would occur. However, the 2024–2026 Proposed Geotechnical Activities will not have visible permanent facilities and would not substantially degrade the existing visual character or quality of public views and their surroundings in nonurbanized areas; nor would they have a significant impact on scenic vistas visible from the identified work areas. And although geotechnical activities may be visible from State Route 160 (a State scenic highway), due to the short-term nature of the activities, the geotechnical activities will not result in any long-term or permanent changes to scenic resources visible from State Route 160. Impacts on aesthetic and visual resources resulting from execution of the 2024–2026 Proposed Geotechnical Activities would be less than significant because they are short-term or temporary, will not result in any long-term or permanent changes to scenic resources visible from a scenic highway, and will not involve permanent features and because holes will be backfilled to pre-project conditions. Delta Conveyance Project Mitigation Measures AES-1a, AES-1b, and AES-1c do not apply to the 2024–2026 Proposed Geotechnical Activities because they relate specifically to long-term construction, the construction of permanent

structures, and postconstruction reclamation. The 2024–2026 Proposed Geotechnical Activities' temporary impact on aesthetics and visual resources would be less than significant.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 8-1. Therefore, Delta Plan Mitigation Measure 8-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 8-1 is not required.

Delta Plan Impact: Adverse Effects on Scenic Vistas and Scenic Resources

Delta Plan Mitigation Measure: 8-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (Impact AES-3) on aesthetics and visual resources. However, the 2024–2026 Proposed Geotechnical Activities' temporary impact on aesthetics and visual resources would be less than significant. As the 2024–2026 Proposed Geotechnical Activities will have a less-than-significant impact, Delta Conveyance Project Mitigation Measures AES-1a: *Install Visual Barriers between Construction Work Areas and Sensitive Receptors*, AES-1b: *Apply Aesthetic Design Treatments to Project Structures*, and AES-1c: *Implement Best Management Practices in Project Landscaping Plan* are not applicable.

The 2024–2026 Proposed Geotechnical Activities would require the use of heavy equipment such as drill rigs, CPT trucks, grout trucks, water trucks, and work vehicles and staff to perform the geotechnical activities. These elements would temporarily be visible in the viewshed of all affected viewers wherever such geotechnical activities would occur. However, the 2024–2026 Proposed Geotechnical Activities will not have visible permanent facilities and would not substantially degrade the existing visual character or quality of public views and their surroundings in nonurbanized areas; nor would they have a significant impact on scenic vistas visible from the identified work areas. And although geotechnical activities may be visible from State Route 160 (a State scenic highway), due to the short-term nature of the activities, the geotechnical activities will not result in any long-term or permanent changes to scenic resources visible from State Route 160. Impacts on aesthetic and visual resources resulting from execution of the 2024–2026 Proposed Geotechnical Activities would be less than significant because they are short-term or temporary, will not result in any long-term or permanent changes to scenic resources visible from a scenic highway, and will not involve permanent features, and because holes will be backfilled to pre-project conditions. Delta Conveyance Project Mitigation Measures AES-1a, AES-1b, and AES-1c do not apply to the 2024–2026 Proposed Geotechnical Activities because they relate specifically to long-term construction, the construction of permanent structures, and postconstruction reclamation. The 2024–2026 Proposed Geotechnical Activities' temporary impact on aesthetics and visual resources would be less than significant.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 8-2. Therefore, Delta Plan Mitigation Measure 8-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 8-2 is not required.

Delta Plan Impact: New Sources of Substantial Light or Glare

Delta Plan Mitigation Measure: 8-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact AES-4) on aesthetics and visual resources. However, the 2024–2026 Proposed Geotechnical Activities' temporary impact on aesthetics and visual resources would be less than significant without mitigation.

The 2024–2026 Proposed Geotechnical Activities would require the use of heavy equipment such as drill rigs, CPT trucks, grout trucks, water trucks, and work vehicles and staff to perform the geotechnical activities. These elements would temporarily be visible in the viewshed of all affected viewers wherever such geotechnical activities would occur. However, the 2024–2026 Proposed Geotechnical Activities will not have visible permanent facilities and would not substantially degrade the existing visual character or quality of public views and their surroundings in nonurbanized areas; nor would they have a significant impact on scenic vistas visible from the identified work areas. And although geotechnical activities may be visible from State Route 160 (a State scenic highway), due to the short-term nature of the activities, the geotechnical activities will not result in any long-term or permanent changes to scenic resources visible from State Route 160. Geotechnical activities would take place during the day and would not require the use of bright lights, which would otherwise negatively affect nighttime views of and from the field investigation areas. It is anticipated that glare reflecting from vehicles and equipment would be minimal when taken in the broader field of view. Therefore, the 2024–2026 Proposed Geotechnical Activities would not result in a temporary or permanent increase in glare. Impacts on aesthetic and visual resources resulting from execution of the 2024–2026 Proposed Geotechnical Activities would be less than significant because they are short-term or temporary, will not result in any long-term or permanent changes to scenic resources visible from a scenic highway, and will not involve permanent features, and because holes will be backfilled to pre-project conditions. Delta Conveyance Project Mitigation Measures AES-1a: *Install Visual Barriers between Construction Work Areas and Sensitive Receptors*, AES-1b: *Apply Aesthetic Design Treatments to Project Structures*, and AES-1c: *Implement Best Management Practices in Project Landscaping Plan* do not apply because they relate specifically to lighting for nighttime work and the 2024–2026 Proposed Geotechnical Activities will only take place during the daytime. Delta Conveyance Project Mitigation Measures AES-1a, AES-1b, and AES-1c do not apply to the 2024–2026 Proposed Geotechnical Activities as they relate specifically to long-term construction, the construction of permanent structures, and postconstruction reclamation.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 8-3. Therefore, Delta Plan Mitigation Measure 8-3 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 8-3 is not required.

Delta Plan Resource Area: Air Quality

Delta Plan Impact: Construction and Operations of Projects Could Conflict with an Applicable Air Quality Plan, Contribute Substantially to an Air Quality Violation, and/or Result in a Cumulatively Considerable Net Increase of Nonattainment Pollutants

Delta Plan Mitigation Measure: 9-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts with mitigation (Impact AQ-1, Impact AQ-2, and Impact AQ-3) and a less than-significant impact (Impact AQ-4) on air quality. However, the 2024–2026 Proposed Geotechnical Activities' temporary impact on air quality and GHG emission would be less than significant without mitigation.

The 2024–2026 Proposed Geotechnical Activities assume approximately 1 CPT and 4 boring drill rigs operating on the same day within Contra Costa or Alameda Counties, 2 CPTs and 6 boring drill rigs operating on the same day in San Joaquin County, and 1 CPT and 4 boring drill rigs operating on the same day in Sacramento County. Note that several of the borings are shallow (i.e., 15 feet deep) and it is assumed that the same drill rig could be used to drill more than one of these borings on the same day.

The criteria pollutant and precursor thresholds for the Sacramento Metropolitan Air Quality Management District (SMAQMD), the San Joaquin Valley Air Pollution Control District (SJVAPCD), the Bay Area Air Quality Management District (BAAQMD), and the Yolo-Solano Air Quality Management District (YSAQMD) are listed in Final EIR, Chapter 23, *Air Quality and Greenhouse Gases*, Table 23-9. Tables 3, 4, and 5 in the Evaluation of Consistency memo (Attachment 4), conclude that the criteria pollutant and precursor emissions thresholds will not be exceeded for SMAQMD, SJVAPCD, and BAAQMD because of the geotechnical activities. It should be noted that emissions calculations for SMAQMD are from employee transportation through Sacramento County and that no geotechnical activities are to occur in Sacramento County. The 2024–2026 Proposed Geotechnical Activities emissions calculations for SJVAPCD and BAAQMD include on-the-ground field investigation locations within these counties, as well as employee transportation within and through these counties. Calculations consider the depth of land borings, activity duration, and short-term sampling of water quality. An air quality analysis was not calculated for YSAQMD because the geotechnical activities will not occur in Yolo or Solano Counties.

Criteria pollutants generated from the 2024–2026 Proposed Geotechnical Activities would not exceed established thresholds in the Sacramento Valley Air Basin, San Joaquin Valley Air Basin, and San Francisco Bay Area Air Basin; thus, Delta Conveyance Project Mitigation Measures AQ-1: *Offset Construction-Generated Criteria Pollutants in the Sacramento Valley Air Basin*, AQ-2: *Offset Construction-Generated Criteria Pollutants in the San Joaquin Valley Air Basin*, and AQ-3: *Offset Construction-Generated Criteria Pollutants in the San Francisco Bay Area Air Basin* would not apply.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 9-1. Therefore, Delta Plan Mitigation Measure 9-1 is not applicable to the 2024–2026 Proposed Geotechnical

Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 9-1 is not required.

Delta Plan Resource Area: Air Quality

Delta Plan Impact: Construction and Operations of Projects Could Create Objectionable Odors Affecting a Substantial Number of People

Delta Plan Mitigation Measure: 9-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact AQ-8) regarding objectionable odors.

Due to the remote and temporary nature of the 2024–2026 Proposed Geotechnical Activities and the distance to receptors, geotechnical activities are not likely to contribute to objectionable odor emissions, and the impact would be less than significant.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 9-2. Therefore, Delta Plan Mitigation Measure 9-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 9-2 is not required.

Delta Plan Impact: Construction or Operation of Projects Could Expose Sensitive Receptors to Substantial Pollutant Concentrations

Delta Plan Mitigation Measure: 9-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (Impact AQ-5) and less-than-significant impacts (Impact AQ-6 and Impact AQ-7) on air quality.

The 2024–2026 Proposed Geotechnical Activities' temporary impact on air quality and GHG emission would be less than significant and Delta Conveyance Project Mitigation Measure AQ-5: *Avoid Public Exposure to Localized Particulate Matter and Nitrogen Dioxide Concentrations* would not apply because the 2024–2026 Proposed Geotechnical Activities would not exceed established thresholds for pollutant concentrations.

Criteria pollutant concentrations are estimated for major construction components (e.g., intakes) based on representative local meteorological conditions. Only the modeled maximum pollutant concentration in each air district with surface construction is reported (Final EIR Chapter 23, *Air Quality and Greenhouse Gases*, pp. 23-132 through 23-150). Similarly, health risks along the conveyance alignment were estimated based on representative local meteorological conditions. The health risks shown in Final EIR Chapter 23, Table 23-64 represent the highest modeled off-site risk within each air district, which typically occurs at the receptor closest to the construction footprint (Final EIR Chapter 23, pp. 23-150 through 23-159). Due to the remote and temporary nature of the geotechnical activities and the distance to receptors, geotechnical activities are not likely to contribute to exceedances of criteria

pollutants, toxic air contaminants, asbestos, lead-based paint, fungal spores that cause Valley fever, and odor emissions. Implementation of Delta Conveyance Project Environmental Commitments EC-7: *Off-Road Heavy-Duty Engines* and EC-13: *DWR Best Management Practices to Reduce GHG Emissions* would minimize construction emissions through implementation of the on-site controls.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 9-3. Therefore, Delta Plan Mitigation Measure 9-3 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 9-3 is not required.

Delta Plan Resource Area: Cultural Resources

Delta Plan Impact: Disturbance or Destruction of Prehistoric and Historic-Era Archaeological Resources

Delta Plan Mitigation Measure: 10-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in significant and unavoidable impacts (Impact CUL-3 and Impact CUL-4) on cultural resources and requires implementation of Delta Conveyance Project Mitigation Measures CUL-3a: *Prepare and Implement an Archaeological Resources Management Plan*, CUL-3b: *Conduct Cultural Resources Sensitivity Training*, and CUL-3c: *Implement Archaeological Protocols for Field Investigations*. The 2024–2026 Proposed Geotechnical Activities will not impact any recorded cultural resources, due to the planned field investigation distances to cultural resources features that have been recorded within 0.25 mile from the proposed 2024–2026 Proposed Geotechnical Activities locations. Furthermore, as proposed, 2024–2026 Proposed Geotechnical Activities will be relocated or, if necessary, abandoned to avoid potential impacts to cultural resource features that may be identified during site clearance investigations (Table 1 in the Evaluation of Consistency memo [Attachment 4]). Currently inaccessible resources may also be significant under other California Register of Historic Resources (CRHR) criteria. Similarly, because buried human remains are isolated resources that may not be associated with larger deposits, their distribution and depth cannot be estimated. With the large acreages subject to disturbance by the Delta Conveyance Project, it makes exhaustive sampling to identify all buried and isolated human remains technically and economically infeasible. For these reasons, as analyzed in the Final EIR, there exists the potential that such resources may be damaged or exposed before they can be discovered through inventory or monitoring, thus making cultural resource impacts significant and unavoidable, even with mitigation.

Delta Plan Mitigation Measure 10-1 includes archaeological surveys prior to ground-disturbing activities, surveys for presence of cultural landscapes and traditional cultural properties, additional investigations if archaeological resources are identified during surveys, strategies to avoid or protect identified CRHR-eligible archaeological resources or cultural landscapes and properties, Section 106 consultation (if federal agencies are participants), consultation with Native Americans identified by the California Native American Heritage Commission (NAHC), and investigations to identify submerged cultural resources (consult with State Lands Commission as needed). Delta Conveyance Project Environmental Commitment EC-6: *Conduct*

Cultural Resources Awareness Training and Mitigation Measure CUL-3b support identification of and avoidance of archaeological resources. Delta Conveyance Project Mitigation Measure CUL-3c includes a process for archaeological records review and surveys and, if necessary, a threshold for Mitigation Measure CUL-3a that includes strategies for treatment of identified cultural resources. Implementation of the previously mentioned Delta Conveyance Project environmental commitments and mitigation measures is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 10-1.

Delta Plan Impact: Discovery of Unrecorded Human Remains

Delta Plan Mitigation Measure: 10-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (Impact CUL-5) on human remains and requires implementation of Delta Conveyance Project Mitigation Measures CUL-3a: *Prepare and Implement an Archaeological Resources Management Plan*, CUL-3b: *Conduct Cultural Resources Sensitivity Training*, CUL-3c: *Implement Archaeological Protocols for Field Investigations,* and CUL-5: *Follow State and Federal Law Governing Human Remains If Such Resources Are Discovered during Construction*. The 2024–2026 Proposed Geotechnical Activities will not impact any recorded cultural resources, due to the planned field investigation distances to cultural resources features that have been recorded within 0.25 mile from the proposed 2024–2026 Proposed Geotechnical Activities locations. Furthermore, as proposed, 2024–2026 Proposed Geotechnical Activities will be relocated or, if necessary, abandoned to avoid potential impacts to cultural resource features that may be identified during site clearance investigations (Table 1 in the Evaluation of Consistency memo [Attachment 4]). Currently inaccessible resources may also be significant under other CRHR criteria. Similarly, because buried human remains are isolated resources that may not be associated with larger deposits, their distribution and depth cannot be estimated. With the large acreages subject to disturbance by the Delta Conveyance Project, it makes exhaustive sampling to identify all buried and isolated human remains technically and economically infeasible. For these reasons, as analyzed in the Final EIR, there exists the potential that such resources may be damaged or exposed before they can be discovered through inventory or monitoring, thus making cultural resource impacts significant and unavoidable, even with mitigation.

Delta Plan Mitigation Measure 10-2 includes identification, evaluation, and disposition of Native American human remains in a process that includes coordination with the county coroner and the California NAHC. Delta Conveyance Project Mitigation Measure CUL-5 includes the same identification, evaluation, and disposition process. In addition, the Final EIR requires implementation of Delta Conveyance Project Environmental Commitment EC-6: *Conduct Cultural Resources Awareness Training* and Mitigation Measure CUL-3b in conjunction with Delta Conveyance Project Mitigation Measure CUL-3c. Implementation of the previously mentioned Delta Conveyance Project environmental commitments and mitigation measures is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 10-2.

Delta Plan Impact: Disturbance or Destruction of Historic Buildings, Structures, and Linear Features

Delta Plan Mitigation Measure: 10-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in significant and unavoidable impacts (Impact CUL-1 and Impact CUL-2) on built-environment resources. The 2024–2026 Proposed Geotechnical Activities will not impact any built-environment historical resources, due to the planned field investigation distances to cultural resources features that have been recorded within 0.25 mile from the proposed 2024–2026 Proposed Geotechnical Activities locations. Furthermore, as proposed, the 2024–2026 Proposed Geotechnical Activities will be relocated or, if necessary, abandoned to avoid potential impacts to cultural resource features that may be identified during site clearance investigations (Table 1 in the Evaluation of Consistency memo [Attachment 4]). Therefore, the 2024–2026 Proposed Geotechnical Activities' impact would be less than significant and Delta Conveyance Project Mitigation Measures CUL-1a: *Avoid Impacts on Built-Environment Historical Resources through Project Design*, CUL-1b: *Prepare and Implement a Built-Environment Treatment Plan in Consultation with Interested Parties*, and CUL-2: *Conduct a Survey of Inaccessible Properties to Assess Eligibility and Determine Whether These Properties Will Be Adversely Affected by the Project* would not be required for impacts to built-environmental resources.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 10-3. Therefore, Delta Mitigation Measure 10-3 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 10-3 is not required.

Delta Plan Impact: Disturbance or Destruction of Cultural Landscapes and Traditional Cultural Properties

Delta Plan Mitigation Measure: 10-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in significant and unavoidable impacts (Impact CUL-1 and Impact CUL-2) on built-environment resources. The 2024–2026 Proposed Geotechnical Activities will not impact any built-environment historical resources, due to the planned field investigation distances to cultural resources features that have been recorded within 0.25 mile from the proposed 2024–2026 Proposed Geotechnical Activities locations. Furthermore, as proposed, 2024–2026 Proposed Geotechnical Activities will be relocated or, if necessary, abandoned to avoid potential impacts to cultural resource features that may be identified during site clearance investigations (Table 1 in the Evaluation of Consistency memo [Attachment 4]). Therefore, the 2024–2026 Proposed Geotechnical Activities' impact would be less than significant and Delta Conveyance Project Mitigation Measures CUL-1a: *Avoid Impacts on Built-Environment Historical Resources through Project Design*, CUL-1b: *Prepare and Implement a Built-Environment Treatment Plan in Consultation with Interested Parties*, and CUL-2: *Conduct a Survey of Inaccessible Properties to Assess Eligibility and Determine Whether These Properties Will Be Adversely Affected by the Project* would not be required for impacts to built-environmental resources.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 10-4. Therefore, Delta Plan Mitigation Measure 10-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 10-4 is not required.

Delta Plan Resource Area: Geology and Soils

Delta Plan Impact: Exposure of People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death Involving Rupture of a Known Earthquake Fault

Delta Plan Mitigation Measure: 11-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact GEO-1) regarding rupture of a known earthquake fault.

The 2024–2026 Proposed Geotechnical Activities will not introduce very-high-pressure fluids into the ground. During geotechnical drilling, the downhole drilling fluid pressures are limited to those required to balance the soil and water pressures at depths less than 200 feet, typically less than 150 pounds psi. (Less than 25 psi of additional pressure could be exerted by increasing boring depths by 50 feet.) In contrast, downhole drilling fluid pressures used to stimulate oil and gas production often exceed 9,000 psi.

The 2024–2026 Proposed Geotechnical Activities would occur in areas subject to ground shaking. However, because the investigators would not be working in structures, the likelihood of an injury caused by a strong earthquake event occurring while the investigations are being conducted is low; and because the investigation activities would not trigger an earthquake, the investigations are unlikely to cause a loss of property, personal injury, or death from strong earthquake-induced ground shaking. Given the infrequency of strong ground shaking in the project area, the likelihood that earthquake-induced liquefaction would occur at the time that personnel are conducting geotechnical activities is low. Further, the personnel would not be in any structures during the investigations; therefore, they would not be subject to liquefaction-induced structural hazards and damage should a strong earthquake occur.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-1. Therefore, Delta Plan Mitigation Measure 11-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-1 is not required.

Delta Plan Impact: Exposure of People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death due to Strong Ground Motion Associated with Seismic Shaking

Delta Plan Mitigation Measure: 11-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts (Impact GEO-2 and Impact GEO-3) regarding ground motion associated with seismic shaking.

The 2024–2026 Proposed Geotechnical Activities would occur in areas subject to ground shaking. However, because the investigators would not be working in structures, the likelihood of an injury caused by a strong earthquake event occurring while the investigations are being conducted is low; and because the investigation activities would not trigger an earthquake, the investigations are unlikely to cause a loss of property, personal injury, or death from strong earthquake-induced ground shaking. Given the infrequency of strong ground shaking in the project area, the likelihood that earthquake-induced liquefaction would occur at the time that personnel are conducting geotechnical activities is low. Further, the personnel would not be in any structures during the investigations; therefore, they would not be subject to liquefaction-induced structural hazards and damage should a strong earthquake occur.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-2. Therefore, Delta Plan Mitigation Measure 11-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-2 is not required.

Delta Plan Impact: Construction and Operations of Projects Could 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 Loss of Bearing Value, Lateral Spreading, Subsidence, Liquefaction or Collapse

Delta Plan Mitigation Measure: 11-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts (Impact SOILS-3 and Impact SOILS-4) on soils.

The 2024–2026 Proposed Geotechnical Activities would involve a variety of ground-disturbing activities, which would be of limited extent and duration. Soil borings would use augers to sample 4-to-8-inch-diameter holes, and CPTs would involve 1-to-2-inch-diameter rods pushed into the ground. The water quality testing would involve installing temporary PVC pipes, up to 4 inches in diameter, within 4-to-8-inch-diameter boreholes.

The 2024–2026 Proposed Geotechnical Activities would not contribute to potential subsidence due to their limited extent. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to subsidence, the use of which would reduce the potential hazard of subsidence to acceptable limits meeting design standards, causing this impact to be less than significant. The geotechnical activities would not be constrained by expansive or corrosive soils, and the investigations would not increase the hazard of such soils to life and property. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to expansion or corrosion, the use of which would describe the hazards and recommend the measures that should be implemented to ensure that the facilities are constructed to withstand expansion and contraction and to conform to applicable State and federal standards, such as the California Building Code.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-3. Therefore, Delta Plan Mitigation Measure 11-3 is not applicable to the 2024–2026 Proposed Geotechnical

Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-3 is not required.

Delta Plan Impact: Construction of Projects Could Result in Substantial Soil Erosion or the Loss of Topsoil

Delta Plan Mitigation Measure: 11-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts (Impact SOILS-1 and Impact SOILS-2) on soils.

The 2024–2026 Proposed Geotechnical Activities would involve a variety of ground-disturbing activities, which would be of limited extent and duration. Soil borings would use augers to sample 4-to-8-inch-diameter holes, and CPTs would involve 1-to-2-inch-diameter rods pushed into the ground. The water quality testing would involve installing temporary PVC pipes, up to 4 inches in diameter, within 4-to-8-inch-diameter boreholes.

The disturbances caused by the geotechnical activities would be of limited extent and are expected to result in minimal increases in water and wind erosion rates. To prevent accelerated water or wind erosion from occurring, DWR would incorporate applicable aspects of Delta Conveyance Project Environmental Commitment EC-4b: *Develop and Implement Stormwater Pollution Prevention Plans (SWPPP).* Federal statutes and regulations require discharges to waters of the United States comprised of stormwater associated with construction activity to obtain National Pollutant Discharge Elimination System permit coverage (except operations that result in disturbance of less than 1 acre of total land area and that are not part of a larger common plan of development or sale)[19]. All geotechnical activities will disturb less than 1 acre of total land area. Therefore, a stormwater pollution prevention plan is not required for the geotechnical activities. DWR will implement Delta Conveyance Project Environmental Commitment EC-14: *Construction Best Management Practices for Biological Resources*, specific to the geotechnical activities. BMPs that would contribute to reductions in soil erosion would include implementing speed limits, preventing trash and debris from falling onto roads, establishing parking areas and using established ingress and egress points, having a policy of no pets allowed, using appropriate erosion control substitutes not made of plastic monofilament netting, and restoring temporarily affected areas to pre-Project conditions within 1 year. In consideration of the limited scope of the 2024–2026 Proposed Geotechnical Activities and implementation of these BMPs, the geotechnical activities would result in minimal losses of topsoil.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-4. Therefore, Delta Plan Mitigation Measure 11-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-4 is not required.

[19] Order WQ 2022-0057-DWQ NPDES NO. CAS000002.

Delta Plan Impact: Construction of Projects Could Lead to Impacts Associated with the Presence of Expansive Soils

Delta Plan Mitigation Measure: 11-5

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact SOILS-4) on soils.

The 2024–2026 Proposed Geotechnical Activities would involve a variety of ground-disturbing activities, which would be of limited extent and duration. Soil borings would use augers to sample 4-to-8-inch-diameter holes, and CPTs would involve 1-to-2-inch-diameter rods pushed into the ground. The water quality testing would involve installing temporary PVC pipes, up to 4 inches in diameter, within 4-to-8-inch-diameter boreholes.

The 2024–2026 Proposed Geotechnical Activities would not contribute to potential subsidence due to their limited extent. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to subsidence, the use of which would reduce the potential hazard of subsidence to acceptable limits meeting design standards, causing this impact to be less than significant. The geotechnical activities would not be constrained by expansive or corrosive soils, and the investigations would not increase the hazard of such soils to life and property. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to expansion or corrosion, the use of which would describe the hazards and recommend the measures that should be implemented to ensure that the facilities are constructed to withstand expansion and contraction and to conform to applicable State and federal standards, such as the California Building Code.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-5. Therefore, Delta Plan Mitigation Measure 11-5 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-5 is not required.

Delta Plan Impact: Operation of Projects Could Result in Impacts Associated with the Occurrence of Nuisance Water in Adjacent Areas Due to Leakage

Delta Plan Mitigation Measure: 11-6

2024–2026 Proposed Geotechnical Activities Assessment

Delta Plan Mitigation Measure 11-6 applies to construction of canals, storage reservoirs, and other surface impoundments or restoration projects.

The 2024–2026 Prosed Geotechnical Activities do not include any of those features; thus, the Delta Plan Mitigation Measure 11-6 is not applicable.

The 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-6. Therefore, Delta Plan Mitigation Measure 11-6 is not applicable to the 2024–2026 Proposed Geotechnical Activities,

and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-6 is not required.

Delta Plan Impact: Exposure of People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death Involving Landslides

Delta Plan Mitigation Measure: 11-7

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact GEO-4) on slope instability.

The 2024–2026 Proposed Geotechnical Activities will not introduce very high-pressure fluids into the ground. During geotechnical drilling, the downhole drilling fluid pressures are limited to those required to balance the soil and water pressures at depths less than 200 feet, typically less than 150 psi. (Less than 25 psi of additional pressure could be exerted by increasing boring depths by 50 feet.) In contrast, downhole drilling fluid pressures used to stimulate oil and gas production often exceed 9,000 psi.

The 2024–2026 Proposed Geotechnical Activities would occur in areas subject to ground shaking. However, because the investigators would not be working in structures, the likelihood of an injury caused by a strong earthquake event occurring while the investigations are being conducted is low; and because the investigation activities would not trigger an earthquake, the investigations are unlikely to cause a loss of property, personal injury, or death from strong earthquake-induced ground shaking. Given the infrequency of strong ground shaking in the project area, the likelihood that earthquake-induced liquefaction would occur at the time that personnel are conducting geotechnical activities is low. Further, the personnel would not be in any structures during the investigations; therefore, they would not be subject to liquefaction-induced structural hazards and damage should a strong earthquake occur.

The 2024–2026 Proposed Geotechnical Activities would involve a variety of ground-disturbing activities. However, none of these activities are likely to cause an increase in the hazard settlement or slope failure. Geotechnical activities would involve conducting geotechnical investigations along the alignments for the intakes, tunnels, shafts, levees, rail, powerlines, asphalt overlays, and roadways. The soil borings would be drilled to create a 4-to-8-inch-diameter hole from which soil samples would be recovered. The CPTs would involve hydraulically pressing a 1-to-2-inch-diameter cone-tipped rod into the ground. The water quality testing would involve installing a temporary PVC pipe within the borehole. The PVC pipe will be up to 4 inches in diameter and will be slotted over an interval up to 40 feet in length. The remainder of the PVC pipe will be solid wall. The annular space between the boring and the slotted interval of the PVC pipe will be backfilled with commercially available well pack sand and gravel, while the solid wall section will be backfilled with bentonite to the

surface. Based on DWR's 30 years of well drilling and deep-soil investigations in the Delta, none of the investigations are likely to cause a ground vibration sufficiently strong enough to initiate liquefaction or ground settlement.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-7. Therefore, Delta Plan Mitigation Measure 11-7 is not applicable to the 2024–2026 Proposed Geotechnical

Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-7 is not required.

Delta Plan Impact: 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

Delta Plan Mitigation Measure: 11-8

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact SOILS-5) regarding wastewater.

The 2024–2026 Proposed Geotechnical Activities would not involve construction or use of an on-site wastewater disposal system, which would otherwise require soil excavation and installation of septic tanks and wastewater disposal infrastructure. Therefore, Mitigation Measure SOILS-5 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and the impact would be less than significant.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-8. Therefore, Delta Plan Mitigation Measure 11-8 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-8 is not required.

Delta Plan Impact: Substantial Risks to Life or Property Due to Construction of Project Facilities on High Organic Matter Soils

Delta Plan Mitigation Measure: 11-9

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact SOILS-3) on soils.

The 2024–2026 Proposed Geotechnical Activities would involve a variety of ground-disturbing activities, which would be of limited extent and duration. Soil borings would use augers to sample 4-to-8-inch-diameter holes, and CPTs would involve 1-to-2-inch-diameter rods pushed into the ground. The water quality testing would involve installing temporary PVC pipes, up to 4 inches in diameter, within 4-to-8-inch-diameter boreholes.

The 2024–2026 Proposed Geotechnical Activities would not contribute to potential subsidence due to their limited extent. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to subsidence, the use of which would reduce the potential hazard of subsidence to acceptable limits meeting design standards, causing this impact to be less than significant. The geotechnical activities would not be constrained by expansive or corrosive soils, and the investigations would not increase the hazard of such soils to life and property. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to expansion or corrosion, the use of which would describe the hazards and recommend the measures that should be implemented to ensure that the facilities are constructed to withstand expansion and

contraction and to conform to applicable State and federal standards, such as the California Building Code.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 11-9. Therefore, Delta Mitigation Measure 11-9 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 11-9 is not required.

Delta Plan Resource Area: Paleontological Resources

Delta Plan Impact: Destruction of Paleontological Resources or Unique Geological Features

Delta Plan Mitigation Measure: 12-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (PALEO-2) and a less-than-significant impact with mitigation (Impact PALEO-1) on paleontological resources.

The activities being performed as part of the 2024–2026 Proposed Geotechnical Activities will occur in soil types that are unlikely to destroy paleontological resources, will not involve tunnel construction or ground improvements, and will not involve trenching along faults. The impacts to paleontological resources as a result of the 2024–2026 Proposed Geotechnical Activities are less than significant, and no mitigation is required. Most investigations would occur in young surficial sediments and would disturb a small area, and therefore they would be unlikely to destroy paleontological resources. Although soil borings would be deep, the diameter of the bore is small, and the bore holes would be unlikely to destroy unique paleontological resources. The 2024–2026 Proposed Geotechnical Activities are data collection efforts that do not involve tunnel construction or ground improvement and thus would be unlikely to destroy unique paleontological resources.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 12-1. Therefore, Delta Plan Mitigation Measure 12-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 12-1 is not required.

Delta Plan Resource Area: Mineral Resources

Delta Plan Impact: Loss of Availability of a Known Mineral Resource that Would Be of Value to the Region and Residents of the State

Delta Plan Mitigation Measure: 13-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in no impacts (Impact MIN-1, Impact MIN-2, Impact MIN-3, and Impact MIN-4) on mineral resources.

The 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 13-1. Therefore, Delta Plan Mitigation Measure 13-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 13-1 is not required.

Delta Plan Impact: Loss of Availability of a Locally Important Mineral Resource Recovery Site Delineated on a Local General Plan, Specific Plan, or Other Land Use Plan

Delta Plan Mitigation Measure: 13-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in no impacts (Impact MIN-1, Impact MIN-2, Impact MIN-3, and Impact MIN-4) on mineral resources.

The 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 13-2. Therefore, Delta Plan Mitigation Measure 13-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 13-2 is not required.

Delta Plan Resource Area: Hazards and Hazardous Materials

Delta Plan Impact: Create a Significant Hazard to the Public or the Environment through the Routine Transport, Use, or Disposal of Hazardous Materials or through Reasonably Foreseeable Upset and Accident Conditions involving the Release of Hazardous Materials into the Environment

Delta Plan Mitigation Measure: 14-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact HAZ-2) and a less-than-significant impact (Impact HAZ-1) on hazards and hazardous materials.

Accidental release of these materials could result in a safety hazard to human health or the environment. Geotechnical and hydrogeologic testing would result in soil disturbance and the possibility of encountering contaminated soils that could be hazardous to human health or the environment. Compliance with applicable laws and regulations would reduce potential impacts resulting from the transport, handling, use, and disposal of these materials. Consistent with applicable laws and regulations, the transport, use, and disposal of hazardous materials would comply with regulations enforced by regulatory agencies such as Certified Unified Program Agencies (CUPAs) and California Division of Occupational Safety and Health (Cal/OSHA). Implementation of Delta Conveyance Project environmental commitments such as Environmental Commitment EC-2: *Develop and Implement Hazardous Materials Management Plans* and EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans* would reduce the potential for hazardous materials effects by identifying known hazardous materials sites, designing protocols for reducing hazardous materials exposure, and treating and disposing of hazardous substances at construction sites. The 2024–2026 Proposed Geotechnical Activities do not include property acquisition or the construction (excavation) of facilities.

Therefore, Delta Conveyance Project Mitigation Measure HAZ-2: *Perform a Phase I Environmental Site Assessment Prior to Construction Activities and Remediate* is not applicable.

The 2024–2026 Proposed Geotechnical Activities would not result in a safety hazard involving airports, are not associated with property acquisition, and do not directly conflict with emergency plans and evacuation routes.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 14-1. Therefore, Delta Plan Mitigation Measure 14-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 14-1 is not required.

Delta Plan Impact: Result in Ground-Disturbing Activities That Could Encounter Previously Unidentified Contaminated Soil and/or Groundwater That Could Expose Construction Workers and the Environment to Risks Associated with Hazardous Materials

Delta Plan Mitigation Measure: 14-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact HAZ-2) and a less-than-significant impact (Impact HAZ-1) on hazards and hazardous materials.

Accidental release of these materials could result in a safety hazard to human health or the environment. Geotechnical and hydrogeologic testing would result in soil disturbance and the possibility of encountering contaminated soils that could be hazardous to human health or the environment. Compliance with applicable laws and regulations would reduce potential impacts resulting from the transport, handling, use, and disposal of these materials. Consistent with applicable laws and regulations, the transport, use, and disposal of hazardous materials would comply with regulations enforced by regulatory agencies such as CUPAs and Cal/OSHA. Implementation of Delta Conveyance Project environmental commitments such as Environmental Commitment EC-2: *Develop and Implement Hazardous Materials Management Plans* and EC-3: *Develop and Implement Spill Prevention, Containment, and Countermeasure Plans* would reduce the potential for hazardous materials effects by identifying known hazardous materials sites, designing protocols for reducing hazardous materials exposure, and treating and disposing of hazardous substances at construction sites. The 2024–2026 Proposed Geotechnical Activities do not include property acquisition or the construction (excavation) of facilities. Therefore, Delta Conveyance Project Mitigation Measure HAZ-2: *Perform a Phase I Environmental Site Assessment Prior to Construction Activities and Remediate* is not applicable.

The 2024–2026 Proposed Geotechnical Activities would not result in a safety hazard involving airports, are not associated with property acquisition, and do not directly conflict with emergency plans and evacuation routes.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 14-2. Therefore, Delta Plan Mitigation Measure 14-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 14-2 is not required.

Delta Plan Impact: Create Vector Habitat that would Pose a Significant Public Health Hazard

Delta Plan Mitigation Measure: 14-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact PH-1) on public health.

Ground-disturbing activities as part of 2024–2026 Proposed Geotechnical Activities or exposure of disturbed sites immediately following geotechnical activities could result in precipitation-related soil erosion and runoff to surface waterbodies in the study area. Any existing trace metals, pesticides, other contaminants, or organic matter in the soil could incrementally increase concentrations in surface water. However, this potential effect on water quality would be temporary and fairly localized to areas of construction. The development and implementation of site-specific erosion and sediment control plans for the geotechnical activities would minimize the potential for this impact by controlling erosion and runoff to surface water and ensure that activities would not substantially increase or substantially mobilize legacy organochlorine pesticides or methylmercury during the geotechnical activities. The geotechnical activities will not occur over water and thus will not contribute to an increase in CHABs. Geotechnical activities will not expose sensitive receptors to new sources of electromagnetic fields because geotechnical activities do not involve the construction, operations, or maintenance of permanent aboveground and underground transmission lines. The 2024–2026 Proposed Geotechnical Activities do not involve facilities management. As such, Delta Conveyance Project Mitigation Measure PH-1b: *Develop and Implement a Mosquito Management Plan for Compensatory Mitigation Sites on Bouldin Island and at I-5 Ponds* is not applicable to the geotechnical activities. However, Delta Conveyance Project Mitigation Measure PH-1a: *Avoid Creating Areas of Standing Water During Preconstruction Future Field Investigations and Project Construction* does apply.

Delta Plan Mitigation Measure 14-3 includes freshwater habitat management in coordination with DFG and local mosquito and vector control agencies to help minimize mosquito production, maintenance of permanent ponds to increase waterfowl diversity yet decrease introduction of vectors, tidal management focusing on residual tidal and floodwaters in remaining depressions and cracked ground, and design of ecosystem restoration areas and surface water storage facilities to minimize standing water. The 2024–2026 Proposed Geotechnical Activities do not include construction of facilities including freshwater habitat, tidal habitat, or water storage facilities. However, Delta Conveyance Project Mitigation Measure PH-1a likewise seeks to eliminate areas of standing water that could be potentially suitable for mosquito breeding. Delta Conveyance Project Mitigation Measure PH-1a includes avoiding leaving uncovered containers that can accumulate water, storing building materials under cover that does not collect water, grading all work areas to drain, filling in potholes and other areas where water is likely to accumulate, routinely removing garbage and debris that may collect water, and periodically pumping out water from areas where water could accumulate for several days. Implementation of Delta Conveyance Project Mitigation Measure PH-1a is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 14-3.

Delta Plan Impact: Increase Safety Hazards for People Residing in or Working in the Project Areas Within the Vicinity of a Private Airstrip, Within an Airport Land Use Plan, or within 2 Miles of a Public Airport or Public Use Airport, or Create Airport Safety Hazards

Delta Plan Mitigation Measure: 14-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact HAZ-5) on hazards and hazardous materials.

The 2024–2026 Proposed Geotechnical Activities would occur primarily within the footprint of the individual alternative and would not include structures that would impede airspace. Geotechnical activities would not result in a safety hazard involving airports. Geotechnical activities would not substantially conflict with emergency response plans. Geotechnical activities would not result in a safety hazard involving airports.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 14-4. Therefore, Delta Plan Mitigation Measure 14-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 14-4 is not required.

Delta Plan Impact: Expose People or Structures to a Significant Risk of Loss, Injury or Death involving Wildland Fires

Delta Plan Mitigation Measure: 14-5

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact HAZ-7) on hazards and hazardous materials.

The 2024–2026 Proposed Geotechnical Activities would not substantially conflict with emergency response plans. Geotechnical activities would involve the presence of personnel and equipment, both of which could inadvertently start a fire (e.g., smoking, sparks from equipment). Compliance with applicable laws and regulations regarding fire prevention and safety and Delta Conveyance Project Environmental Commitment EC-5: *Develop and Implement a Fire Prevention and Control Plan* would include provisions such as consultation with fire agencies, spark arrestors on construction equipment, and maintaining appropriate fire suppression equipment to further reduce impacts related to wildland fires. The potential for the geotechnical activities to expose people or structures to a substantial risk of wildland fire would be less than significant.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 14-5. Therefore, Delta Plan Mitigation Measure 14-5 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 14-5 is not required.

Delta Plan Resource Area: Noise

Delta Plan Impact: Exposure of Sensitive Receptors to Excessive Temporary, Short-term Construction Noise

Delta Plan Mitigation Measure: 15-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (Impact NOI-1) on noise.

The 2024–2026 Proposed Geotechnical Activities will generate temporary noise during the geotechnical activities but will not include ongoing operations or noise from operations. Geotechnical activities will comply with Delta Conveyance Project Mitigation Measure NOI-1: *Develop and Implement a Noise Control Plan* (where applicable). As described in the noise plan for the 2024–2026 Proposed Geotechnical Activities, noise impacts resulting from the 2024–2026 Proposed Geotechnical Activities will be reduced to less than significant with mitigation.

The geotechnical activities will occur at a given location for a short amount of time during daytime hours and would cease once the testing is complete. The geotechnical activities would not add sensitive uses that would be affected by aircraft noise, and workers would not be exposed to excessive airport noise. DWR developed the *Noise Control Plan for 2024–2026 Proposed Geotechnical Activities* (California Department of Water Resources 2024),compliance with Mitigation Measure NOI-1 so as not to exceed noise thresholds near sensitive resources during the 2024–2026 Proposed Geotechnical Activities. If sound-level monitoring data shows that an exceedance has the potential to occur near one or more sensitive receptors, DWR will either abandon the activity, relocate the activity to a location that will not exceed noise-level thresholds, revise the work schedule to avoid exceeding the noise-level thresholds, or coordinate with the affected residents for short-term relocation assistance. Measures related to pile-driving testing are not applicable since this activity is not proposed as part of the geotechnical activities.

Delta Plan Mitigation Measure 15-1 includes limiting hours of noise generation, locating equipment away from sensitive receptors, properly maintaining of equipment, limiting idling of equipment, conducting traffic noise analysis at haul routes, incorporating noise barriers (if needed), and avoiding or minimizing use of equipment known to generate high levels of groundborne vibration near sensitive receptors. As discussed under Delta Plan Mitigation Measure 15-2, geotechnical activities will not generate significant groundborne vibrations. The detailed description of 2024–2026 Proposed Geotechnical Activities in the *2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan* (Attachment 5) includes a limitation of activities to daytime hours and a minimum proximity to residences or sensitive receptors. Delta Conveyance Project Environmental Commitment EC-13: *DWR Best Management Practices to Reduce GHG Emissions* includes commitments on proper maintenance of equipment and to minimize idling time of equipment. Delta Conveyance Project Mitigation Measure NOI-1 would reduce noise levels at the impacted receptor locations through preconstruction actions, sound-level monitoring, best noise-control practices, and installation of noise barriers, as applicable. Implementation of the activities as described, including environmental commitments in conjunction with Delta Conveyance Project Mitigation Measure

NOI-1, is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 15-1.

Delta Plan Impact: Temporary and Short-term Exposure of Sensitive Receptors to Excessive Groundborne Vibrations

Delta Plan Mitigation Measure: 15-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact NOI-2) on groundborne vibrations.

The geotechnical activities will occur at a given location for a short amount of time during daytime hours and would cease once the testing is complete. The geotechnical activities would not cause noticeable vibration levels at the nearest residences. Vibrations from heavy equipment are not expected to produce perceptible levels of vibration inside of the nearest residences or to have the potential to result in building damage. Measures related to pile-driving testing are not applicable since this activity is not proposed as part of the geotechnical activities.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 15-2. Therefore, Delta Plan Mitigation Measure 15-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 15-2 is not required.

Delta Plan Impact: Long-Term Exposure of Sensitive Receptors to Excessive Noise from Operations

Delta Plan Mitigation Measure: 15-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a significant and unavoidable impact (Impact NOI-1) on noise.

The 2024–2026 Proposed Geotechnical Activities will generate temporary noise during the geotechnical activities but will not include ongoing (i.e., long-term) operations or noise from operations. See the discussion under Delta Plan Mitigation Measure 15-2 regarding short-term noise impacts.

The 2024–2026 Proposed Geotechnical Activities do not include operations (long-term noise exposure), will occur at a given location for a short amount of time during daytime hours, and would cease once the testing is complete. The 2024–2026 Proposed Geotechnical Activities will be temporary, will have a minimal footprint, and will not include operations. As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 15-3. Therefore, Delta Plan Mitigation Measure 15-3 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 15-3 is not required.

Delta Plan Resource Area: Population and Housing

Delta Plan Impact: Displace Substantial Numbers of Existing Housing and/or People, Necessitating the Construction of Replacement Housing Elsewhere

Delta Plan Mitigation Measure: 16-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR does not identify housing displacement as a potential project impact. Direct growth inducement is a function of the highest projected employment during the peak construction period. The Final EIR analyses reveal that project construction would not induce substantial new housing development as a result of peak employment projections.

The 2024–2026 Proposed Geotechnical Activities, which involve short-term, temporary activities with minimal personnel, would not contribute to direct growth inducement. Indirect growth inducement is a function of the construction of new or modified infrastructure (e.g., new roads, levee modifications) and water deliveries associated with Delta Conveyance Project operations. The 2024–2026 Proposed Geotechnical Activities do not involve construction or operations and thus will not impact indirect growth inducement.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 16-1. Therefore, Delta Plan Mitigation Measure 16-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 16-1 is not required.

Delta Plan Resource Area: Public Services

Delta Plan Impact: Need for New or Physically Altered Governmental Facilities to Maintain Acceptable Service Ratios, Response Times, or Other Performance Objectives for Fire Protection and Emergency Medical Services, Police Protection, Schools, or Libraries

Delta Plan Mitigation Measure: 17-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact UT-1) on public services and utilities.

Although the 2024–2026 Proposed Geotechnical Activities would require workers (as incorporated into the data in Table 21-1 in Final EIR Chapter 21, *Public Services and Utilities*), the construction worker population is assumed to come from the existing labor force, which is already served by existing law enforcement, fire department, hospitals, schools, and other public services in the project area. For the 2024–2026 Proposed Geotechnical Activities, these workers would be temporary and are not anticipated to relocate to the study area; thus there would not be a need for construction of new or expanded infrastructure or services related to police protection, fire protection, hospitals, schools, or other public services for either the larger Delta Conveyance Project or for the geotechnical activities. Investigations would not require or result in the relocation or construction of service system infrastructure (e.g., water and wastewater services, stormwater drainage). The 2024–2026 Proposed Geotechnical Activities will not require electric power or telecommunications. As per the analysis in the Final EIR, the project

would not cause any exceedance of landfill capacity or exceed any State or local standards. All holes will be backfilled per regulatory standards and returned to existing conditions.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 17-1. Therefore, Delta Plan Mitigation Measure 17-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 17-1 is not required.

Delta Plan Resource Area: Recreation

Delta Plan Impact: Impair, Degrade, or Eliminate Recreation Facilities and Activities

Delta Plan Mitigation Measure: 18-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact REC-1) on recreation.

The 2024–2026 Proposed Geotechnical Activities would take a short period of time and are not likely to displace recreationists to other parks at such a level as to degrade facilities or experiences at those facilities. The 2024–2026 Proposed Geotechnical Activities would be used to refine project alignment and design and to more specifically identify appropriate construction methods addressed in the final design documents and help establish geological and groundwater monitoring programs for the design and construction phases of the Delta Conveyance Project. The 2024–2026 Proposed Geotechnical Activities will not require the construction or expansion of recreation facilities.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 18-1. Therefore, Delta Plan Mitigation Measure 18-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 18-1 is not required.

Delta Plan Impact: Increase the Use of Existing Recreational Facilities Such That Substantial Physical Deterioration of the Facility Would Occur or Be Accelerated

Delta Plan Mitigation Measure: 18-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact REC-1) on recreation. The conclusion regarding a less-than-significant impact on recreation from the Final EIR remains unchanged, as the execution of the 2024–2026 Proposed Geotechnical Activities will not result in any new potentially significant impacts or a substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for recreation resources that could result in any new potentially significant impacts.

The 2024–2026 Proposed Geotechnical Activities would take a short period of time and are not likely to displace recreationists to other parks at such a level as to degrade facilities or

experiences at those facilities. The 2024–2026 Proposed Geotechnical Activities would be used to refine project alignment and design and to more specifically identify appropriate construction methods addressed in the final design documents and help establish geological and groundwater monitoring programs for the design and construction phases of the Delta Conveyance Project.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 18-2. Therefore, Delta Plan Mitigation Measure 18-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 18-2 is not required.

Delta Plan Impact: Require the Construction or Expansion of Recreation Facilities which Might Have an Adverse Physical Effect on the Environment

Delta Plan Mitigation Measure: 18-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact REC-2) on recreation.

The 2024–2026 Proposed Geotechnical Activities would take a short period of time and are not likely to displace recreationists to other parks at such a level as to degrade facilities or experiences at those facilities. The 2024–2026 Proposed Geotechnical Activities would be used to refine project alignment and design and to more specifically identify appropriate construction methods addressed in the final design documents and help establish geological and groundwater monitoring programs for the design and construction phases of the Delta Conveyance Project. The 2024–2026 Proposed Geotechnical Activities will not require the construction or expansion of recreation facilities.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 18-3. Therefore, Delta Plan Mitigation Measure 18-3 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 18-3 is not required.

Delta Plan Resource Area: Traffic and Transportation

Delta Plan Impact: Construction- and Operations-related Conflict with an Applicable Plan, Ordinance, or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System, Taking into Account All Modes of Transportation

Delta Plan Mitigation Measure: 19-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact TRANS-2) on traffic and transportation.

The 2024–2026 Proposed Geotechnical Activities remain consistent with the calculations and analyses presented in the Final EIR. In fact, the degree of impact for the 2024–2026 Proposed Geotechnical Activities is less than disclosed in the Final EIR.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 19-1. Therefore, Delta Plan Mitigation Measure 19-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 19-1 is not required.

Delta Plan Impact: Potential Increase in Hazards Related to a Design Feature

Delta Plan Mitigation Measure: 19-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact TRANS-3) on traffic and transportation. However, the 2024–2026 Proposed Geotechnical Activities do not include the construction of permanent project features. Therefore, the 2024–2026 Proposed Geotechnical Activities' impact would be less than significant, and Delta Conveyance Project Mitigation Measure TRANS-1: *Implement Site-Specific Construction Transportation Demand Management Plan and Transportation Management Plan* would not apply under Delta Conveyance Project Impact TRANS-3.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 19-2. Therefore, Delta Plan Mitigation Measure 19-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 19-2 is not required.

Delta Plan Impact: Potential Reduction in Adequate Emergency Access

Delta Plan Mitigation Measure: 19-3

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact TRANS-4) on traffic and transportation.

The 2024–2026 Proposed Geotechnical Activities remain consistent with the calculations and analyses presented in the Final EIR (Table 2 in the Evaluation of Consistency memo [Attachment 4]). Overall, effects from the 2024–2026 Proposed Geotechnical Activities would generally have negligible effects on the circulation systems because of the limited nature of these activities. The 2024–2026 Proposed Geotechnical Activities will not involve overwater activities and, therefore, do not have the potential to affect marine navigation. For these reasons, the 2024–2026 Proposed Geotechnical Activities will result in a less-than-significant impact with respect to emergency access, and Delta Conveyance Project Mitigation Measure TRANS-1: *Implement Site-Specific Construction Transportation Demand Management Plan and Transportation Management Plan* would not apply under Impact TRANS-4.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 19-3. Therefore,

Delta Plan Mitigation Measure 19-3 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 19-3 is not required.

Delta Plan Impact: Construction- and Operations-Related Conflict with Adopted Policies, Plans, or Programs Regarding Bicycle or Pedestrian Facilities

Delta Plan Mitigation Measure: 19-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact TRANS-2) on traffic and transportation.

The 2024–2026 Proposed Geotechnical Activities remain consistent with the calculations and analyses presented in the Final EIR. In fact, the degree of impact for the 2024–2026 Proposed Geotechnical Activities is less than disclosed in the Final EIR.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 19-4. Therefore, Delta Plan Mitigation Measure 19-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 19-4 is not required.

Delta Plan Resource Area: Utilities and Service Systems

Delta Plan Impact: Generate Solid Waste That Would Exceed the Permitted Capacity of Local Landfills or Cause Conflicts with Federal, State, and Local Statutes and Regulations Related to Solid Waste

Delta Plan Mitigation Measure: 20-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact (Impact UT-4) on utilities and service systems.

The 2024–2026 Proposed Geotechnical Activities would not cause any exceedance of landfill capacity or exceed any State or local standards. All holes will be backfilled per regulatory standards and returned to existing conditions.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 20-1. Therefore, Delta Plan Mitigation Measure 20-1 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 20-1 is not required.

Delta Plan Impact: Create a Public Health Hazard from Utility Disruption

Delta Plan Mitigation Measure: 20-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in less-than-significant impacts (Impact UT-2 and Impact UT-3) on utilities and service systems.

Although the 2024–2026 Proposed Geotechnical Activities would require workers (as incorporated into the data in Table 21-1 in Final EIR Chapter 21, *Public Services and Utilities*), the construction worker population is assumed to come from the existing labor force, which is already served by existing law enforcement, fire department, hospitals, schools, and other public services in the project area. For the 2024–2026 Proposed Geotechnical Activities, these workers would be temporary and are not anticipated to relocate to the study area; thus there would not be a need for construction of new or expanded infrastructure or public services for either the larger Delta Conveyance Project or the geotechnical activities. Investigations would not require or result in the relocation or construction of service system infrastructure (e.g., water and wastewater services, stormwater drainage). The 2024–2026 Proposed Geotechnical Activities will not require electric power or telecommunications.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 20-2. Therefore, Delta Plan Mitigation Measure 20-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 20-2 is not required.

Delta Plan Resource Area: Climate Change and Greenhouse Gas Emissions

Delta Plan Impact: Construction and Operations of Projects Could Result in an Increase in GHG Emissions That May Have a Significant Impact on the Environment

Delta Plan Mitigation Measure: 21-1

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR concludes the Delta Conveyance Project will result in a less-than-significant impact with mitigation (Impact AQ-9) on GHG emissions. Table 6 in the Evaluation of Consistency memo (Attachment 4), provides the anticipated GHG emissions calculations for the geotechnical activities Table 7 in the Evaluation of Consistency memo (Attachment 4) includes the real-time calculations for the 2024 activities that were completed as well as the projected GHG emissions for the geotechnical activities and compares these to the Final EIR calculations (Table 23-74 in Final EIR Chapter 23, *Air Quality and Greenhouse Gases*). These calculations show that the estimated GHG projections from the Final EIR would be reduced with the revised geotechnical activities for emissions in years 1 and 2. The 2024–2026 Proposed Geotechnical Activities are not expected to result in a change to the underlying land use of any properties, because all affected areas would be returned to as close to pre-activity conditions as possible and thus would not impact global climate change from land use changes. Revised calculations (Table 7 in the Evaluation of Consistency memo [Attachment 4]) indicate that GHG emissions from 2024–2026 Proposed Geotechnical Activities would not be significant. However, GHG emissions are considered cumulatively and as such would require implementation of the

applicable portions of Delta Conveyance Project Mitigation Measure AQ-9: *Develop and Implement a GHG Reduction Plan to Reduce GHG Emissions from Construction and Net CVP Operational Pumping to Net Zero*.

Delta Plan Mitigation Measure 21-1 includes implementation of GHG BMPs, designing for energy efficiency, using renewable energy, creating water efficient landscaping, reusing and recycling demolition waste, following transportation BMPs, purchasing carbon-offsets (if necessary), using SmartWay truck technology, developing a tire inflation program, using blended cements, and enforcing anti-idling policies. As discussed, the 2024–2026 Proposed Geotechnical Activities would not include design, construction, or demolition of facilities and would not require use of blended cements. While portions of Delta Plan Mitigation Measure 21-1 are not applicable to the 2024–2026 Proposed Geotechnical Activities, Delta Conveyance Project Environmental Commitment EC-13: *DWR Best Management Practices to Reduce GHG Emissions* includes reuse and recycling of demolition waste, transportation BMPs, use of SmartWay truck technology, a tire inflation program, use of blended cements, and anti-idling enforcement. Additionally, Delta Conveyance Project Mitigation Measure AQ-9 includes a plan with emissions quantity and reduction commitments, GHG reduction strategies (including designing for energy efficiency, using renewable energy, and purchasing carbon offsets), and implementation and enforcement. Implementation of the activities as described, including environmental commitments in conjunction with Delta Conveyance Project Mitigation Measure AQ-9, is the same as, equal to, or more effective than the applicable portions of Delta Plan Mitigation Measure 21-1.

Delta Plan Resource Area: Climate Change and Greenhouse Gas Emissions

Delta Plan Impact: Conflict with Operations of Proposed Facilities due to Climate Change and Sea Level Rise

Delta Plan Mitigation Measure: 21-2

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR does not identify this as a potential project impact for the Delta Conveyance Project. The 2024–2026 Proposed Geotechnical Activities will be temporary, have a minimal footprint, and will not include construction or operations of facilities. The geotechnical activities will occur in the near-term and are of a temporary nature. Impacts of geotechnical activities are analyzed based on conditions in 2020 and would not be affected by climate change. Furthermore, all affected areas would be returned to as close to pre-activity conditions as possible.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 21-2. Therefore, Delta Plan Mitigation Measure 21-2 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 21-2 is not required.

Delta Plan Impact: Conflict with Operations of Proposed Facilities due to Climate Change and Sea Level Rise

Delta Plan Mitigation Measure: 21-4

2024–2026 Proposed Geotechnical Activities Assessment

The Final EIR does not identify this conflict with facilities operations due to climate change as a potential project impact for the Delta Conveyance Project. The 2024–2026 Proposed Geotechnical Activities will be temporary, will have minimal footprint, and will not include construction or operations of facilities. The geotechnical activities will occur in the near-term and are of a temporary nature. Impacts of geotechnical activities are analyzed based on conditions in 2020 and would not be affected by climate change. Furthermore, all affected areas would be returned to as close to pre-activity conditions as possible.

As discussed, the 2024–2026 Proposed Geotechnical Activities will not result in a potentially significant impact requiring implementation of Delta Plan Mitigation Measure 21-4. Therefore, Delta Plan Mitigation Measure 21-4 is not applicable to the 2024–2026 Proposed Geotechnical Activities, and a comparison of Delta Conveyance Project mitigation measure(s) to Delta Plan Mitigation Measure 21-4 is not required.

4.3.1.3 G P1 (b)(3) Detailed Findings

Summary

The DCA has implemented and will continue to implement the best available science in the development of the Delta Conveyance Project facilities design. DCA obtained records from a number of previously conducted geotechnical investigations completed by DWR, local utilities, regional natural gas utilities, and Caltrans throughout the Delta. Subsequently, the Delta Conveyance geotechnical investigation program was developed to provide additional information needed to design and construct Delta Conveyance Project facilities because conditions in the Delta are highly variable with relatively few investigations along the Bethany Reservoir Alignment. The DCA compared the known geotechnical investigation results to the Delta Conveyance Project feature locations to determine the need for additional field investigations to provide results along the tunnel and to be in compliance with the California Building Code at the intakes and Bethany Complex structures with either soil borings or CPTs, as already described. Based on the information obtained, known conditions in the project area, and experience on similar projects, the overall geotechnical investigation program, including a description of future investigations, is discussed in the Potential Future Field Investigations—Bethany Reservoir Alternative technical memorandum in the Delta Conveyance Project Engineering Project Report (Delta Conveyance Design and Construction Authority 2022). As the field investigation results are completed, this information will be used to develop the foundation design criteria for both the tunneling and intakes and the Bethany Complex structures.

Purpose of Geotechnical Investigations

As a result of multiple complex geologic processes, ground conditions in the Delta vary widely. Geotechnical investigations, including soil borings and CPTs, are used to validate and refine the conceptual design of project features. The main objective of these investigations is to define the

nature and spatial variability of the subsurface stratigraphy for all project features in order to mitigate construction and operational risks. The analyses will accomplish the following aims.

1. Define soil deposit extents, depths, thicknesses, physical characteristics, maximum and average clast sizes, and groundwater conditions.
2. Determine engineering properties of soil deposits, such as grain size, plasticity, density, strength, abrasivity, deformation characteristics, swell potential, permeability, corrosivity, and resistance to seismic shaking for facility design.
3. Evaluate liquefaction potential and develop ground motion parameters for seismic design.
4. Provide data to define requirements for tunnel boring machines (TBMs), including soil abrasivity, strength, and cementation, to estimate wear rates, TBM penetration rates, and overall utilization, and to develop proactive TBM maintenance requirements to reduce the risk of unplanned shutdowns.
5. Identify suitable locations along the tunnel alignment for TBM maintenance.
6. Obtain groundwater-level data and quality for tunnel and shaft lining design, evaluate face support pressure requirements during TBM operation, and identify the potential for artesian pressures affecting shaft, tunnel, and pumping plant design.
7. Evaluate the likelihood for hazardous gases like methane and hydrogen sulfide that will pose environmental and physical risks to the project and construction personnel and develop necessary safety measures.
8. Determine the potential impact of tunneling to the existing levees.
9. Define the presence and limits of zones of impacted soil and groundwater quality to minimize risks to agricultural, domestic, and municipal water wells in the vicinity.

The current design has sought to minimize surface and subsurface impacts from tunnel construction work shafts by maximizing tunnel drive lengths to the practical limit and by conducting thorough shaft-siting studies. In the absence of data from the currently planned subsurface exploration program, the following risks may be unidentified and unmitigated.

- The risk of highly abrasive, strong, or oversized clasts causing damage or unanticipated wear to the TBMs resulting in a stuck drive. This may in turn require the construction of an unplanned shaft to repair the TBM or the introduction of cementitious grout into the ground ahead of the TBM to facilitate repair from inside the TBM. Any unplanned facilities or zones of low-permeability grout may in turn impact adjacent landowners and result in additional GHG emissions and heavy truck traffic.
- The risk of unanticipated high artesian groundwater conditions resulting in a failure to adequately support the ground during tunneling and potentially excessive leakage of groundwater into the completed tunnel. These outcomes would have implications to local landowners in the form of ground settlement and potential for reduced well yields.
- The risk of encountering zones of impacted water quality resulting in reusable tunnel material that is high in boron, salt, metals, or other deleterious substances that either preclude suitable postconstruction agronomic site restoration or, worse, impact local and regional surface and groundwater quality due to runoff. The risk may also manifest itself in a reduced lifespan and watertightness of structural concrete shaft and pumping plant liners.

- The risk of significant ground disturbance at depth resulting from a seismic event on one of the faults local to the Delta, such as the West Tracy Fault, causing partial or total collapse of the tunnel. This would in turn likely result in a large sinkhole and the potential for release of water into the subsurface. In a less catastrophic scenario, the ground movements experienced by the tunnel where it crosses faults may impact the watertightness of the tunnel lining, in turn introducing water into the tunnel and potentially reducing local well yields.
- The risk of thick sequences of coarse Sacramento River alluvium containing cobbles or boulders interrupting the continuous nature of planned groundwater isolation features at the intakes. This in turn could prevent the ability to empty the sediment basins behind the intakes without the use of deep dewatering wells, which in turn may negatively impact the regional and localized access to groundwater resources and recharge to the river. It may also introduce higher river head during periods of flood to the near surface soils adjacent to the intakes. This could result in surface seepage or flooding.

Geotechnical explorations conducted to date for the project and those currently planned use state-of-the-practice methods and techniques to collect samples and *in situ* data. Specifically, they use mud rotary methods operated by highly experienced field crews that prevent the uncontrolled entry of soil into the borehole and disturbance of the adjacent soils. Soil sampling is continuous using a 134-millimeter-sleeved drilling system, which allows collection of an undisturbed column of soil. *In situ* testing includes pressure meter and downhole shear wave velocity measurements to obtain the most accurate engineering properties on the in-place undisturbed soils. Water quality sampling involves proper development of temporary cased boreholes to allow discrete and targeted sampling of water quality at and adjacent to the planned tunnel horizon.

The rigorous attention to exploration techniques ensures that the parameters developed from the *in situ* and laboratory testing of field samples are the most accurate obtainable values. This avoids unnecessary design conservatism associated with values obtained on disturbed soils samples. The unnecessary conservatism involved with erroneously low design values also minimizes waste, impacts to the public, and GHG emissions and serves as a basis for the most economical project.

The proposed geotechnical investigation involves drilling borings and performing CPTs. The number and spacing of soil borings are based on expert experience on tunneling projects with similar ground conditions, averaging 1,000 feet apart along the tunnel reaches (per U.S. Department of Transportation Federal Highway Administration *Technical Manual for Design and Construction of Road Tunnels—Civil Elements*) (Hung et al. 2009). The tunnel invert and the bottom of the tunnel shafts would vary in elevation from -140 to -164 feet (North American Vertical Datum of 1988) with an excavated diameter of about 40 feet. Borings for the shaft extend 100 feet below the shaft bottom, while tunnel borings extend at least one tunnel diameter below the invert at that location. CPTs are planned in between soil borings to assist in the interpretation of ground conditions between borings. A subsequent phase of geotechnical investigation will be required for the final design of the Delta Conveyance Project tunnel to fill gaps and confirm assumptions from the preliminary design.

Soil investigations for design of surface project features are required by Section 1803.5.11 of the 2022 California Building Code (CBC), which requires a “geotechnical investigation” for any structure determined to be in Seismic Design Category C, D, E, or F in accordance with CBC Section 1613. Per the latest American Society of Civil Engineers (ASCE) codes (ASCE 7-22, which will be adopted in the next update of CBC), the Seismic Design Category for the Delta Conveyance Project is category D (American Society of Civil Engineers 2021). This was estimated based on the ground motions at the Bethany Reservoir Pumping Plant. For the facilities to the north, where the ground motions are

lower, the Seismic Design Category could be lower and would still require geotechnical investigation. Section 11.8 of ASCE 7-22 requires that a geotechnical investigation report be submitted for Seismic Design Category C through F structures. The report shall include foundation design and evaluations of geologic and seismic hazards that require site-specific soil data. The information collected through the Delta Conveyance geotechnical investigation program will inform the development of this required geotechnical investigation report.

Geotechnical investigations will always be required for any projects within any Seismic Design Category. The data could be from previously conducted or from new investigations.

Geotechnical investigation results will also be used to determine numerous design issues, including (1) the feasibility of using vibratory piles versus driven piles and the locations of the piles as part of the foundations for the intakes and structures at the Bethany Complex; (2) the need for ground improvement to reduce the risk of liquefaction or to improve soil strength to avoid conditions such as settlement or lateral spreading; (3) the need for groundwater dewatering to provide a drier area during construction at elevations below existing ground surface; and (4) depth of cutoff walls at the intakes and Bethany Reservoir Surge Basin. Without such geotechnical investigations, design criteria could be overly conservative and could result in more construction disturbance than is actually needed (i.e., increased truck trips, noise, GHG emissions or air quality impacts). For example, without geotechnical investigations, a conservative approach would be to assume that piles need to be driven. However, if geotechnical investigation results indicate that the soils where the piles would be installed are not dense or very hard soils or are gravels, vibratory piles would be considered.

4.3.1.4 G P1 (b)(4) Detailed Findings

As described in *Delta Plan* Policy G P1 (b)(4), Incorporation of Adaptive Management, this policy covers ecosystem restoration and water management covered actions. This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here is not an ecosystem restoration or water management project. The 2024–2026 Proposed Geotechnical Activities are temporary data collection activities that would inform planning and design of the Delta Conveyance Project.

4.3.1.5 G P1 (c) Detailed Findings

As described in *Delta Plan* Policy G P1 (c), Conservation Measure, this policy covers a conservation measure proposed to be implemented pursuant to a state natural community conservation plan (NCCP) or a federal habitat conservation plan (HCP). This policy is not applicable to the 2024–2026 Proposed Geotechnical Activities because the proposed action here does not include a conservation measure proposed to be implemented pursuant to an NCCP or HCP.

4.3.2 Conclusion: Step 4 (Article 2 Policies)

As already demonstrated, the 2024–2026 Proposed Geotechnical Activities are consistent with the four general Article 2 subdivisions of DSC's regulations. Furthermore, as explained in the DSC's Covered Action Checklist, where a proposed action does not require further analysis after Step 3, as is the case for the 2024–2026 Proposed Geotechnical Activities, an inconsistency with any of the

four general Article 2 subdivisions of DSC's regulations would not, by itself, render a certification of consistency inadequate.[20]

[20] Cal. Code Regs., tit. 23, § 5002(a). Inconsistency with this policy is a basis for an appeal only if the proposed action "is covered by one or more of the regulatory policies contained in Article 3."

Chapter 5
Conclusion

As the findings discussed here show, the 2024–2026 Proposed Geotechnical Activities are consistent with the *Delta Plan* for two independent reasons. First, with only temporary impacts in discrete locations, the 2024–2026 Proposed Geotechnical Activities will have no impact on the achievement of one or both of the coequal goals or on the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta. Second, the 2024–2026 Proposed Geotechnical Activities are not covered by one or more of the regulatory Delta Plan policies contained in Article 3 provisions of the Delta Stewardship Council's regulations. In addition, the 2024–2026 Proposed Geotechnical Activities are consistent with the four general Article 2 subdivisions of DSC's regulations. Accordingly, DWR submits this certification of consistency for the 2024–2026 Proposed Geotechnical Activities.

Chapter 6
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Attachment 1
Covered Action Checklist

Covered Actions Checklist

This checklist is a discretionary tool for state and local agencies to use in determining whether a plan, program, or project is a "Covered Action" (Delta Plan Chapter 2), as defined in the Delta Reform Act (Water Code section 85057.5(a)).

Note: the responsibility for making this determination rests with the certifying agencies, subject to judicial review.

Covered Action Title:

STEP 1: Determine if the plan, program, or project is exempt from the definition of a "covered action".

THE PLAN, PROGRAM OR PROJECT:

1. Is the plan, project, or program exempt from the definition of a covered action?

For specific details on what is statutorily exempt from regulation as a "covered action" refer to:

(Water Code section 85057.5 (b.)), included in (Appendix F of the Delta Plan) and (Chapter 2 of the Delta Plan)

☒ Yes ☐ No

If "YES", the plan, program, or project is exempt from the Council's regulatory authority – NO FURTHER STEPS REQUIRED.

If "NO", the plan, program or project is not exempt from the definition of a covered action – PROCEED TO STEP 2.

STEP 2: Determine if the plan, program, or project meets all four "Screening Criteria" listed below.

THE PLAN, PROGRAM OR PROJECT:

1. Is this a plan, program, or project as defined pursuant to Public Resources Code section 21065;

This criteria would be met if the plan, program, or project meets the definition of a project under the California Environmental Quality Act (CEQA) Public Resources Code section 21065 that defines the term "project" for purposes of potential CEQA review.

☒ Yes ☐ No

2. Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh;

This criteria would be met if, for example, water intended for use upstream of the statutory Delta or Suisun March were transferred through the statutory Delta or Suisun Marsh (pursuant for example, to a water transfer longer than 1 year in duration).

☒ Yes ☐ No

3. Will be carried out, approved, or funded by the State or a local public agency;

This criteria would be met if the plan, program, or project is (a) an activity directly undertaken by any state or local public agency,

(b) An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more state or local public agencies, or (c) An activity that involves the issuance to a person of lease, permit, license, certificate, or other entitlement for use by one or more state or local public agencies.

☒ Yes ☐ No

4. Will have a significant impact on the achievement of one or both of the coequal goals or the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta;

“Significant Impact” means a substantial positive or negative impact on the achievement of one or both of the coequal goals or the implementation of a government-sponsored flood control program to reduce risks to people, property, and state interests in the Delta, that is directly or indirectly caused by a project on its own or when the project’s incremental effect is considered together with the impacts of other closely-related past, present, or reasonably foreseeable future projects. The coequal goals and government-sponsored flood control programs are further defined in Chapters 3, 4, and 7.

The following categories of projects will not have a significant impact for this purpose:

- Ministerial” projects exempted from CEQA, pursuant to Public Resources Code Section 21080(b)(1);
- “Emergency” projects exempted from CEQA, pursuant to Public Resources Code Section 21080(b)(2)-(4);
- Temporary water transfers of up to one year in duration. This provision shall remain in effect only through December 31, 2016, and as of January 1, 2017, is repealed, unless the Council acts to extend the provision prior to that date.;

- Other projects exempted from CEQA, unless there are unusual circumstances indicating a reasonable possibility that the project will have a significant impact under Water Code Section 85057.5(a)(4). Examples of unusual circumstances could arise in connection with, among other things:
    - Local government general plan amendments for the purpose of achieving consistency with the Delta Protection Commission's Land Use and Resource Management Plan; and,
    - Small-scale habitat restoration projects, as referred to in CEQA Guidelines 15333, proposed in important restoration areas, but which are inconsistent with the Delta Plan's policy related to appropriate habitat restoration for a given land elevation.

☐ Yes ☒ No

If "NO" to any in step 2 above, the plan, program, or project, for purposes of the Delta Plan, does not meet the definition of Covered Action, NO FURTHER STEPS REQUIRED.

If "YES" to all four in step 2 above, then the plan, program or project is considered, for purposes of the Delta Plan, a Proposed Action – PROCEED TO STEP 3.

STEP 3: Determine if the Proposed Action is covered by one or more Delta Plan regulatory policies below - the final Screening Criteria.

THE PROPOSED ACTION:

1. Is covered by one or more of the regulatory policies contained in Chapters 3, 4, 5, and 7;

DELTA PLAN CHAPTER 3

WR P1 / Cal. Code Regs., tit. 23, § 5003: This policy covers all Proposed Actions that would export water from, transfer water through, or use water in the Delta, but does not cover any such action unless one or more water suppliers would receive water as a result of the proposed action.

WR P2 / Cal. Code Regs., tit. 23, § 5004: This policy covers all Proposed Actions that involve water supply or water transfer contracts from the State Water Project (SWP) and/or the Central Valley Project (CVP).

DELTA PLAN CHAPTER 4

ER P1 / Cal. Code Regs., tit. 23, § 5005: This policy covers all Proposed Actions that could significantly affect flow in the Delta.

ER P2 / Cal. Code Regs., tit. 23, § 5006: This policy covers all Proposed Actions that include habitat restoration.

ER P3 / Cal. Code Regs,. tit. 23, § 5007: This policy covers all Proposed Actions in the priority habitat restoration areas depicted in Appendix 5. It does not cover actions outside those areas.

ER P4 / Cal. Code Regs,. tit. 23, § 5008: This policy covers all Proposed Actions that would construct new levees or substantially rehabilitate or reconstruct existing levees.

ER P5 / Cal. Code Regs,. tit. 23, § 5009: This policy covers all Proposed Actions that have the reasonable probability of introducing, or improving habitat conditions for nonnative invasive species.

DELTA PLAN CHAPTER 5

DP P1 / Cal. Code Regs,. tit. 23, § 5010: This policy covers all Proposed Actions that involve new residential, commercial, and industrial development that is not located within the areas described in Appendix 6 (page 63) and Appendix 7 (page 81). In addition, this policy covers any such action on Bethel Island that is inconsistent with the Contra Costa County general plan effective as of the date of the Delta Plan's adoption. This policy does not cover commercial recreational visitor-serving uses or facilities for processing of local crops or that provide essential services to local farms, which are otherwise consistent with this chapter.

DP P2 / Cal. Code Regs,. tit. 23, § 5011: This policy covers all Proposed Actions that involve the siting of water management facilities, ecosystem restoration, and flood management infrastructure.

DELTA PLAN CHAPTER 7

RR P1 / Cal. Code Regs,. tit. 23, § 5012: This policy covers all Proposed Actions that involve discretionary State investments in Delta flood risk management, including levee operations, maintenance, and improvements.

RR P2 / Cal. Code Regs,. tit. 23, § 5013: This policy covers all Proposed Actions that involve new residential development of five or more parcels that are not located within the following areas:

(1) Areas that city or county general plans, as of the date of the Delta Plan's adoption, designate for development in cities or their spheres of influence;

(2) Areas within Contra Costa County's 2006 voter-approved urban limit line, except Bethel Island;

(3) Areas within the Mountain House General Plan Community Boundary in San Joaquin County; or

(4) The unincorporated Delta towns of Clarksburg, Courtland, Hood, Locke, Ryde, and Walnut Grove, as shown in Appendix 7 (page 81).

RR P3 / Cal. Code Regs,. tit. 23, § 5014: This policy covers all Proposed Actions that would encroach in a floodway that is not either a designated floodway or regulated stream.

RR P4 / Cal. Code Regs,. tit. 23, § 5015: This policy covers all Proposed Actions that would encroach in any of the floodplain areas described below:

(1) The Yolo Bypass within the Delta;

(2) The Cosumnes River-Mokelumne River Confluence, as defined by the North Delta Flood Control and Ecosystem Restoration Project (McCormack-Williamson), or as modified in the future by the Department of Water Resources or the U.S. Army Corps of Engineers (Department of Water Resources 2010a); and,

(3) The Lower San Joaquin River Floodplain Bypass area, located on the Lower San Joaquin river upstream of Stockton immediately southwest of Paradise Cut on lands both upstream and downstream of the Interstate 5 crossing. This area is described in the Lower San Joaquin River Floodplain Bypass Proposal, submitted to the Department of Water Resources by the partnership of the South Delta Water Agency, the River Islands Development Company, Reclamation District 2062, San Joaquin Resource Conservation District, American Rivers, the American Lands Conservancy, and the Natural Resources Defense Council, March 2011. This area may be modified in the future through the completion of this project.

☐ Yes ☒ No

If "NO" to Step 3 above, the "proposed action" is not covered by any of the Delta Plan regulatory policies above and therefore exempt from the Council's regulatory authority - NO FURTHER STEPS ARE REQUIRED.

If "YES" to Step 3 above, the "proposed action" is covered by one or more of the Delta Plan regulatory policies above and is therefore referred to as a "Covered Action". A Certification of Consistency must be filed with the DSC - PROCEED TO NEXT STEP.

STEP 4: Review Delta Plan general regulatory policy in preparation for filing a Certification of Consistency.

In addition to the above policies, the Delta Plan includes a General Policy with four subdivisions that applies to the entire covered action. Note: policy G P1 does not on its own cause a plan, program, or project to be a covered action.

G P1 / Cal. Code Regs., Tit. 23 SECTION 5002: This policy specifies what must be addressed in a certification of consistency and consists of four subdivisions:

(G P1 (b)(1) Cal. Code Regs., Tit. 23 SECTION 5002 (b), (1)): This subdivision specifies that in some cases, a covered action may be determined to be consistent with the Delta

Plan on the whole, despite inconsistency with individual regulatory policies if the action is consistent with the coequal goals.

G P1 (b) (2) Cal. Code Regs., tit. 23, § 5002, subd. (b)(2).: This subdivision specifies when a covered action must include either applicable, feasible mitigation measures (defined in the Delta Plan's Program EIR section 2.3) or equally effective substitute mitigation measures.

G P1 (b) (3) Cal. Code Regs., tit. 23, § 5002, subd. (b)(3).: This subdivision requires that all covered actions must document use of best available science, as relevant to the purpose and nature of the project.

G P1 (b) (4)Cal. Code Regs., tit. 23, § 5002, subd. (b)(4).This subdivision requires that ecosystem restoration and water management covered actions must include adequate provisions, appropriate to the scope of the covered action, that include: (1) an adaptive management plan consistent with Appendix 1B (page 7) of the Delta Plan; and (2) documentation of access to adequate resources and authority to implement a proposed adaptive management process.

FINAL STEP: File a Certification of Consistency with detailed findings demonstrating consistency with the Delta Plan.

1. Click here to file a Certification of Consistency with the Delta Stewardship Council**, with detailed findings, and a list of the materials constituting the record, demonstrating that the covered action is consistent with the Delta Plan.**

The State or local agency that proposes to undertake a covered action, prior to initiating the implementation of that covered action, is required to file a Certification of Consistency with the Delta Stewardship Council using the online form found on the Delta Stewardship Council's website. Detailed findings, together with a list of the materials relied upon to reach those findings, must be included to demonstrate how the covered action is consistent with all relevant policies of the Delta Plan. The online form prompts the agency for the requirements to be included and may be uploaded to the form. Typically, the lead agency, for purposes of CEQA compliance, will file the Certification of Consistency with the Delta Stewardship Council.

ADDITIONAL CONSIDERATIONS:

Have the project proponent and/or the lead agency consulted with the Delta Stewardship Council on the covered action? (Not required, but recommended)

Consulting with Delta Stewardship Council staff during the early development phases of the covered action is a valuable tool to public agencies in preparing the required Certification of Consistency.

Was the DRAFT Certification of Consistency posted on the Agency website for public review, and were comment and notifications sent prior to submission to the Delta Stewardship Council?

At least 10 days prior to the submission of a Certification of Consistency to the Council, agencies whose actions are not subject to open meeting laws (Bagley-Keene Open Meeting Act [Gov. Code sec 11120 et seq.] or the Brown Act [Gov. Code sec 54950 et seq.]) with regard to its certification must post for public review and comment, their draft certification on their website and in their office, mail to all persons requesting notice, and include any public comments received in the record submitted to the council in the case of an appeal.

Any state or local public agency that is subject to open meeting laws with regard to its certification is encouraged to take those actions as described in Delta Plan Appendix D (Administrative Procedures Governing Appeals, Part 1, para. 3).

Has CEQA been completed at the time of filing a Certification of Consistency with the Delta Stewardship Council?

The timing of filing the Certification of Consistency with the Delta Stewardship Council is project specific but should occur after filing of the Notice of Determination and prior to project implementation. When other permits are required for implementation, project proponents should consult with Council staff on appropriate timing for filing the Certification of Consistency. Filing a Certification of Consistency prior to finalizing the design and operational elements of the project may result in a proposed covered action that is significantly altered through the CEQA or other processes. If, after filing a certificate of consistency, the project is significantly changed, a new Certification of Consistency will need to be filed with the Delta Stewardship Council.

Implementation of the covered action may not proceed until the appeals process is complete.

Once the State or local agency has filed a Certification of Consistency for a covered action, the Certification of Consistency is displayed on the Delta Stewardship Council's website for public view. Water Code 85225.10. (a): Any person who claims that a

proposed covered action is inconsistent with the Delta Plan and, as a result of that inconsistency, the action will have a significant adverse impact on the achievement of one or both of the coequal goals or implementation of government-sponsored flood control programs to reduce risks to people and property in the Delta, may file an appeal within 30 calendar days of the filing of a Certification of Consistency with the Delta Stewardship Council.

If a valid appeal is filed with the Delta Stewardship Council within 30 calendar days of Certification filing, the Council will hear the appeal within 60 days of the filing of the appeal. The Council will adopt written findings, either upholding the appeal or denying it, within 60 days of the hearing. If multiple appeals are filed on the same covered action, the Council may consolidate the appeals into a single hearing (Administrative Procedures Governing Appeals).

Has the state or local agency prepared the record upon which the Certification of Consistency is based?

If the Certification of Consistency is appealed, the certifying agency must submit the complete record that was before the agency at the time it made its Certification of Consistency to the Delta Stewardship Council within 10 days of being notified of the appeal (Administrative Procedures Governing Appeals, Section 4.b). The Delta Stewardship Council encourages the agency to prepare this record prior to filing its Certification of Consistency. Failure to submit the record in a timely manner is grounds for the Council to affirm the appeal (Administrative Procedures Governing Appeals, Section 4.c).

THANK YOU FOR USING THE COVERED ACTIONS CHECKLIST.

YOU MAY SAVE THE CHECKLIST TO YOUR COMPUTER OR PRINT FOR YOUR RECORDS.

Attachment 2

June 20, 2024, Sacramento Superior Court Ruling

FILED
Superior Court of California
County of Sacramento
06/20/2024
M. Lu, Deputy

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SACRAMENTO

TULARE LAKE BASIN WATER STORAGE DISTRICT, **Petitioner,** **v.** **CALIFORNIA DEPARTMENT OF WATER RESOURCES,** **Respondent,** And Related Cases.	Case Nos. 24WM000006 24WM000008 24WM000009 24WM000010 24WM000011 24WM000012 24WM000014 24WM000017 24WM000062 24WM000076 Judge: Stephen Acquisto Dept.: 36

Nature of Proceedings:	**Ruling on Submitted Matter – Petitioners' Motions for Preliminary Injunction**

BACKGROUND

On December 21, 2023, Respondent the California Department of Water Resources approved the Delta Conveyance Project (the DCP) and certified its final environmental impact report (FEIR). The DCP is an expansive water infrastructure project to divert water, through a large tunnel, from the Sacramento River and the Sacramento-San Joaquin Delta. The DCP aims to improve the reliability and resiliency of the State Water Project, the existing infrastructure that delivers drinking water to millions of Californians. Following its approval, several writ petitions were filed challenging the DCP and the FEIR under the California Environmental Quality Act (CEQA), the Water Code, and other laws. There are now ten such related cases pending before this Court.

The Department intends to undertake geotechnical investigations prior to construction. According to Chapter 3 of the FEIR, titled "Description of the Proposed Project and Alternatives," the geotechnical investigations will "identify geotechnical, hydrogeologic, agronomic, and other field conditions that will guide appropriate construction methods and monitoring programs for final engineering design and construction." (Baykeeper RJN, Ex. A, p.

3-2.) The Notice of Determination for the DCP, which provided notification that the Department had approved the DCP, describes such geotechnical work as part of the "key components and actions" of the project. (*Id.*, Ex. B, Attachment 2.) The geotechnical work includes the following:

- soil borings up to 250 feet deep;
- installation of test wells;
- installation of an array of electrodes to perform electrical resistivity tomography;
- installation of in-river cofferdams;
- installation of metal survey monuments; and
- excavation of test trenches up to 1,000 feet long, 3 feet wide, 20 feet deep.

(Resp. RJN, Ex. 1, § 3.15.2; Marquez Decl., Ex. B, p. 4 [describing depth of soil borings].)

Petitioners in five of the related cases (case nos. 24WM000009, 24WM000010, 24WM000012, 24WM000014, and 24WM000017) filed motions for preliminary injunction seeking to enjoin the Department from undertaking this geotechnical work in the Delta. Petitioners contend that before beginning, the Department must first self-certify that the DCP is consistent with the Delta Plan as required by the Sacramento-San Joaquin Delta Reform Act of 2009 ("Delta Reform Act"), set forth in Water Code section 85000, et seq. On May 31, 2024, the Court held a hearing on the motions, heard argument from counsel, and took the matter under submission. Having now considered the parties' filings and oral arguments, the Court renders this decision granting the motions.

DISCUSSION

I. Preliminary Matters

A. Requests for Judicial Notice

County of Sacramento, et al. (24WM000014), San Francisco Baykeeper, et al. (24WM000017), and the Department each filed an unopposed request for judicial notice for various documents including different parts of the FEIR, the Notice of Determination for the project approval, and documents published by the Delta Stewardship Council. Each request is granted. (Evid. Code, § 452, subds. (c), (h).)

B. Evidentiary Objections

In its opposition to the motions, the Department filed objections to evidence submitted by Petitioners. In their replies, City of Stockton (24WM000009), County of San Joaquin, et al.

(24WM000010), County of Sacramento, et al. (24WM000014), each filed objections to evidence submitted by the Department. The Court is issuing rulings on these objections separately.

II. Merits

A preliminary injunction is an "order that is sought by a plaintiff prior to a full adjudication of the merits of its claim." (*Marken v. Santa Monica-Malibu Unified School Dist.* (2012) 202 Cal.App.4th 1250, 1260.) "Trial courts evaluate two interrelated factors when deciding whether or not to issue a preliminary injunction. The first is the likelihood that the plaintiff will prevail on the merits at trial. The second is the interim harm that the plaintiff is likely to sustain if the injunction were denied as compared to the harm that the defendant is likely to suffer if the preliminary injunction were issued." (*Amgen Inc. v. California Correctional Health Care Services* (2020) 47 Cal.App.5th 716, 731.) "The potential merit and interim harm are described as *interrelated* factors because the greater the plaintiff's showing on one, the less must be shown on the other to obtain an injunction." (*Tulare Lake Canal Company v. Stratford Public Utility District* (2023) 92 Cal.App.5th 380, 396-397.)

A. Petitioners' Likelihood of Success on the Merits

All of the motions raise a single identical issue with respect to likelihood of success on the merits—the Department's compliance with the Delta Reform Act. Petitioners contend that the Department's plan to undertake geotechnical investigations prior to certifying the DCP as consistent with the Delta Plan violates Water Code section 85225, which requires such certification "prior to initiating the implementation" of a "covered action."

In opposition, the Department argues that the geotechnical investigations do not trigger the certification requirement under section 85225, because they constitute planning and design activities needed to finalize the DCP's design, which do not amount to "implementation" of the "covered action." The Department argues that Petitioners' interpretation is unworkable, claiming that it is afraid that, even though it has completed all of the in-depth studies, analysis, and specificity required under CEQA, it does not yet have enough information to self-certify that the DCP is consistent with the Delta Plan. The Department argues it will not be able to prepare such a certification until it has completed the geotechnical work.

The question before the Court is an issue of statutory interpretation. The courts' primary task in statutory interpretation is "to determine the lawmakers' intent." (*Henson v. C. Overaa & Co.* (2015) 238 Cal.App.4th 184, 193.) "Where the statutory language is clear and unambiguous,

that language controls and there is no need for judicial construction." (*Ibid.*) But courts must "construe the words of the statute in context, keeping in mind the statutory purpose," and "will not follow the plain meaning of the statute" when doing so would frustrate "the manifest purposes of the legislation as a whole or [lead] to absurd results." (*Ibid.*)

The Delta Reform Act establishes a self-certification process for agencies to demonstrate that projects in the Delta are consistent with the Delta Plan. Specifically, Water Code section 85225 provides: "A state or local public agency that proposes to undertake a covered action, *prior to initiating the implementation of that covered action*, *shall prepare a written certification of consistency* with detailed findings as to whether the covered action is consistent with the Delta Plan and shall submit that certification to the [Delta Stewardship C]ouncil." (Wat. Code, § 85225 [emphasis added].) "Covered action" is defined as a "plan, program, or *project as defined pursuant to Section 21065 of the Public Resources Code* that meets" a number of conditions, including that the action "[w]ill have a significant impact on achievement of one or both of the coequal goals" of the Delta Plan.[1] (*Id.*, § 85057.5, subd. (a) [emphasis added].) Public Resources Code section 21065 is a CEQA provision that defines "project" as "an activity directly undertaken by any public agency," "*which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment*[.]" (Pub. Resources Code, § 21065, subd. (a) [emphasis added].) Thus, the Legislature defined "covered action" to mean "project" as defined under CEQA.

The Department defined the DCP to include the geotechnical work at issue here. The FEIR analyzed the geotechnical work as part of the project (Baykeeper RJN, Ex. A, pp. 3-2, 3-134 to 3-141), and the Notice of Determination described it as a "key component" of the project (*Id.*, Ex. B, Attachment 2). Because the geotechnical work is part of the "project" within the meaning of CEQA, it is necessarily part of a "covered action" within the meaning of Water Code section 85225.

1. *Petitioners' Statutory Interpretation*

Petitioners' argument in support of their preliminary injunction motions is premised on a straightforward reading of the statutes cited above. They contend that because the DCP is a project that qualifies as a "covered action" under the Delta Reform Act, and because the

[1] The coequal goals of the Delta Plan are "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem." (Wat. Code, § 85054.)

geotechnical work at issue here is a component of the DCP, the plain language of section 85225 requires the Department to prepare a certification of consistency prior to initiating the implementation of the DCP, including its geotechnical component.

Moreover, this interpretation would give effect to the apparent purpose of the certification-of-consistency requirement. Boring holes 250 feet deep and digging trenches 1000 feet long, 20 feet deep, and 3 feet wide, for example, certainly appear to be the type of activity that would cause "physical change in the environment" (as provided in Public Resources Code section 21065) and have "a significant impact on achievement of one or both of the coequal goals" of the Delta Plan (as provided in Water Code section 85057.5, subdivision (a)(4) as part of the definition of "covered action"). When there are proposed activities that would likely cause a physical change to the Delta's environment and significantly impact the Delta's ecology or California's water supply, it seems reasonably clear that our Legislature wanted consistency with the Delta Reform Act to be certified *before* those activities are implemented. Thus, requiring the Department to prepare a certification of consistency before undertaking the geotechnical work appears consistent with both the letter and intent of the Delta Reform Act.

2. *The Department's Statutory Interpretation*

In opposition, the Department acknowledges that the DCP qualifies as a "covered action" under Water Code section 85057.5, and that it will need eventually to prepare a certification of consistency. The Department argues, however, that even though the geotechnical activities are included as part of the project in the FEIR for CEQA purposes, "implementation" under Water Code section 85225 should not be read to encompass the geotechnical work at issue here because they are "preliminary activities" that merely serve to inform the final design.

But this argument ignores that "implementation" relates to "covered action," which is defined as consisting of the "project" under CEQA, and the CEQA project in this case includes the geotechnical investigations. The Department offers no case law or other legal support for its position that it should be allowed to define "covered action" more narrowly than section 85057.5 defines that term. Just because the purpose of the geotechnical work is to gather information to aid in making the final design decisions, does not mean that it is not a component of the project that requires implementation. The geotechnical work, just like the ultimate project construction, will likely have an impact on the environment in the Delta that not only requires CEQA review and approval but also certification of consistency with the Delta Plan. The Department's

interpretation would require the Court to ignore the plain language of the Delta Reform Act and create a new exemption for the DCP. The Court has no such authority.

3. *The Department's Reliance on the Council's Covered Action Checklist*

Next, the Department cites to the "Covered Action Checklist," which is an informational tool the Council created to help state and local agencies determine if a plan, program, or project is a "covered action" as defined in the Delta Reform Act. (Resp.'s Opp. Br., p. 17:14-22.) Notably, the Department cites to the explanatory text under one of the checklist questions *but omits the question itself*. (*Ibid*.; Henderson Decl., Ex. B, p. 234.) The question the Department fails to acknowledge or answer is set forth in the Checklist in bold type as follows: "**Has CEQA been completed at the time of filing a Certification of Consistency with the Delta Stewardship Council?**" (Henderson Decl., Ex. B, p. 234.) The answer here is clearly yes, which indicates that this particular factor would serve to undermine the Department's argument that it is premature to file a certification of consistency.

Having ignored the question, the Department focuses on the explanatory text below the question, quoted here with the emphasis included in the Department's brief:

> *When other permits are required* for implementation, project proponents should consult with Council staff on appropriate timing for filing the Certification of Consistency. Filing a Certification of Consistency *prior to finalizing the design* and operational elements of the project may result in a proposed covered action that is significantly altered through the CEQA or other processes. *If, after filing a certificate of consistency, the project is significantly changed, a new Certification of Consistency will need to be filed* with the Delta Stewardship Council.

(Resp.'s Opp. Br., p. 17:18-22.)

It is unclear why the Department chose to emphasize the language stating, "when other permits are required," because the Department does not discuss in its opposition brief any additional permits that are required, or how the outcome of the geotechnical work would potentially affect its ability to secure any such permits. The Department seems to focus on the part of the excerpt that refers to filing the certification "*prior to finalizing the design*" of the project. But when read in the context of the overarching question, the explanatory language appears to simply caution project proponents against filing a certificate of consistency prior to finalizing the project's design and operational elements *under CEQA*. Again, the DCP's design and operational elements have been finalized sufficiently under CEQA. It is also unclear why the Department emphasized, *"if, after filing a certificate of consistency, the project is*

significantly changed, a new Certification … will need to be filed," because the Department does not explain how the geotechnical work at issue here could significantly change the project especially now that the FEIR has been certified.[2]

4. *The Department's Claimed Compliance with Water Code Section 85225.5*

The Department cites to section 85225.5 to argue that it is in compliance with its obligations by engaging in "early consultation" with the Council. (Resp.'s Opp. Br., p. 16:20-24.) Section 85255.5, however, does not impose any obligations on lead agencies such as the Department. Rather, the section directs and authorizes the Council, in order to assist lead agencies in preparing the required certification, to develop procedures for early consultation with the Council on the proposed covered action. The fact that the Council possesses the authority to develop procedures for early consultation has no bearing on whether the geotechnical investigations are part of a "covered action." Neither does the Department's early consultation with the Council. The Department's argument in opposition is not aided by claiming compliance with a statute that imposes no obligations on it. The only notable observation the Court makes from the Department's citation to this authorizing statute is that the Council has not issued any regulations supporting the Department's narrow interpretation of sections 85057.5 and 85225.

5. *The Department's Attempt to Extract Designing Activities from "Covered Actions"*

Citing to Water Code section 85052 and section 5001 of the Council's implementing regulations, the Department argues that the Delta Reform Act treats "planning" and "designing" activities (which it argues include the geotechnical work in the DCP) as distinct from "construction" and "implementation," and that such activities are not meant to be considered part of the implementation of the covered action. (Resp.'s Opp. Br., pp. 20:23–21:6.) The Department misreads these provisions. Both Water Code section 85052 and regulation section 5001 contain the identical definition of "*adaptive management*" as meaning "a framework and flexible decisionmaking process for ongoing knowledge acquisition, monitoring, and evaluation

[2] The declaration of Graham Bradner, submitted by the Department in support of its opposition, explains that the geotechnical work will gather additional information that will refine, and, if necessary, modify project feature layouts and configurations. (Bradner Decl., p. 5.) Neither the declaration nor the Department's opposition brief, however, assert or explain how any potential adjustments could be of such magnitude to constitute a significant change to the project. For example, the Department does not contend that the project's location, scope, or operational components could change significantly based on the outcome of the geotechnical work.

leading to continuous improvement in *management planning and implementation* of a project to achieve specified objectives." (Wat. Code, § 85052; Cal. Code Regs., tit. 23, § 5001, subd. (a).) In this context, "management planning and implementation" clearly refers to the *post-completion* implementation phase of a project. Thus, the use of the word "planning" in this provision refers to the planning that occurs *after* a certification of consistency has been filed, *after* the project has been constructed, and during the time period in which the completed project is in operation.

Yet, the Department takes the word "planning" out of this context, and argues that these sections support the notion that the pre-construction planning phase of a project is not part of the "covered action." This argument does not withstand scrutiny. Similarly, the Department's attempt to draw support from the reference in section 85089 to "[t]he costs of the environmental review, planning, design, construction, and mitigation" is also unpersuasive. These statutes, which use these terms in different contexts, do not stand for the proposition that the extensive geotechnical work that the Department included in the DCP's project description in the FEIR should now be excised from the project definition under the Delta Reform Act simply because they serve a planning and design function.

6. *The Department's Reliance on the Mitigation Monitoring and Reporting Program*

The Department also points to language in the Mitigation Monitoring and Reporting Program ("MMRP"), which the Council adopted in April 2018 to ensure compliance with the mitigation measures established in the recent amendments to the Delta Plan. (Resp.'s Opp. Br., p. 18:8-27.) The MMRP includes in, Table 1, the mitigation measures identified in the 2018 Delta Plan Amendments Program EIR and, in Table 2, the mitigation measures identified in the 2013 Delta Plan Program EIR. Lead agencies of covered actions are required to implement the mitigation measures in these tables. Specifically, the Department points to a portion of mitigation measure 11-1, which states, "Lead agencies shall ensure that *geotechnical design recommendations* are included in the design of facilities and construction specifications to minimize the potential impacts from seismic events and the presence of adverse soil conditions. Recommended measures to address adverse conditions shall conform to applicable design codes, guidelines, and standards." (Resp.'s Opp. Br., p. 18:16-18 [with Dept.'s emphasis]; Henderson Decl., Ex. A, p. 197.)

Contrary to the Department's position, this mitigation measure can reasonably be interpreted as requiring that the agency *certify* that the facility designs and construction

specifications *will include* geotechnical design recommendations, rather specifying the actual geotechnical recommendations themselves. Such an interpretation is consistent with a plain reading of both mitigation measure 11-1 and the self-certification requirement of section 85225. And importantly, such an interpretation would not pose any obstacle to the Department's ability to prepare a certification of consistency prior to undertaking the geotechnical work now that the FEIR has been certified.

In fact, the FEIR in Appendix 3E, entitled, *Delta Reform Act Considerations*, spends 21 pages discussing the Delta Reform Act and how the DCP serves the Act's policies. (Buckman Decl., Ex. A, Appendix 3E.) The FEIR explains that the DCP "is consistent with and furthers the achievement of the coequal goals [of the Delta Reform Act] by providing water supply resilience needed to address seismic risks, sea level rise, and other reasonably foreseeable consequences of climate change and extreme weather events. [The DCP] will have a substantial positive impact on achievement of the coequal goals in a manner consistent with state policy." (*Id.*, p. 5:1-6.) The FEIR further explains the Department would be able to certify "any of the project alternatives," and includes Table 3E-1, spanning 11 pages, which addresses how the DCP project alternatives would be consistent with each of the Delta Reform Act's specific policies. (*Id.*, pp. 7-17.) The FEIR also includes detailed analyses of the DCP's environmental impacts on the Delta, explaining that, "[t]o the extent that the [DCP] will cause potentially significant impacts on the physical environment, such environmental impacts are disclosed and analyzed in the EIR and, where feasible, mitigation measures have been proposed. The practical effect of many of the mitigation measures and environmental commitments is to protect Delta values." (*Id.*, p. 20:1-9.)

The Department essentially argues that, even though the FEIR includes Appendix 3E as well as numerous studies and discussions relevant to showing consistency with the Delta Plan, it needs *even more* information before it would be able to self-certify consistency. It seems that in the Department's view, anything less than fully finalized designs will not suffice. The problem with this argument is that neither the applicable statutes nor the regulations indicate this level of detail is required. Thus, the Court is not persuaded that the Department needs more information than what it already has, or that it will be "caught in a catch-22 paradox" if it is required to self-certification consistency prior to undertaking the geotechnical work. (See Resp. Opp. Br., p. 19:23–20:3.) While the Court is certainly not ruling that the Department's not-yet-prepared

certification will be satisfactory, the Court sees no reason why the Department is not currently in position to prepare a satisfactory certification, supported by the relevant studies, data, explanations, and project specifications that are ostensibly included in the certified FEIR.

The Court rejects the interpretation of this mitigation measure as requiring that geotechnical work be conducted *prior to* certification for a few reasons. First, this interpretation is not clear from the language of the mitigation measure itself, as just discussed. Second, to read this mitigation measure as requiring that the lead agency conduct geotechnical work (which is part of the covered action) prior to preparing the certification of consistency would conflict with the plain language of section 85225. Third, such an interpretation would contravene the apparent purpose of the certification requirement given that the extensive geotechnical work at issue here, will likely—*on its own*—have a physical impact on the Delta's ecosystem. Given the apparent environmental impact of this geotechnical work, it makes sense that the Department certify that it is consistent with the Delta Plan *before*, rather than after, it is conducted.

B. Likelihood of Respective Harms to Petitioners and the Department

The next step in the analysis is the comparison of interim harms resulting from the granting or denying of the requested preliminary injunction. Petitioners claim a number of harms, including (1) the procedural harm of not being able to appeal the Department's certification under section 85225 until *after* the end of geotechnical investigations, (2) potential harm to living and buried tribal cultural resources in the Delta, and (3) physical harm to real property. The Department cites the following harms that would result from a preliminary injunction enjoining geotechnical investigations: (1) contractual penalties of up to $160,000 that the Department would have to pay to geotechnical consultants, (2) higher project costs resulting from delay due to inflation and additional overhead costs, and (3) the higher risk of harm to the state's water supply from a natural disaster.

Given the plain statutory language, Petitioners have established a strong likelihood of success on the merits on the mostly legal question of whether certification under Water Code section 85225 is required prior to the geotechnical investigations. As such, a minimal showing of likelihood of harm is sufficient to justify the issuance of a preliminary injunction. The Court finds that the procedural harm of being denied the opportunity to appeal the Department's certification prior to the completion of geotechnical investigations is sufficient to justify the issuance of a preliminary injunction.

C. Whether the Petitions' Allegations Preclude Issuance of a Preliminary Injunction

The Department argues that Petitioners nonetheless cannot receive injunctive relief because of deficiencies in their petitions. The Court disagrees.

With respect to County of Sacramento, et al., (24WM000014), Sacramento Area Sewer District (24WM000012), and City of Stockton (24WM000009), the Department argues that they are not entitled to injunctive relief because they did not specifically request injunctive relief in connection with their Delta Reform Act causes of action. With respect to County of San Joaquin, et al. (24WM000010), the Department argues that the petition is deficient because although the petition seeks an injunction with respect to the Delta Reform Act claim, it only seeks to enjoin the Department from "constructing or operating" the DCP, which will not happen for many years to come.

A preliminary injunction, though, is available as a "provisional or auxiliary remedy to preserve the status quo until a final judgment," even where "the main action seeks another remedy." (*Southern Christian Leadership Conference v. Al Malaikah Auditorium Co*. (1991) 230 Cal.App.3d 207, 223 [preliminary injunction available even where the complaint seeks damages on breach of contract]; compare Code Civ. Proc., § 526, subd. (a)(1) with subd. (a)(3).) The preliminary injunction sought in these motions would be appropriately issued to maintain the status quo with respect to the Delta Reform Act claims even if the respective petitions do not contain a prayer for the same injunctive relief.

With respect to San Francisco Baykeeper, et al. (24WM000017), the Department argues that the petition impermissibly seeks to enjoin the Department from making its discretionary decision with respect to consistency with the Delta Plan. The Court disagrees. The petition only seeks an injunction to restrain the Department from implementing the DCP without first certifying it in violation of Water Code section 85225. (Baykeeper Pet. ¶¶ 280-281, 284.) It does not seek to impermissibly enjoin the Department from exercising its discretion. Rather, it seeks to ensure that the Department, should it decide to implement the DCP, perform its mandatory duty of certifying the DCP under section 85225 before implementation.

CONCLUSION

The motions for preliminary injunction are granted. The geotechnical work at issue here is part of the covered action, which requires certification of consistency with the Delta Plan before it is implemented. The Department is, therefore, enjoined from undertaking the

geotechnical work described in Chapter 3 of the FEIR prior to completion of the certification procedure that the Delta Reform Act requires.

* * *

This minute order is effective immediately. No formal order or other notice is required. (Code Civ. Proc., § 1019.5; Cal. Rules of Court, rule 3.1312.)

Attachment 3
Record Index

Delta Conveyance Project: Certification of Consistency for 2024-2026 Proposed Geotechnical Activities
Record Index

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	D1	Delta Conveyance Project Final Environmental Impact Report
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	X2	Delta Conveyance Project: Certification of Consistency for 2024-2026 Proposed Geotechnical Activities References

A. Delta Conveyance Project Notice of Determination

File Name	Document Date	Document Description	Author/Prepared By
DCP.A.1.00001.pdf	12/21/2023	Notice of Determination	California Department of Water Resources

B. Delta Conveyance Project Approval Resolutions

File Name	Document Date	Document Description	Author/Prepared By
DCP.B.1.00001.pdf	12/21/2023	Decisions Regarding the Delta Conveyance Project Final Environmental Impact Report	California Department of Water Resources

C. Delta Conveyance Project CEQA Findings; Statement of Overriding Considerations

File Name	Document Date	Document Description	Author/Prepared By
DCP.C.1.00001.pdf	12/21/2023	Delta Conveyance Project Findings of Fact and Statement of Overriding Considerations	California Department of Water Resources
DCP.C.1.00002.pdf	12/21/2023	Delta Conveyance Project Mitigation Monitoring and Reporting Program	California Department of Water Resources

D.1 Delta Conveyance Project Final Environmental Impact Report

File Name	Document Date	Document Description	Author/Prepared By
1. Final Environmental Impact Report			
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DCP.D1.1.00001.pdf	12/21/2023	Cover Page	California Department of Water Resources
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DCP.D1.1.00037.pdf	12/21/2023	Appendix 5A, Modeling Technical Appendix Hydrology and System Operations Model, Section B, Attachment 2 - CalSim 3 Regulatory Assumptions and State Water Project/Central Valley Project Operations Criteria	California Department of Water Resources
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DCP.D1.1.00039.pdf	12/21/2023	Appendix 5A, Modeling Technical Appendix Hydrology and System Operations Model, Section B, Attachment 4 - Climate Change Development for Delta Conveyance Project	California Department of Water Resources
DCP.D1.1.00040.pdf	12/21/2023	Appendix 5A, Modeling Technical Appendix Hydrology and System Operations Model, Section B, Attachment 5 - CalSim 3 Model Results for No Project Alternative and Alternatives at 2040	California Department of Water Resources
DCP.D1.1.00041.pdf	12/21/2023	Appendix 5A, Section C Modeling Technical Appendix – One-Dimensional Delta Hydrodynamics and Water Quality Modeling Results	California Department of Water Resources
DCP.D1.1.00042.pdf	12/21/2023	Appendix 5A, Modeling Technical Appendix One Dimensional Delta Hydrodynamics and Water Quality Model, Section C, Attachment 1 - DSM2 Model Results for Existing Conditions and Alternatives at 2020	California Department of Water Resources
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Table 4-1. Federal Agencies, Federal Elected Officials, and Tribal Governments			
DCP.D1.1.00240.pdf	12/21/2023	Table 4-1. Federal Agencies, Federal Elected Officials, and Tribal Governments	California Department of Water Resources
Table 4-2. State Agencies and Elected Officials			
DCP.D1.1.00241.pdf	12/21/2023	Table 4-2. State Agencies and Elected Officials (32-533)	California Department of Water Resources
DCP.D1.1.00242.pdf	12/21/2023	Table 4-2. State Agencies and Elected Officials (534)	California Department of Water Resources
DCP.D1.1.00243.pdf	12/21/2023	Table 4-2. State Agencies and Elected Officials (568-722)	California Department of Water Resources
Table 4-3. Local/Regional Agencies and Elected Officials			
DCP.D1.1.00244.pdf	12/21/2023	Table 4-3. Local/Regional Agencies and Elected Officials (1-495)	California Department of Water Resources
DCP.D1.1.00245.pdf	12/21/2023	Table 4-3. Local/Regional Agencies and Elected Officials (497-523)	California Department of Water Resources

DCP.D1.1.00246.pdf	12/21/2023	Table 4-3. Local/Regional Agencies and Elected Officials (525-536)	California Department of Water Resources
DCP.D1.1.00247.pdf	12/21/2023	Table 4-3. Local/Regional Agencies and Elected Officials (538-557)	California Department of Water Resources
DCP.D1.1.00248.pdf	12/21/2023	Table 4-3. Local/Regional Agencies and Elected Officials (588-732)	California Department of Water Resources
Table 4-4. Nongovernmental Organizations, Businesses, Conservation Groups, Unidentified Organizations, Etc.			
DCP.D1.1.00249.pdf	12/21/2023	Table 4-4. Nongovernmental Organizations, Businesses, Conservation Groups, Unidentified Organizations, Etc. (2-401)	California Department of Water Resources
DCP.D1.1.00250.pdf	12/21/2023	Table 4-4. Nongovernmental Organizations, Businesses, Conservation Groups, Unidentified Organizations, Etc. (413-491)	California Department of Water Resources
DCP.D1.1.00251.pdf	12/21/2023	Table 4-4. Nongovernmental Organizations, Businesses, Conservation Groups, Unidentified Organizations, Etc. (501-559)	California Department of Water Resources
DCP.D1.1.00252.pdf	12/21/2023	Table 4-4. Nongovernmental Organizations, Businesses, Conservation Groups, Unidentified Organizations, Etc. (560-734)	California Department of Water Resources
Table 4-5. Individuals and Form Letter Submissions and Petition Signatories			
DCP.D1.1.00253.pdf	12/21/2023	Table 4-5. Individuals and Form Letter Submissions and Petition Signatories	California Department of Water Resources
Chapter 4: References Cited			
DCP.D1.1.00254.pdf	12/21/2023	References Cited	California Department of Water Resources

D.4 Delta Conveyance Project Engineering Technical Memoranda

File Name	Document Date	Document Description	Author/Prepared By
1. Engineering Project Report Technical Memoranda			
Central/Eastern			
DCP.D4.1.00061.pdf	5/1/2022	Potential Future Field Investigations - Central and Eastern Corridor Options	Delta Conveyance Design and Construction Authority
Bethany			
DCP.D4.1.00107.pdf	5/1/2022	Potential Future Field Investigations – Bethany Reservoir Alternative	Delta Conveyance Design and Construction Authority

X1. Soil Investigations for Data Collection in the Delta IS/MND

File Name	Document Date	Document Description	Author/Prepared By
Draft IS/MND			
Draft IS/MND			
DCP.X1.1.00001.pdf	11/20/2019	Soil Investigations for Data Collection in the Delta Initial Study Proposed Mitigated Negative Declaration	California Department of Water Resources
Draft IS/MND Notices/Letters/Educational Materials			
Notice of Intent			
DCP.X1.1.00002.pdf	11/22/2019	Revised Notice of Intent to Adopt a Mitigated Negative Declaration (Comment Period through January 15, 2019)	California Department of Water Resources
Final IS/MND			
Notice of Determination			
DCP.X1.1.00003.pdf	7/9/2020	Notice of Determination for the IS/MND for Soil Investigations for Data Collection in the Delta	California Department of Water Resources
Final IS/MND			
DCP.X1.1.00004.pdf	7/9/2020	Soil Investigations for Data Collection in the Delta Final Initial Study Mitigated Negative Declaration SCH# 2019119073	California Department of Water Resources
IS/MND Addendum			
Addendum Notice of Determination			
DCP.X1.1.00005.pdf	2/19/2021	Addendum to the IS/MND for Soil Investigations for Data Collection in the Delta	California Department of Water Resources
Final IS/MND Addendum			
DCP.X1.1.00006.pdf	2/19/2021	Addendum to the Initial Study/Mitigated Negative Declaration for Soil Investigations for Data Collection in the Delta	California Department of Water Resources
Addendum Notice of Determination			
DCP.X1.1.00007.pdf	6/30/2022	Addendum to the IS/MND for Soil Investigations for Data Collection in the Delta	California Department of Water Resources
Final IS/MND Addendum			
DCP.X1.1.00008.pdf	6/30/2022	Addendum to the Initial Study/Mitigated Negative Declaration for Soil Investigations for Data Collection in the Delta	California Department of Water Resources
Mitigation Monitoring and Reporting Program Documents			
Mitigation Monitoring and Reporting Program			
DCP.X1.1.00009.pdf	7/1/2020	Soil Investigations for Data Collection in the Delta Mitigation and Monitoring Reporting Plan (MMRP)	California Department of Water Resources
Modified Mitigation Monitoring and Reporting Program Notice of Determination			
DCP.X1.1.00010.pdf	1/9/2023	Modifications to the MMRP for the CEQA IS/MND for Soil Investigations for Data Collection in the Delta	California Department of Water Resources
Modified Mitigation Monitoring and Reporting Program			
DCP.X1.1.00011.pdf	1/9/2023	Modifications to the Mitigation Monitoring and Reporting Program for the Soil Investigations for Data Collection in the Delta Project	California Department of Water Resources
Resolution of CEQA Litigation			
DCP.X1.1.00012.pdf	12/2/2022	Soil Investigations for Data Collection in the Delta IS/MND: Ruling on Submitted Matter re: Petition for Writ of Mandate	Superior Court of California, County of Sacramento
DCP.X1.1.00013.pdf	5/5/2023	Soil Investigations for Data Collection in the Delta IS/MND: Ruling on Motion for Return to Court to Discharge Peremptory Writ and Dismiss the Case	California Department of Water Resources
DCP.X1.1.00014.pdf	2/27/2024	Soil Investigations for Data Collection in the Delta IS/MND: Notice re: Appellants' Dismissal of their Appeal from the Ruling on Motion for Return to Court to Discharge Peremptory Writ and Dismiss the Case	California Department of Water Resources

X2. Delta Conveyance Project: Certification of Consistency for 2024-2026 Proposed Geotechnical Activities

File Name	Document Date	Document Description	Author/Prepared By
Delta Conveyance Project: Draft Certification of Consistency for 2024-2026 Proposed Geotechnical Activities			
DCP.X2.1.00001.pdf	9/27/2024	Delta Conveyance Project: Draft Certification of Consistency for 2024-2026 Proposed Geotechnical Activities	California Department of Water Resources
DCP.X2.1.00002.pdf	9/27/2024	Attachment 1. Covered Actions Checklist	California Department of Water Resources
DCP.X2.1.00003.pdf	9/27/2024	Attachment 2. June 20, 2024, Court Ruling	Superior Court of California, County of Sacramento
DCP.X2.1.00019.pdf	9/27/2024	Attachment 3. Draft Record Index	California Department of Water Resources
DCP.X2.1.00004.pdf	9/27/2024	Attachment 4. Memo: 2024-2026 Proposed Geotechnical Activities – Evaluation of Consistency with Delta Conveyance Project's Final EIR	California Department of Water Resources
DCP.X2.1.00005.pdf	9/27/2024	Attachment 5. 2024-2026 Preconstruction Field Investigation Environmental Compliance Monitoring Plan (Final Draft)	California Department of Water Resources
Delta Conveyance Project: Final Certification of Consistency for 2024-2026 Proposed Geotechnical Activities			
DCP.X2.1.00020.pdf	10/8/2024	Delta Conveyance Project: Final Certification of Consistency for 2024-2026 Proposed Geotechnical Activities	California Department of Water Resources
DCP.X2.1.00002.pdf	9/27/2024	Attachment 1. Covered Actions Checklist	California Department of Water Resources
DCP.X2.1.00003.pdf	9/27/2024	Attachment 2. June 20, 2024, Court Ruling	Superior Court of California, County of Sacramento
DCP.X2.1.00021.pdf	10/8/2024	Attachment 3. Record Index	California Department of Water Resources
DCP.X2.1.00004.pdf	9/27/2024	Attachment 4. Memo: 2024-2026 Proposed Geotechnical Activities – Evaluation of Consistency with Delta Conveyance Project's Final EIR	California Department of Water Resources
DCP.X2.1.00005.pdf	9/27/2024	Attachment 5. 2024-2026 Preconstruction Field Investigation Environmental Compliance Monitoring Plan (Final Draft)	California Department of Water Resources
DCP.X2.1.00022.pdf	10/8/2024	Cover Letter for Certification	California Department of Water Resources
References Cited			
DCP.X2.1.00006.pdf	8/7/2020	Recommended Practice No. 17R-97, Cost Estimate Classification System	AACE International
DCP.X2.1.00007.pdf	3/1/2021	Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-22)	American Society of Civil Engineers
DCP.X2.1.00008.pdf	12/12/2012	Banning Ranch Conservancy v. City of Newport Beach	Court of Appeal, Fourth District, Division 3, California
DCP.D1.1.00010.pdf	12/21/2023	Final Environmental Impact Report for the Delta Conveyance Project, Volume 1, Chapter 3: Description of the Proposed Project and Alternatives.	California Department of Water Resources
DCP.D1.1.00012.pdf	12/21/2023	Final Environmental Impact Report for the Delta Conveyance Project, Volume 1, Appendix 3B: Environmental Commitments and Best Management Practices	California Department of Water Resources
DCP.D1.1.00015.pdf	12/21/2023	Final Environmental Impact Report for the Delta Conveyance Project, Volume 1, Appendix 3E: Delta Reform Act Considerations	California Department of Water Resources
DCP.X2.1.00009.pdf	7/9/2020	Soil Investigations for Data Collection in the Delta. Final Initial Study/Mitigated Negative Declaration. SCH# 2019119073	California Department of Water Resources
DCP.X2.1.00010.pdf	1/1/2012	Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors	California Invasive Plan Council
DCP.X2.1.00011.pdf	5/14/2024	DCA Universal Health and Safety Plan for the Delta Conveyance Project (Final Draft)	Delta Conveyance Design and Construction Authority
DCP.X2.1.00012.pdf	4/26/2018	The Delta Plan: Chapter 3 (Amended April 2018)	Delta Stewardship Council
DCP.X2.1.00013.pdf	6/29/2022	The Delta Plan: Chapter 4 (Amended June 2022)	Delta Stewardship Council
DCP.X2.1.00014.pdf	12/1/2009	Technical Manual for Design and Construction of Road Tunnels — Civil Elements	Hung, C. J., J. Wisniewski, J. Monsees, and N. Munfah
DCP.X2.1.00015.pdf	7/1/2022	2022 California Building Code. California Code of Regulations, Title 24, Volume 1 of Part 2	International Code Council, Inc.
DCP.X2.1.00016.pdf	9/27/2024	2024-2026 Transportation Management Plan for Exploratory Planning and Design Field Investigations (Final Draft)	California Department of Water Resources
DCP.X2.1.00017.pdf	7/15/2024	Delta Conveyance Project Tribal Cultural Resources Management Plan for Geotech (Final Draft)	California Department of Water Resources
DCP.X2.1.00018.pdf	9/27/2024	Noise Control Plan for 2024-2026 Geotechnical Activities	California Department of Water Resources
Public Comments			
DCP.X2.1.00023.pdf	9/27/2024	2024 –2026 Proposed Geotechnical Activities Delta Plan Consistency Website	California Department of Water Resources
DCP.X2.1.00024.pdf	9/27/2024	eBlast: 2024 – 2026 Proposed Geotechnical Activities Delta Plan Consistency (September 2024)	California Department of Water Resources
DCP.X2.1.00025.pdf	10/8/2024	Public Comments & Public Comment Responses	California Department of Water Resources

Attachment 4

2024–2026 Proposed Geotechnical Activities—Evaluation of Consistency with the Delta Conveyance Project's Final EIR

State of California DEPARTMENT OF WATER RESOURCES California Natural Resources Agency

OFFICE MEMO

TO: Carrie Buckman, Office Manager Delta Conveyance Office
FROM: Leah McNearney, EPM I Delta Conveyance Office
SUBJECT: 2024-2026 Proposed Geotechnical Activities – Evaluation of Consistency with Delta Conveyance Project's Final EIR

On June 20, 2024, the trial court assigned to the litigation challenging the Department of Water Resources' (DWR) certification of the Delta Conveyance Project Final Environmental Impact Report (Final EIR) and approval of the project, issued a ruling enjoining DWR from undertaking geotechnical work described in Chapter 3 of the Delta Conveyance Project's Final EIR prior to completion of the certification procedure that the Delta Reform Act requires ("Preliminary Injunction Ruling"). In response to the Preliminary Injunction Ruling, DWR has ceased all geotechnical work described in Chapter 3 of the Conveyance Project's Final EIR. DWR will not recommence geotechnical work described in Chapter 3 of the Conveyance Project's Final EIR until the Preliminary Injunction Ruling is stayed, modified, or satisfied. This document was prepared for the 2024-2026 Proposed Geotechnical Activities that are currently enjoined by the Preliminary Injunction Ruling. Geotechnical activities were analyzed in the Delta Conveyance Project's Final EIR (December 2023, SCH# 2020010227) to inform planning and design for future construction of the Delta Conveyance Project. This memorandum evaluates whether the 2024-2026 Proposed Geotechnical Activities are within the scope of the project description for the Approved Project and the environmental analysis included in the Delta Conveyance Project's Final EIR.

1. Introduction

The Department of Water Resources (DWR) is the Lead Agency under the California Environmental Quality Act (CEQA), for the Delta Conveyance Project (hereafter referred to as the Approved Project or Project). DWR has certified the Final EIR, executed a Notice of Determination (NOD) documenting Project approval, adopted Project findings

of fact and a statement of overriding considerations, and adopted a Mitigation Monitoring and Reporting Program (MMRP) (December 21, 2023). The Final EIR evaluates potentially significant impacts of the Project at multiple development phases including continued Project design and planning activities (such as the 2024-2026 geotechnical activities), Project construction, Project operations, and Project maintenance.

"Once a project has been approved, the lead agency's role in project approval is completed, unless further discretionary approval is required." (CEQA Guidelines, section 15162(c).) If further discretionary approval is required by the lead agency after the project is approved, the lead agency must determine, on the basis of substantial evidence in light of the whole record, whether any of the triggers for subsequent CEQA review are met (see Public Resources Code section 21166; CEQA Guidelines sections 15162-15164). This requirement applies to all subsequent discretionary actions even where, as here, a subsequent discretionary action is being considered shortly after the lead agency certified the project's Final EIR. Because DWR must exercise discretionary authority to authorize the 2024-2026 geotechnical activities to proceed, DWR prepared this memorandum to consider whether subsequent CEQA review is required prior to DWR commencing the proposed 2024-2026 geotechnical activities (see CEQA Guidelines sections 15162-15164). The following Table A highlights the activities to be discussed in this memorandum.

Section 2 of this memorandum provides a background on the 2024-2026 geotechnical activities as found in the Final EIR and TM 14B, including section 2.1 which details the activities to be discussed in this memorandum.

Finally, Section 3 evaluates whether the geotechnical activities have the potential to result in any new or substantially more severe environmental impacts than shown in the Delta Conveyance Project's Final EIR.

Table A: Proposed Geotechnical Activities

Activity Type	Planned Activities for 2024-2026
Soil Borings	261 (~15 to 250 feet in depth) along the tunnel reaches, roads, new overhead power, railroad alignment, intakes, Bethany Reservoir Pumping Plant and Surge Basin Reception Shaft, Twin Cities Complex, Lower Roberts Island Shaft, Upper Jones Tract Shaft, and King Island Shaft.
Cone Penetration Tests (CPTs)	15 (~200 to 250 feet in depth) along the tunnel alignment and Bethany Reservoir Pumping Plant.

Water Quality Testing at Select Soil Boring Sites	31 (~75 to 250 feet in depth) 31 of the 261 soil boring locations will also include water quality testing along the tunnel alignment, Bethany Reservoir Discharge Structure, King Island Shaft, Terminous Tract Shaft, Canal Ranch Tract Shaft, Lower Roberts Island Shaft and Upper Jones Tract Shaft.

1.1 Determination that Subsequent CEQA Review is not Required

In 2022 and 2023, DWR completed numerous soil investigations based on the 2020 Soil Investigations for Data Collection in the Delta Final Initial Study and Mitigated Negative Declaration (IS/MND) and related addenda. These prior soil investigation activities are similar, but not identical to, activities proposed as part of the 2024-2026 geotechnical activities. For example, soil investigations completed in 2023 included CPTs and soil borings at a total depth of approximately 300 feet. The 2024-2026 geotechnical activities propose a maximum depth of up to 250 feet. Nevertheless, the prior environmental conclusions reached in the IS/MND and addenda, and DWR's successful completion of the 2022 and 2023 soil investigations, provide further support for the analysis and conclusions reached in the Final EIR and this memorandum relating to the 2024-2026 geotechnical activities.

As further supported by the analysis in Section 3 below, consistent with CEQA Guidelines sections 15162 and 15164 and based on the scope of the proposed 2024-2026 geotechnical activities as defined in the Activity Descriptions in Section 2.1 below, DWR finds that no conditions exist triggering the requirement for subsequent CEQA review.

2. Background

Final EIR, Volume 1, Chapter 3 – *Description of the Proposed Project and Alternatives* identifies the proposed project, and alternatives that are evaluated under the Final EIR. Final EIR, Volume 1, Chapter 3, Section 3.15 – *Geotechnical activities* further explains that 'work related to geotechnical, hydrogeologic, agronomic testing, and construction test projects (geotechnical investigations) would occur during the preconstruction and construction periods following the adoption of the EIR, identification of an Approved Project footprint, and acquisition of all required permits' to 'support Section 408 permitting, design, and construction phases' and would be performed in accordance with standards identified in the Final EIR (Final EIR, Volume 1, Chapter 3, Section 3.15, page 3-134). Geotechnical investigations consist of geotechnical activities that involve a physical investigation of soil status and subsurface conditions.

In evaluating potential environmental effects of the Project, including the 2024-2026 proposed geotechnical activities, the Final EIR provides precise zones where geotechnical activities would occur, approximated acreage, and maximum number of each type of exploration. This information was utilized to identify and disclose potential direct and indirect environmental effects that may result from the geotechnical activities as analyzed in the Final EIR.

Final EIR Mapbook 3-3 for the Bethany Alternative (Approved Project) depicts the zones in which geotechnical investigations would occur (i.e., geotechnical investigation zone). Each map further indicates that geotechnical investigations would also be conducted within all Project feature construction boundaries.

In addition to the analyses in the Final EIR, Volume 1, Chapter 3, Section 3.3 – *Proposed Project and Alternatives Overview* explains that the Delta Conveyance Design and Construction Authority (DCA) developed Engineering Project Reports (EPRs) and associated technical memoranda (TMs) - incorporated by reference in the Final EIR (page 3-7) (DCA 2022a, 2022b) to detail the engineering considerations that support alternative design decisions for the Project. The Bethany EPR contains a detailed description of Alternative 5 and the technical memoranda that informed the design of that alternative. The EPRs include construction and engineering details not provided in Final EIR, Volume 1, Chapter 3. TM 14B – *Potential Future Geotechnical activities – Bethany Reservoir Alternative* separately details the geotechnical activities that constitute (1) investigations necessary to support development of design documents for the Project, and (2) construction geotechnical activities to monitor construction once commenced in the future. Final EIR, Volume 1, Chapter 3, Table 3-1 (Final EIR page 3-11) provides a terminology crosswalk between the EPR and TMs and the Final EIR.

Preconstruction design and planning geotechnical activities are organized into two categories in the Final EIR and TM 14B – *Investigations to support section 408 permitting* (Final EIR, Volume 1, Chapter 3, Section 3.15.1; TM 14B Section 2) and *Investigations prior to construction phase* (Final EIR, Volume 1, Chapter 3, Section 3.15.2, TM 14B Section 3). The activities discussed in this memorandum support the *Investigations prior to construction phase*. A list of the activities included in the 2024-2026 geotechnical activities (a sub-category to the geotechnical activities) analyzed in this memorandum is provided in Table A above. The activity types are described further in Section 2.1, below.

2.1 Proposed Geotechnical Activities - Activity Descriptions

The 2024-2026 geotechnical activities will not include overwater borings, large excavations, or work within identified faults (e.g., West Tracy Fault, Bethany Fault). Please see Table A, above, for a list of the activity types to be discussed and analyzed throughout this memorandum.

The following is a summary of the geotechnical activities that will be performed, as part of the 2024-2026 geotechnical activities. Due to potential delays associated with the preliminary injunction granted by the Sacramento Superior Court on June 20, 2024, obtaining temporary entry agreements, or the need for court ordered entry- the 2-year

timeframe provides for a conservative estimate for analyses, with an understanding that the investigations could occur beyond 2026. For more detailed descriptions of how an activity is performed, please refer to TM 14B, and Final EIR, Volume 1, Chapter 3, Section 3.15. For the full analyses of impacts associated with geotechnical activities, please refer to the Final EIR resource chapters, where applicable.

Geotechnical activities, including the activities discussed in Final EIR Section 3.15 are used to inform planning and design studies prior to implementing and constructing the Project.

2.1.1 Geotechnical Activities

The 2024-2026 proposed geotechnical activities, which are summarized in Table A above, include the following activities (See location maps in Attachment 2):

2.1.2.1 Soil and groundwater explorations

2.1.2.1.1 Cone Penetrometer Test (CPT)

TM 14B, Attachment A (Option B2) provides total estimates for geotechnical activities. As such, ~392 CPTs are estimated for evaluation under the Final EIR for 'Design-Phase' (Prior to Construction). There are 15 CPTs planned for the 2024-2026 geotechnical activities (~3.8% of the estimated total), ranging from 200-250 feet in depth. The CPTs will take up to 3 days to complete (this includes a field reconnaissance day). Vehicles at each site during the investigation may include a CPT truck, a tractor-trailer lowboy truck, a grout truck, and up to 10 additional vehicles for the geotechnical consultant, traffic control, DWR and DCA engineers, geologists, scientists, the biological and cultural resource team, and at least two regulatory agencies. Please see Final EIR Sections 3.15.1.1 and 3.15.2.1 and TM 14B Sections 2.1.1 and 3.1.1 for a full description of CPT testing.

This memorandum will evaluate the 2024-2026 geotechnical activity depths for CPTs, at tunnel locations that are proposed at a depth of up to approximately 250 feet. The CPTs would be completed consistent with the assumptions used in the Final EIR relating to days of drilling and air quality assumptions (see Final EIR Appendix 23B).

2.1.2.1.2 Soil Borings

TM 14B, Attachment A (Option B2) provides total estimates for geotechnical activities. As such, ~827 soil borings are estimated for evaluation under the Final EIR for 'Design-Phase' (Prior to Construction) at facility locations. There are 261 soil borings (31 of the 261 will include water quality testing) planned for the 2024-2026 geotechnical activities (~31.5% of the estimated total), ranging from 15 to 250 feet in depth. Please see Final

EIR Sections 3.15.1.1 and 3.15.2.1 and TM 14B Sections 2.1.1 and 3.1.1 for a full description of Soil Boring testing.

For investigations at tunnel shaft and tunnel alignment sites, a total depth of up to approximately 250 feet is proposed. The soil borings will take up to 10 days to complete (this includes a field reconnaissance day). Vehicles at each site during the investigation may include a drill rig, a water truck, a liftgate truck, a tractor-trailer lowboy truck, and up to 12 additional vehicles for the geotechnical consultant, traffic control, DWR and DCA engineers, geologists, surveyors, scientists, the biological and cultural resource team, and at least two regulatory agencies. As discussed further below, the air quality assumptions for the proposed 2024-2026 soil borings differ slightly from those included in Final EIR, Volume 1, Appendix 23B. (See Air Quality Section below for analysis, see Attachment 1 for updated assumptions made for equipment, workers, and vehicles).

2.1.2.2 Water Quality Testing

Review of well completion reports in the vicinity of the tunnel alignments analyzed in the Final EIR indicates that there are numerous wells that were drilled to depths greater than their final completed screen depth. In at least two instances, the well reports from wells located near the Bethany Reservoir Alternative alignment indicated poor quality water above or below the final screened interval in the installed well. While planned tunnel and shaft construction does not require large-scale dewatering efforts, the reduced water quality can impact reusable tunnel material (RTM) and shaft spoils handling and disposal. Excess boron or chloride, for example, can inhibit the establishment of vegetation on emplaced materials and impair stormwater runoff, while excess chloride or sulfate can require the use of modified cement to prevent corrosion. There is also evidence of "boiling" wells, symptomatic of dissolved gas. Hydrogen sulfide and methane present in the groundwater may require supplemental safety protocols to mitigate the enhanced risks to tunnel and shaft construction. The evaluation of water quality and development of an early baseline set of data along the alignment are vital to the overall Delta Conveyance program.

To sample water quality at tunnel depths, and at depths not screened within existing agricultural and domestic wells, it is vital that the geotechnical activities include water quality testing at tunnel shaft and tunnel alignment locations, where well completion reports suggest possible groundwater quality issues. The water quality tests would be permitted with applicable local land use authorities and the boreholes would be abandoned and destroyed in accordance with the requirements of CA DWR Bulletin 74-81, Bulletin 74-90, and any site-specific permit requirements.

2.1.2.2.1 Water Quality Testing at Select Soil Boring Sites

Water Quality Tests will be performed at select completed borings. This investigation includes drilling a ~75-250 ft on-land boring (See Final EIR, Volume 1, Chapter 3, Section 3.15.1.1 and 3.15.2.1; see TM 14B Sections 2.1.1 and 3.1.1 regarding methodology for soil borings; see Attachment 1 for assumptions related to equipment, workers, and vehicles), and running a pump to complete the water quality tests. As discussed further below, the air quality assumptions differ slightly from those included in Final EIR, Volume 1, Appendix 23B. Air quality assumptions for running the water quality testing pump are included in Attachment 1.

Water Quality Testing will be performed at 31 exploration locations following the completion of a drill hole. Following drilling, a temporary PVC pipe will be installed within the borehole. The PVC pipe will be up to 4 inches in diameter and will be slotted over an interval of up to 40 feet in length. The remainder of the PVC pipe will be solid wall. The annular space between the boring and the slotted interval of the PVC pipe will be backfilled with commercially available Well Pack sand and gravel, while the solid wall section will be backfilled with bentonite to the surface. A submersible pump will be installed in the PVC pipe along with a water level meter and will be pumped at a flow of up to 50 gallons per minute (described as up to 1,500 gpm in TM 14B) for an average of up to 4 hours (described as 3 days, then 10 days in TM 14B) per day for 3 days and DCA engineers or geologists will measure the groundwater levels and sample the groundwater quality. All groundwater will be collected in a water tank and disposed of at an approved off-site location or at a location agreed upon by DWR and the property owner. Following the completion of this testing, the temporary PVC casing will be removed, and the drill hole will be backfilled using cement-bentonite grout in accordance with State of California regulations and industry standards. These testing activities will take an average of three (3) additional working days following completion of the drilling exploration. Vehicles at each site during the testing activities may include a water truck and up to 4 vehicles in addition to those required for the drilling exploration for the technical consultant and at least two regulatory agencies.

2.1.3 Site Clearance, Environmental Surveys, and Biological Monitoring

Pre-activity site clearances, biological, and cultural resources surveys will be conducted as per the MMRP and will occur two weeks prior to beginning investigations at a new investigation location. See Attachment 1 of this memorandum regarding equipment, worker, and vehicle assumptions for information related to average duration, number of vehicles or pieces of equipment per investigation, average hours per day at each site,

number of round trips per investigation, average mileage per round trip, horsepower, and load factors.

Additionally, as set forth in the Delta Conveyance Project's Final EIR, the Project incorporates best management practices (BMPs), which are standard construction practices or design elements that are incorporated into the project description to generally address environmental concerns that typically occur for most construction actions. (Final EIR Appendix 3B page 3B-1.) Pursuant to EC-14: Construction Best Management Practices for Biological Resources, a biological monitor will be present during all geotechnical activities.

3. Evaluation of Need for Supplemental Environmental Review

Included in the decision documents for the Final EIR is the Delta Conveyance Project MMRP. The MMRP describes mitigation measures and environmental commitments from the Final EIR that will mitigate potentially significant impacts of the Approved Project. Due to the limited and temporary impacts associated with geotechnical activities, the Compensatory Mitigation Plan and its associated measures do not apply to the 2024-2026 geotechnical activities and will not be discussed further in this memorandum.

3.1 Final EIR Conclusions – No Impact

As demonstrated in the Final EIR, the following environmental resource impact topics will not be impacted by the Approved Project. The 2024-2026 geotechnical activities will not contribute to changes/increases in the level of significance already identified in the Final EIR for these resource impact topics. Thus, the following impacts will not be analyzed further in this memorandum for applicability to the 2024-2026 geotechnical activities:

- Water Quality Impacts
    - Impact WQ-17: Consistency with Water Quality Control Plans
- Biological Resources Impacts
    - Impact BIO-6: Impacts of the Project on Nontidal Brackish Emergent Wetland
    - Impact BIO-15: Impacts of the Project on Conservancy Fairy Shrimp
    - Impact BIO-17: Impacts of the Project on Sacramento and Antioch Dunes Anthicid Beetle
    - Impact BIO-19: Impacts of the Project on Delta Green Ground Beetle
    - Impact BIO-43: Impacts of the Project on Suisun Song Sparrow and Saltmarsh Common Yellowthroat
    - Impact BIO-49: Impacts of the Project on Salt Marsh Harvest Mouse
    - Impact BIO-50: Impacts of the Project on Riparian Brush Rabbit
- Land Use Impacts
    - Impact LU-3: Create Physical Structures Adjacent to and through a Portion of an Existing Community that Would Physically Divide the Community as a Result of the Project
- Energy Impacts

  - Impact ENG-2: Conflict with or Obstruct Any State/Local Plan, Objective, or Policy for Renewable Energy or Energy Efficiency

- Noise and Vibration Impacts
  - Impact NOI-3: Place Project-Related Activities in the Vicinity of a Private Airstrip or an Airport Land Use Plan, or, Where Such a Plan Has Not Been Adopted, within 2 Miles of a Public Airport or Public Use Airport, Resulting in Exposure of People Residing or Working in the Project Area to Excessive Noise Levels
- Hazards, Hazardous Materials, and Wildlife Impacts
  - Impact HAZ-3: Expose Sensitive Receptors at an Existing or Proposed School Located within 0.25 Mile of Project Facilities to Hazardous Materials, Substances, or Waste
- Mineral Resources Impacts
  - Impact MIN-1: Loss of Availability of Locally Important Natural Gas Wells as a Result of the Project
  - Impact MIN-2: Loss of Availability of Extraction Potential from Natural Gas Fields as a Result of the Project
  - Impact MIN-3: Loss of Availability of Locally Important Aggregate Resources (Mines and MRZs) as a Result of the Project
  - Impact MIN-4: Loss of Availability of Locally Important Aggregate Resources as a Result of the Project

3.2 Environmental Analysis (In Order by Final EIR Chapter)

This Section evaluates the potential changes to environmental impacts, that may result from the execution of the 2024-2026 geotechnical activities (described in Section 2.1) and identifies whether the impacts of the geotechnical activities contribute to increases in the severity of previously identified potentially significant impacts or will result in any new significant impacts. Resource impacts associated with the 2024-2026 geotechnical activities are summarized below.

3.2.1 Overall Impact Conclusions

The 2024-2026 geotechnical activities as presented through the analysis in this memorandum, would not result in any new significant environmental effects or any substantial increase in the severity of environmental effects already identified in the certified Final EIR. Furthermore, the 2024-2026 geotechnical activities would utilize applicable mitigation measures and environmental commitments set forth in the Final EIR for the impacts related to the 2024-2026 geotechnical activities. For this reason, the

analysis below evaluates the potential impacts of 2024-2026 geotechnical activities after implementation of applicable mitigation measures and environmental commitments set forth in the Final EIR.

3.2.2 Surface Water (Final EIR Chapter 5)

Changes to surface water resources, by themselves, are not considered an impact of the Project under CEQA and thus are not evaluated as impacts in the Final EIR. Furthermore, the 2024-2026 geotechnical activities do not include any overwater activities.

3.2.3 Water Supply (Final EIR Chapter 6)

Changes to water supply, by themselves, are not considered an impact of the Project under CEQA and are not evaluated as impacts in the Final EIR. Any potential impacts to groundwater, because of the 2024-2026 geotechnical activities, is discussed in Final EIR, Volume 1, Chapter 8 – Groundwater (summarized below in Section 3.3.5).

3.2.4 Flood Protection (Final EIR Chapter 7)

The effects of the 2024-2026 geotechnical activities on flood protection would be significant under CEQA if execution of the Project would result in one of the potential impacts described in Final EIR, Volume 1, Chapter 7, Section 7.3.3.2 which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on flood protection are determined, are provided in the Final EIR Section entitled 'Thresholds of Significance' (Final EIR, Volume 1, Chapter 7, Section 7.3.2).

The 2024-2026 geotechnical activities will not increase water surface elevations because they would not involve the installation of coffer dams, nor the construction of levees – which can contribute to water surface elevation increases. The 2024-2026 geotechnical activities do not involve excavation, grading, or stockpiling that could have the potential to block, reroute, or temporarily detain and impound surface water in existing drainages and velocities. The 2024-2026 geotechnical activities would, therefore, not cause alterations in drainage patterns or impact flood protection.

3.2.4.1 Flood Protection Impact Conclusion

The conclusion regarding a less than significant impact on flood protection from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for flood protection that could result in any new potentially significant impacts.

3.2.5 Groundwater (Final EIR Chapter 8)

The effects of the geotechnical activities on groundwater would be significant under CEQA if execution of the geotechnical activities would result in one of the potential impacts described in Final EIR, Volume 1, Chapter 8, Section 8.3.2.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on Groundwater are determined, are provided in the Final EIR Section entitled 'Thresholds of Significance' (Final EIR pages 8-19 through 8-21).

The 2024-2026 geotechnical activities will include water quality testing in boreholes. A steady-state pumping test may occur (for up to 10 days in duration as described in TM 14B) for up to 4 hours (for 2024-2026 geotechnical activities) at a flow rate selected to prevent dewatering and resulting in pump cavitation (up to 1500 gallons per minute (gpm) was described in TM 14B; up to 50 gpm for 2024-2026 geotechnical activities). A period equal to the pumping test would follow the pumping test, during which the water level would be allowed to recover to the pre-pumping level. Water levels before, during and following the various tests would be monitored using automated data loggers.

The 2024-2026 geotechnical activities will not involve facility construction, dewatering activities (a potential cause of subsidence in certain soil types and formations; a potential cause of water quality degradation), installation of slurry cut off walls (a potential cause for groundwater elevation increases) and/or sheet piles, are temporary with a minimal footprint, and do not constitute operations. When geotechnical activities are completed, holes will be sealed using cement-bentonite grout in accordance with the California regulations and industry standards. Therefore, the 2024-2026 geotechnical activities will not affect stream gains or losses, impact elevations, or impact groundwater levels of supply wells.

3.2.5.1 Groundwater Impact Conclusion

The conclusion regarding a less than significant impact on groundwater from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for groundwater that could result in any new potentially significant impacts.

3.2.6 Water Quality (Final EIR Chapter 9)

The water quality effects of the geotechnical activities would be significant under CEQA if the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 9, Section 9.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on water quality are determined, are provided in the Final EIR, Volume 1, Chapter 9, Section 9.3.2 – Thresholds of Significance (Final EIR pages 9-37 thru 9-38).

The 2024-2026 geotechnical activities do not involve construction activities associated with terrestrial or aquatic facilities construction, construction preparation, or other general construction activities, including dewatering. Additionally, the 2024-2026 geotechnical activities will not involve overwater activities. Geotechnical activities are temporary, involve a minimal footprint, and are used to inform Project planning and although geotechnical activities will not affect in-river water quality, DWR will implement Environmental Commitments – EC-2: Develop and Implement Hazardous Materials Management Plans and EC-3: Develop and Implement Spill Prevention, Containment, and Countermeasure Plans as part of the general geotechnical activities Health and Safety Plan, to reduce the likelihood of contamination during field investigation activities.

Geotechnical activities are comparatively short term, temporary, are typically within a small footprint and, when completed, holes will be sealed using cement-bentonite grout in accordance with the California regulations and industry standards, to ensure that groundwater water quality will not be contaminated by the borings in a way that would cause surface water quality to be substantially degraded. Therefore, impacts to the specific constituents evaluated in the Final EIR water quality impacts analysis will not occur because of the geotechnical activities.

The geotechnical activities, as discussed in this memorandum, will not take place at the Contra Costa Water District Interconnection facility, and will not involve the design or construction of the compensatory mitigation plan. As such, mitigation measures WQ-4 and WQ-6 are not applicable to the geotechnical activities evaluated in this memorandum.

3.2.6.1 Water Quality Impact Conclusion

The conclusion regarding a less than significant impact on water quality from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for water quality that could result in any new potentially significant impacts.

3.2.7 Geology and Seismicity (Final EIR Chapter 10)

The geologic and seismic effects of the geotechnical activities would be significant under CEQA if the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 10, Section 10.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on geology and seismicity are determined, are provided in the Final EIR, Volume 1, Chapter 10, Section 10.3.2 – Thresholds of Significance (Final EIR page 10-44).

The geotechnical activities will not introduce very high-pressure fluids into the ground. During geotechnical drilling, the downhole drilling fluid pressures are limited to those required to balance the soil and water pressures at depths less than 200 feet, typically less than 150 pounds per square inch (psi) (less than 25 psi of additional pressure could be exerted by increasing boring depths by 50 feet). In contrast, downhole drilling fluid pressures used to stimulate oil and gas production often exceed 9,000 psi.

The geotechnical activities would occur in areas subject to ground shaking. However, because the investigators would not be working in structures, the likelihood of an injury caused by a strong earthquake event occurring while the investigations are being conducted is low, and the investigation activities would not trigger an earthquake, the investigations are unlikely to cause a loss of property, personal injury, or death from strong earthquake-induced ground shaking. Given the infrequency of strong ground shaking in the Project area, the likelihood that earthquake-induced liquefaction would occur at the time that personnel are conducting geotechnical activities is low. Further, the personnel would not be in any structures during the investigations; therefore, they would not be subject to liquefaction-induced structural hazards and damage, should a strong earthquake occur. The geotechnical activities prior to the start of construction would involve a variety of ground-disturbing activities. However, none of these activities are likely to cause an increase in the hazard settlement or slope failure. Geotechnical activities would involve conducting geotechnical investigations along the alignments for the intakes, tunnels, shafts, levees, rail, powerlines, asphalt overlays, and roadways. The soil borings would be drilled to create a 4-inch to 8-inch-diameter hole from which soil samples would be recovered. The CPTs would involve hydraulically pressing a 1-inch to 2-inch-diameter cone-tipped rod into the ground. The water quality testing would involve installing a temporary PVC pipe within the borehole. The PVC pipe will be up to 4 inches in diameter and will be slotted over an interval of up to 40 feet in length. The remainder of the PVC pipe will be solid wall. The annular space between the boring and the slotted interval of the PVC pipe will be backfilled with commercially available Well Pack sand and gravel, while the solid wall section will be backfilled with bentonite to the surface. Based on DWR's 30 years of well drilling and deep-soil investigations in the Delta, none of the investigations are likely to cause a ground vibration sufficiently strong enough to initiate liquefaction or ground settlement. For the Approved Project, the geotechnical activities would not increase the hazard of a seiche or tsunami to occur in the Project area because

the locations of the geotechnical activities would not be sufficient to generate seiche waves and are beyond the reach of tsunami waves.

3.2.7.1 Geology and Seismicity Impact Conclusion

The conclusion regarding a less than significant impact on geology and seismicity from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for geology and seismicity that could result in any new potentially significant impacts.

3.2.8 Soils (Final EIR Chapter 11)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 11, Section 11.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on soils are determined, are provided in the Final EIR, Volume 1, Chapter 11, Section 11.3.2 – Thresholds of Significance (Final EIR page 11-40 through 11-42).

The geotechnical activities would involve a variety of ground-disturbing activities, most of which would be of limited extent and duration. Soil borings would use augers to sample 4- to 8-inch-diameter holes and cone penetration tests would involve 1- to 2-inch-diameter rods pushed into the ground. The water quality testing would involve installing temporary PVC pipes, up to 4 inches in diameter, within 4-to-8-inch diameter boreholes.

The disturbances caused by the geotechnical activities would be of limited extent and are expected to result in minimal increases in water and wind erosion rates. To prevent accelerated water or wind erosion from occurring, DWR would incorporate aspects of Environmental Commitment EC-4b: Develop and Implement Stormwater Pollution Prevention Plans (SWPPP). Federal statutes and regulations require discharges to waters of the United States comprised of stormwater associated with construction activity to obtain NPDES permit coverage (except operations that result in disturbance of less than one acre of total land area and that are not part of a larger common plan of development or sale). (Order WQ 2022-0057-DWQ NPDES NO. CAS000002). All geotechnical activities will disturb less than one acre of total land area. Therefore, a SWPPP is not required for the geotechnical activities. DWR will implement *EC-14: Construction Best Management Practices for Biological Resources,* specific to the geotechnical activities. BMPs that would contribute to reductions in soil erosion would

include (but will not be limited to) implementation of speed limits, preventing trash and debris from falling onto roads, established parking areas and use of established ingress/egress points, no pets allowed, use of appropriate erosion control substitutes not made of plastic monofilament netting, restoration of temporarily affected areas within 1 year to pre-Project conditions. The geotechnical activities such as soil borings and CPTs, would result in minimal losses of topsoil. The geotechnical activities would not contribute to potential subsidence due to their limited extent. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to subsidence, the use of which would reduce the potential hazard of subsidence to acceptable limits meeting design standards, causing this impact to be less than significant. The geotechnical activities would not be constrained by expansive or corrosive soils and the investigations would not increase the hazard of such soils to life and property. The results of the geotechnical activities will be used to inform the final design of the facilities underlain by soils subject to expansion or corrosion, the use of which would describe the hazards and recommend the measures that should be implemented to ensure that the facilities are constructed to withstand expansion and contraction and to conform to applicable State and federal standards, such as the California Building Code.

The geotechnical activities would not involve construction or use of an on-site wastewater disposal system, which would otherwise require soil excavation and installation of septic tanks and wastewater disposal infrastructure. Therefore, mitigation measure SOILS-5 is not applicable to the geotechnical activities evaluated in this memorandum.

3.2.8.1 Soils Impact Conclusion

The conclusion regarding a less than significant impact on soils from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for soils that could result in any new potentially significant impacts.

3.2.9 Fish and Aquatic Resources (Final EIR Chapter 12)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 12, Section 12.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on fish and aquatic resources are determined, are provided in the

Final EIR, Volume 1, Chapter 12, section 12.3.2 – Thresholds of Significance (Final EIR page 12-46).

The geotechnical activities will not involve in-water/over-water activities, do not involve testing piles, and do not involve operations and maintenance. Thus, the impacts on fish and aquatic resources do not apply to the geotechnical activities discussed in this memorandum. Therefore, mitigation measures AQUA-1a, AQUA-1b, and AQUA-1c are not applicable to the geotechnical activities evaluated in this memorandum. No further analyses of individual impacts on fish and aquatic species are needed for geotechnical activities in this memorandum.

3.2.9.1 Fisheries and Aquatic Resources Impact Conclusions

As the geotechnical activities will not involve in-water/over-water activities, potential impacts on fish and aquatic resources are less than significant without mitigation. Therefore, the conclusion in the Final EIR regarding the Delta Conveyance Project's less than significant impact, with mitigation, on fish and aquatic resources remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for fish and aquatic resources that could result in any new potentially significant impacts.

3.2.10 Terrestrial and Biological Resources (Final EIR Chapter 13)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 13, Section 13.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on terrestrial and biological resources are determined, are provided in the Final EIR, Volume 1, Chapter 13, Section 13.3.2 – Thresholds of Significance (Final EIR page 13-70 through 13-71).

Terrestrial biological resources may temporarily be impacted by the geotechnical activities. To avoid, minimize and/or reduce impacts to the terrestrial biological resources analyzed in the Final EIR, employing applicable Environmental Commitments and Mitigation Measures will reduce potential impacts. Specific compliance with EC-1: *Conduct Environmental Resources Worker Awareness Training*, EC-2: *Develop and Implement Hazardous Materials Management Plans,* EC-3: *Develop and Implement spill prevention, containment, and countermeasure plans*, and EC-14: *Construction Best*

Management Practices for Biological Resources would (among other commitments) reduce potential impacts by 1) training construction staff on protecting sensitive biological resources, reporting requirements, and the ramifications for not following these measures, 2) implementing spill prevention and containment plans that would avoid material spills that could affect the viability of nearby aquatic and upland habitat, 3) having a biological monitor present to ensure that non-disturbance buffers and all other protective measures are being implemented, where applicable, and 4) avoiding impacts to biological resources by moving investigation locations, or abandoning a site altogether.

Geotechnical activities will not involve, construction, or placement of powerlines, will avoid take of listed species and habitat loss, will not involve surface disturbance that would disrupt terrestrial wildlife connectivity and movement, nor do the investigations involve maintenance, therefore mitigation measures BIO-2b, BIO-2c, BIO-24b, BIO-45a, and BIO-53 are not applicable to the geotechnical activities evaluated in this memorandum.

In addition, the study area contains both aquatic and terrestrial plant species that have been designated as invasive plants and/or noxious weeds. Although these two descriptive terms are sometimes used interchangeably, it is important to note that there are implications associated with the use of each term. The term *noxious weed* is a designation used by government agencies, such as the U.S. Department of Agriculture (USDA) and the California Department of Food and Agriculture (CDFA), for plant species that have been identified as pests by law or regulation. Invasive plants may be considered as such from a scientific perspective because of their ability to spread to areas that are far from their point of introduction. Plant species can also be identified as invasive through recognition by nongovernmental organizations, such as the California Invasive Plant Council (Cal-IPC), which maintains a list of invasive plants that threaten California's wildlands. The study area does not contain any known populations of noxious weeds identified by the USDA (Final EIR, Volume 1, Chapter 13, Section 13.1.5.1). However, invasive plant species as identified by the California Invasive Plant Council are present in all of the natural communities and agricultural areas in the study area. (Final EIR, Volume 1, Chapter 13, Section 13.1.5.3). Those invasive plant species that likely affect the natural communities in the study area, for the 2024-2026 geotechnical activities, primarily include: perennial pepperweed, yellow star-thistle, medusahead, purple star-thistle, bar goatgrass, Italian ryegrass, Italian thistle, wild radish, bindweed, fennel, field mustard, and Bermuda.

Impact BIO-52: *Impacts of Invasive Species Resulting from Project Construction and Operations on Established Vegetation* (Final EIR, page 13-432) evaluates potential impacts of invasive species resulting from construction activities, including geotechnical activities, on established vegetation. (Final EIR, pages 13-432 through 13-435.). The removal of established vegetation can create opportunities for the introduction and spread of invasive and noxious plant species into the study area. However, opportunities for the introduction and spread of invasive and noxious plant species is directly proportional to the level of disturbance associated with the activity (Final EIR, page 13-432). As such, the 2024-2026 geotechnical activities will consist of minor disturbances such as mowing, removal of a few tree limbs, trimming of bushes for site access, along with driving to/from

the activity location and boring into the soil. These minor disturbances would be further minimized by the requirement that the sites be restored to as close to pre-project conditions as possible directly following the completion of the field investigation activity. Furthermore, the Approved Project includes environmental commitments and best management practices set forth in Final EIR Appendix 3B. As described above, these requirements include EC-14: *Construction Best Management Practices for Biological Resources*, which requires a biological monitor be present during the geotechnical activities. As a best management practice, consistent with the requirement that the onsite biologist ensure protective measures are being implemented as intended for the protection of special-status species, natural communities, and the environment in general (Final EIR Appendix 3B page 3B-26), measures will be implemented for the protection of special-status fish, wildlife, and plant species and their habitats. These measures will include the requirement that all equipment used during geotechnical activities will be cleaned and inspected by the qualified biologist for terrestrial invasive plant and animal species prior to entering the work areas and before moving between work areas. (Final EIR Appendix 3B page 3B-29.) Consistent with California Invasive Plant Council recommendations, tools used for equipment cleaning would include brushes, brooms, a scraper, an air compressor, vacuum, and/or other hand tools. (Cal-IPC, 2012) If the qualified biologist determines that equipment washing is warranted after the onsite equipment cleaning, the equipment will be washed at an offsite commercial facility, or returned to the company yard for cleaning, prior to entering a new site. (Cal-IPC, 2012)

In consideration of the minimal footprint for each geological activity, by restoring the temporarily disturbed areas, and inspecting and cleaning equipment before entering new areas, the potential for the geotechnical activities to introduce or improve habitat conditions for invasive plants would be less than significant.

3.2.10.1 Terrestrial Biological Resources Impacts Conclusion

The conclusion regarding no impact (for Impacts BIO-43, BIO-49 thru BIO-50), a less than significant impact (for Impact BIO-52) and less than significant, with mitigation (for all other impacts), on terrestrial biological resources from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for terrestrial biological resources that could result in any new potentially significant impacts.

3.2.11 Land Use (Final EIR Chapter 14)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 14, Section 14.3.3.2, which

are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on land use are determined, are provided in the Final EIR, Volume 1, Chapter 14, Section 14.3.2 – Thresholds of Significance (Final EIR page 14-17 through 14-18).

The geotechnical activities may temporarily interfere with the existing land uses, such as agricultural operations, in the vicinity where sampling is taking place. Field investigation work is not expected to result in a change to the underlying land use of any properties, because all affected areas would be returned to as close to pre-activity conditions as possible. Similarly, field-investigation work would not result in permanent incompatibilities with land use plans, policies, or designations, nor would investigations result in the permanent conversion of lands to another land use. Activities such as the geotechnical activities are generally allowed in all land use designations by policy and regulation. They also would be compatible with the applicable land use policies in the study area that have been adopted to avoid and mitigate environmental effects.

3.2.11.1 Land Use Impact Conclusion

The conclusion regarding a less than significant impact (for Impact LU-1 and Impact LU-2) and no impact (for LU-3), on land use from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for land use that could result in any new potentially significant impacts.

3.2.12 Agricultural Resources (Final EIR Chapter 15)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 15, Section 15.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on agricultural resources are determined, are provided in the Final EIR, Volume 1, Chapter 15, Section 15.3.2 – Thresholds of Significance (Final EIR page 15-27).

The geotechnical activities may have temporary impacts on existing agricultural lands. The geotechnical activities analyzed under this resource in the Final EIR include geotechnical and hydrogeologic sampling and other construction test projects supporting

geotechnical analysis. These investigations would be used to refine project alignment and design and to more specifically identify appropriate construction methodologies given existing site conditions. Although these geotechnical activities may temporarily interfere with agricultural operations in the vicinity where sampling is taking place, field investigation work is not expected to result in conversion of agricultural properties to nonagricultural use. Any proposed investigation activities that occur on agricultural lands would be grouted with materials from the full depth to 5 feet (1.5 meters) below the surface, with the final 5 feet of topsoil replaced to return the affected area to as close to pre-activity conditions as possible. The various geotechnical activities involving hydrogeologic sampling and other test projects would be used to more specifically identify the appropriate groundwater monitoring programs that may be required in the construction phase. Given that groundwater elevations are not expected to change, because of 2024-2026 geotechnical activities (See Section 3.2.5, above), groundwater levels would not prevent agricultural uses on neighboring properties mapped as Important Farmland.

3.2.12.1 Agricultural Resources Impact Conclusion

The 2024-2026 geotechnical activities' temporary impact on agricultural land would be less than significant, as the geotechnical activities will not convert important farmland, nor land subject to Williamson Act contract or land in Farmland Security Zones. With execution of the 2024-2026 geotechnical activities, the Final EIR conclusion regarding a significant and unavoidable impact (for Impact AG-1 and Impact AG-2) and a less than significant impact, with mitigation (for Impact AG-3), on agricultural resources from the Final EIR remains unchanged, as the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for agricultural resources that could result in any new potentially significant impacts.

3.2.13 Recreation (Final EIR Chapter 16)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 16, Section 16.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on recreation are determined, are provided in the Final EIR, Volume 1, Chapter 16, Section 16.3.2 – Thresholds of Significance (Final EIR page 16-19).

The 2024-2026 geotechnical activities would take a short period of time and are not likely to displace recreationists to other parks at such a level as to degrade facilities or experiences at those facilities. The 2024-2026 geotechnical activities would be used to refine project alignment and design and to more specifically identify appropriate construction methods addressed in the final design documents and help to establish geological and groundwater monitoring programs for the design and construction phases of the Approved Project. None of the geotechnical activities require the construction or expansion of recreation facilities.

3.2.13.1 Recreation Impacts Conclusion

The conclusion regarding a less than significant impact on recreation from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for recreation resources that could result in any new potentially significant impacts.

3.2.14 Socioeconomics (Final EIR Chapter 17)

Under CEQA, social and economic effects alone are not treated as impacts. These effects may be used to determine the significance of physical changes to the environment.

CEQA does not require a discussion of socioeconomic effects, except where they would result in reasonably foreseeable physical changes to the environment. In the Delta Conveyance Project's Final EIR, socioeconomic conditions were considered affected if a Project would result in the conditions described in the Final EIR, Volume 1, Chapter 17, Section 17.3.2 – Determination of Effects (Final EIR page 17-47 through 17-48).

Effects on employment and labor income are not in and of themselves impacts under CEQA. Employment and income effects are socioeconomic effects and would be considered impacts under CEQA if they were to lead to physical changes to the environment. The Final EIR analyses concludes that socioeconomic effects of the Approved Project will not lead to physical changes to the environment. Therefore, it can be inferred that no physical changes to the environment, because of socioeconomic effects of the 2024-2026 geotechnical activities, would occur. Implementation of applicable MMRP requirements will contribute to this conclusion.

3.2.15 Aesthetics and Visual Resources (Final EIR Chapter 18)

The impact analysis assumes that the 2024-2026 geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in

one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 18, Section 18.3.5.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on aesthetics and visual resources are determined, are provided in the Final EIR, Volume 1, Chapter 18, Section 18.3.4 – Thresholds of Significance (Final EIR pages 18-44 through 18-45).

The 2024-2026 geotechnical activities would require the use of heavy equipment such as drill rigs, CPT trucks, grout trucks, water trucks, work vehicles, and staff to perform the geotechnical activities. These elements would temporarily be visible in the viewshed of all affected viewers wherever such geotechnical activities would occur. However, the 2024-2026 geotechnical activities will not have visible permanent facilities and would not substantially degrade the existing visual character or quality of public views and their surroundings in nonurbanized areas or have a significant impact on scenic vistas visible from the identified work areas. And, although geotechnical activities may be visible from State Route 160 (a State scenic highway), due to the short-term nature of the activities, the geotechnical activities will not result in any long term or permanent changes to scenic resources visible from State Route 160. Geotechnical activities would take place during the day and would not require the use of bright lights, which would otherwise negatively affect nighttime views of and from the field investigation areas. It is anticipated that glare reflecting from vehicles and equipment would be minimal when taken in the broader field of view. Therefore, geotechnical activities would not result in a temporary or permanent increase in glare.

Aesthetic and visual resources impacts resulting from execution of the 2024-2026 geotechnical activities would be less than significant because they are short term/temporary, will not result in any long term or permanent changes to scenic resources visible from a scenic highway, will not involve permanent features, and holes will be backfilled to pre-project conditions. Mitigation measures AES-1a, AES-1b, and AES-1c do not apply to the 2024-2026 geotechnical activities as they relate specifically to long term construction, the construction of permanent structures, and post-construction reclamation.

3.2.15.1 Aesthetics and Visual Resources Impact Conclusion

The 2024-2026 geotechnical activities' temporary impact on aesthetics and visual resources would be less than significant. With execution of the 2024-2026 geotechnical activities, the conclusions regarding the Approved Project's significant and unavoidable impact on aesthetics and visual resources (Impact AES-1, AES-2, AES-3) and less than significant impact after mitigation (Impact AES-4) from the Final EIR remain unchanged, as the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance

have been identified for aesthetics and visual resources that could result in any new potentially significant impacts.

3.2.16 Cultural Resources (Final EIR Chapter 19)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 19, Section 19.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on cultural resources are determined, are provided in the Final EIR, Volume 1, Chapter 19, Section 19.3.2 – Thresholds of Significance (Final EIR pages 19-33 through 19-34).

The 2024-2026 geotechnical activities will not impact any built-environment historical resources, due to the planned field investigation distances to cultural resources features that have been recorded within 0.25 mile from the proposed 2024-2026 investigation locations. Furthermore, as proposed, 2024-2026 geotechnical activities will be relocated or, if necessary, abandoned to avoid potential impacts to cultural resource features that may be identified during site clearance investigations. Please See Table 1: Cultural Resources Recorded within 0.25-mile of the Proposed 2024-2026 Activity Locations. Currently inaccessible resources may also be significant under other California Register of Historic Resources (CRHR) criteria. Similarly, because buried human remains are isolated resources that may not be associated with larger deposits, their distribution and depth cannot be estimated. With the large acreages subject to disturbance by the Delta Conveyance Project, it makes exhaustive sampling to identify all buried and isolated human remains technically and economically infeasible. For these reasons, as analyzed in the Final EIR, there exists the potential that such resources may be damaged or exposed before they can be discovered through inventory or monitoring, thus making cultural resource impacts (Impacts CUL-1 through CUL-5) significant and unavoidable, even with mitigation.

TABLE 1: CULTURAL RESOURCES RECORDED WITHIN 0.25-MILE OF THE PROPOSED 2024-2026 ACTIVITY LOCATIONS

Primary #	Name	Resource Description	Constraint	Do Geotech Locations Need to Move?
GT-001	Brighton-Grand Island Transmission Line Tower	Historic-era utilities infrastructure	No	No
P-01-001783	Southern Pacific RR	Historic-era railroad	No	No
P-01-010443	Tracy Switch Station (No. 11b)	Historic-era utilities infrastructure	No	No
P-01-010446	Segment of PG&E Distribution Line (No. 7)	Historic-era utilities infrastructure	No	No
P-01-010449	Hurley-Tracy Transmission Line #4	Historic-era utilities infrastructure	No	No
P-01-010450	Segment of Mountain House Road #3	Historic-era road	No	No
P-01-010451	Segment of Byron Bethany Road (No. 2)	Historic-era road	No	No
P-01-010951	Delta Mendota Canal Construction Spoil Piles	Historic-era canal features	No	No
P-01-010952/ P-07-002982	Alternative Intake Channel	Historic-era canal	No	No
P-01-010953/ P-07-002983	Tracy Fish Collection Facility	Historic-era government structure	No	No
P-07-002551	Segment of Hurley-Tracy Transmission Line (No. 4)	Historic-era utilities infrastructure	No	No
P-07-002558	Segment of the Delta Mendota Canal and Intake Channel (No. 27)	Historic-era canal	No	No
P-07-003093	West Canal	Historic-era canal	No	No
P-07-003122	Clifton Court Forebay	Historic-era reservoir	No	No
P-07-004507	GANDA-809-62H	Historic-era levee	No	No
P-07-004518	GANDA-609-19H	Historic-era artifact scatter	Avoid; No buffer needed	No
P-07-004519	GANDA-609-20H	Historic-era artifact scatter	Avoid; No buffer needed	No
P-07-004520	GANDA-609-21H	Historic-era artifact scatter	Avoid; No buffer needed	No
P-07-004698	MPTO_002_001	DWR Delta Field Division Facilities	No	No
P-34-000048	S-66; Hollister	Pre-contact habitation site with human remains	Avoid; 250-ft Buffer	No
P-34-000092	X-1	Pre-contact habitation site with human remains	Avoid; 250-ft Buffer	No
P-34-000093	Schenck and Dawson, 66; C-66; Morse; Old Glenn; W. Glenn	Pre-contact habitation site	Avoid; 250-ft Buffer	No
P-34-000098	S-71; Green	Pre-contact habitation site	Avoid; 250-ft Buffer	No
P-34-000276	CRS-7; Hot Tomato	Pre-contact habitation site	Avoid; 250-ft Buffer	No

Primary #	Name	Resource Description	Constraint	Do Geotech Locations Need to Move?
P-34-000336	Possible pre-contact Site	Pre-contact habitation site	Avoid; 250-ft Buffer	No
P-34-000422	Pre-contact habitation site	Pre-contact habitation site	Avoid; 250-ft Buffer	No
P-34-000491	WPRR	Historic-era railroad	No	No
P-34-001495	Lambert Road Levee	Historic-era levee	No	No
P-34-001496	Snodgrass Slough Levee	Historic-era levee	No	No
P-34-001497	Walnut Grove Branch Line of the Southern Pacific Railroad	Historic-era railroad	No	No
P-34-001596	Sun River Levee	Historic-era levee	No	No
P-34-002143	USACE Sacramento River Flood Control Project Levee - Unit 115	Historic-era levee	No	No
P-34-004288	DE Orchards Historic Trash Scatter	Historic-era artifact scatter	Avoid; No buffer needed	No
P-34-005651	Bear Lake Drainage Ditch	Historic-era ditch	No	No
P-39-000205	Schenck-Dawson 69	Pre-contact habitation site	Avoid; 250-ft Buffer	No
P-39-000206	Schenck-Dawson-70	Pre-contact habitation site	Avoid; 250-ft Buffer	No
P-39-000207	Schenck-Dawson 71	Pre-contact habitation site	Avoid; 250-ft Buffer	No
P-39-000209	Schenck-Dawson 73	Pre-contact habitation site with human remains	Avoid; 250-ft Buffer	No
P-39-000417	Sanitary Sewer	Historic-era military buildings	No	No
P-39-000419	Wood-frame Warehouses	Historic-era military buildings	No	No
P-39-000426	Naval Communication Station Streets	Historic-era road	No	No
P-39-000429	Daggett Rd. Bridge (turn bridge)	Historic-era bridge	No	No
P-39-001564	Sewage Treatment Plant	Historic-era military buildings	No	No
P-39-001565	Sewage Treatment Plant	Historic-era military buildings	No	No
P-39-001566	Sewage Treatment Plant	Historic-era military buildings	No	No
P-39-001567	Sewage Treatment Plant	Historic-era military buildings	No	No
P-39-002862	Roads, Parking, Sidewalks NCS	Historic-era road	No	No
P-39-002863	Open Storage	Historic-era military buildings	No	No
P-39-002864	RR tracks on Rough and Ready Island	Historic-era railroad	No	No
P-39-004276	GG-Iso-1	Isolated historic-era artifacts	Avoid; No buffer needed	No
P-39-004309	Byron-Bethany Road, AKA Byron Rd., County Rd. 2388	Historic-era road	No	No
P-39-004310	PGE Distr. Line # 7/Sierra & S.F. Power Co. Distr. Line (NORTH shoulder Byron Rd.)	Historic-era utilities infrastructure	No	No

Primary #	Name	Resource Description	Constraint	Do Geotech Locations Need to Move?
P-39-004399	Mokelumne Aqueduct at Mosher Diversion Canal	Historic-era levee	No	No
P-39-004399	Mokelumne Aqueduct at Mosher Diversion Canal Update	Historic-era levee	No	No
P-39-004576	U.S. Naval Supply Annex, Stockton (District)	Historic-era military buildings	No	No
P-39-004582	Daggett Road Ditch	Historic-era ditch	No	No
P-39-004857	Old River Levees	Historic-era levee	No	No
P-39-004886	Victoria Canal and Levees	Historic-era levee	No	No
P-39-004922	Tenmile Slough Levee	Historic-era levee	No	No
P-39-005152	Left Bank	Historic-era levee	No	No
P-39-005166	Stockton Deep Water Channel Levee Segment	Historic-era levee	No	No
P-39-005179	ISO-609-36H	Historic-era isolated nail	Avoid; No buffer needed	No
P-39-005383	New Hope 1101 12 kV	Historic-era utilities infrastructure	No	No

SOURCE: CCaIC, 2024

3.2.16.1 Cultural Resources Impact Conclusions

The conclusions regarding a significant and unavoidable impact on cultural resources from the Final EIR remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for cultural resources that could result in any new potentially significant impacts.

3.2.17 Transportation (Final EIR Chapter 20)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 20, Section 20.3.3.3, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on transportation are determined, are provided in the Final EIR, Volume 1, Chapter 20, section 20.3.2 – Thresholds of Significance (Final EIR pages 20-25 through 20-26).

The VMT calculations for the 2024-2026 geotechnical activities remain consistent with the calculations and analyses presented in the Final EIR. In fact, the degree of impact

for the 2024-2026 geotechnical activities, as compared to the Approved Project, is less. Table 2, below, presents the results of the construction VMT analysis for the Approved Project (Alternative 5) and the 2024-2026 geotechnical activities as compared to 2020 conditions. As such, if the goal of MM TRANS-1, for the reduction in single occupancy vehicles is achieved, then the VMTs for the 2024-2026 geotechnical activities would be well below the significance threshold for the regional average of 22.5 miles per employee. DWR will encourage carpooling to reduce below the significance threshold, however, since no specific level of carpooling can be guaranteed, the Impact TRANS-1 remains significant and unavoidable. Overall, effects from geotechnical activities would generally have negligible effects on the circulation systems because of the limited nature of these activities. 2024-2026 geotechnical activities will not involve overwater activities and, therefore, do not have the potential to affect marine navigation.

Table 2. Regional VMT Analysis for Approved Project—Construction and Geotechnical Activities VMT vs. Regional Average VMT

	Vehicle Miles Traveled			
Alternative	Average VMT per Construction Employee	Does the Project Alternative Exceed the Regional Average of 22.50 Miles per Employee	Change (miles)	Percentage Change
Alternative 5	25.77	Yes	+3.27	+14.5%
2024-2026 Geotechnical activities	24.32	Yes	+1.82	+7.5%

Source: Combination of regional travel demand and VMT models for study area.
VMT = vehicle miles traveled.

3.2.17.1 Transportation Impact Conclusion

No mitigation measures or alternatives with the potential to substantially reduce the significant and unavoidable transportation impact (Impact TRANS-1) and that DWR previously determined to be infeasible when it approved the Project are now feasible. Furthermore, DWR has not identified any new mitigation measures or alternatives with the potential to substantially reduce this significant and unavoidable impact and that is considerably different from those analyzed in the Final EIR. The conclusions regarding a significant and unavoidable impact (Impact TRANS-1), a less than significant impact, after mitigation (Impact TRANS-3, Impact TRANS-4), and a less than significant impact (Impact TRANS-2, Impact TRANS-5) from the Final EIR remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of

substantial importance have been identified for transportation that could result in any new potentially significant impacts.

3.2.18 Public Services and Utilities (Final EIR Chapter 21)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 21, Section 21.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on public services and utilities are determined, are provided in the Final EIR, Volume 1, Chapter 21, Section 21.3.2 – Thresholds of Significance (Final EIR pages 21-22 through 21-23).

Although geotechnical activities would require workers (as incorporated into the data in Table 21-1 of the Final EIR), the construction worker population is assumed to come from the existing labor force, which is already served by existing law enforcement, fire department, hospitals, schools, and other publics services in the study area, for the Approved Project. For the 2024-2026 geotechnical activities, these workers would be temporary and are not anticipated to relocate to the study area, thus there would not be a need for construction of new or expanded infrastructure or services related to police protection, fire protection, hospitals, schools, or other public services for the larger Delta Conveyance Project, and thus for the geotechnical activities. Investigations would not require or result in the relocation or construction of service system infrastructure (e.g., water and wastewater services, stormwater drainage). geotechnical activities will not require electric power, and telecommunications. As per the analysis in the Final EIR, the Project would not cause any exceedance of landfill capacity or exceed any State or local standards. All holes will be back filled per regulatory standards and returned to existing conditions.

3.2.18.1 Public Services and Utilities Impact Conclusion

The conclusion regarding a less than significant impact from the Final EIR remains unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for public services and utilities that could result in any new potentially significant impacts.

3.2.19 Energy (Final EIR Chapter 22)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 22, Section 22.3.4.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on energy are determined, are provided in the Final EIR, Volume 1, Chapter 22, Section 22.3.2 – Thresholds of Significance (Final EIR page 22-18).

The geotechnical activities would require temporary use of energy for drill rigs and monitoring equipment. These demands on energy sources would contribute to the overall construction energy demand but would not result in substantial energy use or result in wasteful or inefficient use of energy because the applicable environmental commitments and BMPs in the Final EIR, would reduce energy demand to the extent possible. The geotechnical activities with incorporation of these efficiencies, as applicable, will have no impact on any state/local plan, goal, objective, or policy for renewable energy or energy efficiency.

3.2.19.1 Energy Impacts Conclusion

The conclusions regarding a less than significant impact (Impact ENG-1) and no impact (Impact ENG-2) from the Final EIR remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for energy that could result in any new potentially significant impacts.

3.2.20 Air Quality and Greenhouse Gases (Final EIR Chapter 23)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 23, Section 23.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on air quality and greenhouse gas emissions are determined, are provided in the Final EIR, Volume 1, Chapter 23, section 23.3.2 – Thresholds of Significance (Final EIR pages 23-46 through 23-47). Final EIR, Volume 1, Appendix 23B provides air quality assumptions. These air quality assumptions remain the same, except as noted in Attachment 1 of this memorandum.

The geotechnical activities assume approximately 1 CPT and 4 boring drill rigs operating on the same day within Contra Costa and/or Alameda Counties, 2 CPTs and 6 boring drill rigs operating on the same day in San Joaquin County, and 1 CPT and 4 boring drill rigs operating on the same day in Sacramento County.

Note that several of the borings are shallow (i.e. 15 feet deep) and it is assumed that the same drill rig could be used to drill more than one of these borings on the same day.

The criteria pollutant and precursor thresholds for the Sacramento Metropolitan Air Quality Management District (SMAQMD), the San Joaquin Valley Air Pollution Control District (SJVAPCD), the Bay Area Air Quality Management District (BAAQMD), and the Yolo-Solano Air Quality Management District (YSAQMD) are listed in Final EIR Table 23-9. Tables 3 thru 5, below, conclude that the criteria pollutant and precursor emissions thresholds will not be exceeded because of the geotechnical activities for SMAQMD, SJVAPCD, and the BAAQMD. It should be noted that emissions calculations for the SMAQMD are from employee transportation through Sacramento County and no geotechnical activities are to occur in Sacramento County. Geotechnical activities emissions calculations for the SJVAPCD and the BAAQMD include on the ground field investigation locations within these counties, as well as employee transportation within and through these counties. Calculations consider the depth of land borings, activity duration, and the short-term sampling of water quality. An air quality analysis was not calculated for the YSAQMD because the geotechnical activities will not occur in Yolo or Solano Counties. (See Attachment 1 assumptions for equipment, workers, and vehicles for the 2024-2026 proposed geotechnical activities.)

Table 3. Comparison of Final EIR and Revised Criteria Pollutant and Precursor Emissions from 2024-2026 Geotechnical Activities for Alternative 5 in the San Joaquin Valley Air Pollution Control District [a]

	Maximum Daily Onsite Emissions (lbs/day) [b]										Annual Emissions (tons/year)									
				PM10			PM2.5							PM10			PM2.5			
Analysis	ROG	NO_X	CO	Exhaust	Dust	Total [c]	Exhaust	Dust	Total [c]	SO_2	ROG	NO_X	CO	Exhaust	Dust	Total [c]	Exhaust	Dust	Total [c]	SO_2
Final EIR																				
PFIY 1	4	23	**134**	1	7	8	1	2	3	<1	1	3	17	<1	1	1	<1	<1	<1	<1
PFIY 2	4	22	**132**	1	7	8	1	2	3	<1	1	3	17	<1	1	1	<1	<1	<1	<1
Revised																				
2025	2	11	98	<1	3	3	<1	<1	1	<1	<1	1	7	<1	4	4	<1	1	1	<1
2026	2	11	98	<1	3	3	<1	<1	1	<1	<1	<1	3	<1	1	2	<1	<1	<1	<1
Threshold [d,e]	*100*	*100*	*100*	–	–	*100*	–	–	*100*	*100*	*10*	*10*	*100*	–	–	*15*	–	–	*15*	*27*

PFIY = preliminary field investigation year; BMPs = best management practices; CO = carbon monoxide; lbs = pounds; NOX = nitrogen oxides; PM10 = particulate matter that is 10 microns in diameter and smaller; PM2.5 = particulate matter that is 2.5 microns in diameter and smaller; ROG = reactive organic gases; SO_2 = sulfur dioxide; SJVAPCD = San Joaquin Valley Air Pollution Control District.

[a] Emissions results include implementation of air quality Environmental Commitments EC-7 (partially quantified) and EC-11.

[b] Presents the highest onsite emissions estimate during a single day of construction, based on concurrent construction activities.

[c] Total PM10 and PM2.5 emissions consist of exhaust and fugitive dust emissions. Values for exhaust and dust may not add to the totals in the total column because of rounding.

[d] In developing these thresholds, the air district considered levels at which project emissions are cumulatively considerable. Consequently, exceedances of project-level thresholds would be cumulatively considerable.

[e] The 100-pound-per-day threshold is a screening-level threshold to help determine whether increased onsite emissions from a project would cause or contribute to a violation of CAAQS or NAAQS. Projects with onsite emissions below the threshold would not be in violation of CAAQS or NAAQS. Projects with onsite emissions above the threshold would require an AAQA to confirm this conclusion (San Joaquin Valley Air Pollution Control District 2015a:93).

Table 4. Comparison of Final EIR and Revised Criteria Pollutant and Precursor Emissions from 2024-2026 Geotechnical Activities for Alternative 5 in the Bay Area Air Quality Management District [a]

	Maximum Daily Emissions (lbs/day) [b]										Annual Emissions (tons/year)									
				PM10			PM2.5							PM10			PM2.5			
Analysis	ROG	NO_X	CO	Exhaust	Dust	Total [c]	Exhaust	Dust	Total [c]	SO_2	ROG	NO_X	CO	Exhaust	Dust	Total [c]	Exhaust	Dust	Total [c]	SO_2
Final EIR																				
PFIY 1	14	**113**	161	4	3	7	3	1	4	<1	<1	1	4	<1	<1	<1	<1	<1	<1	<1

PFIY 2	14	**113**	161	4	3	7	3	1	4	<1	<1	1	4	<1	<1	<1	<1	<1	<1	<1
Revised																				
2025	2	12	73	<1	17	17	<1	2	3	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
2026	2	12	73	<1	17	17	<1	2	3	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Threshold [d]	*54*	*54*	–	*82*	*BMPs* [e]	–	*82*	*BMPs* [e]	–	–	–	–	–	–	–	–	–	–	–	–

PFIY = preliminary field investigation year; BMPs = best management practices; CO = carbon monoxide; lbs = pounds; NOX = nitrogen oxides; PM10 = particulate matter that is 10 microns in diameter and smaller; PM2.5 = particulate matter that is 2.5 microns in diameter and smaller; ROG = reactive organic gases; SO_2 = sulfur dioxide; BAAQMD = Bay Area Air Quality Management District.

[a] Emissions results include implementation of air quality Environmental Commitments EC-7 (partially quantified) and EC-11.

[b] Presents the highest emissions estimate during a single day of construction, based on concurrent construction activities.

[c] Total PM10 and PM2.5 emissions consist of exhaust and fugitive dust emissions. Values for exhaust and dust may not add to the totals in the total column because of rounding.

[d] In developing these thresholds, the air district considered levels at which project emissions are cumulatively considerable. Consequently, exceedances of project-level thresholds would be cumulatively considerable.

[e] BAAQMD considers PM dust impacts to be less than significant with implementation of BMPs.

Table 5. Comparison of Final EIR and Revised Criteria Pollutant and Precursor Emissions from 2024-2026 Geotechnical Activities for Alternative 5 in the Sacramento Metropolitan Air Quality Management District [a]

	Maximum Daily Emissions (lbs/day) [b]										Annual Emissions (tons/year)									
				PM10			PM2.5							PM10			PM2.5			
Analysis	ROG	NO_X	CO	Exhaust	Dust	Total [c]	Exhaust	Dust	Total [c]	SO_2	ROG	NO_X	CO	Exhaust	Dust	Total [c]	Exhaust	Dust	Total [c]	SO_2
Final EIR																				
PFIY 1	31	**197**	264	8	5	13	7	1	8	<1	1	2	11	<1	<1	1	<1	<1	<1	<1
PFIY 2	31	**197**	264	8	5	13	7	1	8	<1	<1	2	9	<1	<1	<1	<1	<1	<1	<1
Revised																				
2025	2	14	77	<1	20	21	<1	3	3	<1	<1	<1	1	<1	1	1	<1	<1	<1	<1
2026	2	14	76	<1	20	21	<1	3	3	<1	<1	1	4	<1	3	3	<1	<1	<1	<1
Threshold [d]	–	*85*		–	–	*80* [e]	–	–	–	*80* [e]	–	–	–	–	–	*14.6*	–	–	*15.0*	–

PFIY = preliminary field investigation year; BMPs = best management practices; CO = carbon monoxide; lbs = pounds; NOX = nitrogen oxides; PM10 = particulate matter that is 10 microns in diameter and smaller; PM2.5 = particulate matter that is 2.5 microns in diameter and smaller; ROG = reactive organic gases; SO_2 = sulfur dioxide; SMAQMD = Sacramento Metropolitan Air Quality Management District.

[a] Emissions results include implementation of air quality Environmental Commitments EC-7 (partially quantified) and EC-11.

[b] Presents the highest emissions estimate during a single day of construction, based on concurrent construction activities.

[c] Total PM10 and PM2.5 emissions consist of exhaust and fugitive dust emissions. Values for exhaust and dust may not add to the totals in the total column because of rounding.

[d] In developing these thresholds, the air district considered levels at which project emissions are cumulatively considerable. Consequently, exceedances of project-level thresholds would be cumulatively considerable.
[e] Threshold applicable with implementation of all feasible dust control BMPs.

Criteria pollutant concentrations are estimated for major construction components (e.g., intakes) based on representative local meteorological conditions. Only the modeled maximum pollutant concentration in each air district with surface construction is reported (Final EIR pages 23-132 through 23-150). Similarly, health risks along the conveyance alignment were estimated based on representative local meteorological conditions. The health risks shown in Final EIR Table 23-64 represent the highest modeled off-site risk within each air district, which typically occurs at the receptor closest to the construction footprint (Final EIR pages 23-150 through 23-159). Due to the remote and temporary nature of the geotechnical activities, and the distance to receptors, geotechnical activities are not likely to contribute to exceedances of criteria pollutants, toxic air contaminants, asbestos, lead-based paint, fungal spores that cause valley fever, and odor emissions. However, DWR will apply applicable MMRP Air Quality mitigation measures to ensure no threshold exceedances. Implementation of EC-7 and EC-13 would minimize construction emissions through implementation of the on-site controls.

Table 6, below, provides the anticipated greenhouse gas emissions calculations for the geotechnical activities. Table 7 includes the real-time calculations for the 2024 activities that were completed, as well as the projected greenhouse gas emissions for the geotechnical activities and compares to the Final EIR calculations for the Approved Project and geotechnical activities, years 1 and 2 (See Final EIR Table 23-74). These calculations show that the estimated GHG projections from the Final EIR, for the Approved Project, would be reduced with the revised geotechnical activities, years 1 and 2 emissions. (See Attachment 1 for assumptions related to equipment, workers, vehicles, drilling depths, duration, and water quality testing.)

Field investigation work is not expected to result in a change to the underlying land use of any properties, because all affected areas would be returned to as close to pre-activity conditions as possible, and thus would not impact global climate change from land use changes. See analyses under Land Use Section 3.3.11 of this memorandum, as well as Final EIR Analyses under Section 14.3.3.2.

Table 6. Comparison of Final EIR and Revised Greenhouse Gas Emissions from 2024-2026 Geotechnical Activities for Alternative 5 – projection

Analysis	MT CO_2e
Final EIR	
PFIY 1	6,122
PFIY 2	5,759
Total	11,881
Revised	
2024	68
2025	2,725
2026	2,323
Total	5,116

PFIY = preliminary field investigation year; MT CO_2e = metric tons carbon dioxide equivalent.

Table 7. Revised Greenhouse Gas Emission for Alternative 5 (per 2024 real-time data and 2024-2026 projections) Required to be Offset Pursuant to Mitigation Measure AQ-9

Metric		MT CO_2e
Final EIR Alternative 5 GHG offset requirement for MM-AQ-9	[A]	401,990 [a]
Final EIR PFIY 1 and 2 emissions (see Table 4)	[B]	11,881
Final EIR Alternative 5 GHG offset requirement for MM-AQ-9 without Final EIR PFIY 1 and 2 emissions	[C]	390,109 [a, b]
Revised geotechnical (2024-2026) emissions (see Table 4)	[D]	5,116
Revised Alternative 5 GHG offset requirement for MM-AQ-9 with revised geotechnical (2024-2026) emissions	[E]	395,225 [a, c]

PFIY = preliminary field investigation year; MT CO_2e = metric tons carbon dioxide equivalent; MM = mitigation measure; Final EIR = Final Environmental Impact Report

[a] Includes emissions from construction of the compensatory mitigation sites.

[b] [A] – [B].

[c] [C] + [D].

3.2.20.1 Air Quality and Greenhouse Gas Emissions Impacts Conclusions

The geotechnical activities' temporary impact on air quality and greenhouse gas emission would be less than significant. With execution of the 2024-2026 geotechnical activities, the conclusions regarding a significant and unavoidable impact (Impact AQ-5), less than significant impact with mitigation (Impact AQ-1, Impact AQ-2, Impact AQ-3, Impact AQ-9, Impact AQ-10), and less than significant impact (Impact AQ-4, Impact AQ-6, Impact AQ-7, Impact AQ-8) from the Final EIR remain unchanged, as the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for air quality and greenhouse gas emissions that could result in any new potentially significant impacts.

3.2.21 Noise and Vibration (Chapter 24)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 24, Section 24.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on noise and vibration are determined, are provided in the Final EIR, Volume 1, Chapter 24, Section 24.3.2 – Thresholds of Significance (Final EIR pages 24-27 through 24-28).

The geotechnical activities will occur at a given location for a short amount of time during daytime hours and would cease once the testing is complete. The geotechnical activities would not cause noticeable vibration levels at the nearest residences. Vibrations from heavy equipment are not expected to produce perceptible levels of vibration inside of the nearest residences or have the potential to result in building damage. The geotechnical activities would not add sensitive uses that would be affected by aircraft noise, and workers would not be exposed to excessive airport noise. DWR will develop a noise control plan in compliance with MM NOI-1, so as not to exceed noise thresholds near sensitive resources, during the 2024-2026 geotechnical activities. If sound level monitoring data shows that an exceedance has the potential to occur near one or more sensitive receptors, DWR will either abandon the activity, relocate the activity to a location that will not exceed noise level thresholds, revise the work schedule, or coordinate with the affected residents for short term relocation assistance. Measures related to pile driving testing are not applicable since this activity is not proposed as part of the geotechnical activities.

3.2.21.1 Noise and Vibration Impacts Conclusion

The 2024-2026 geotechnical activities will not include pile driving and will comply with MM NOI-1 (where applicable). As described in the noise plan for the 2024-2026 geotechnical activities, noise impacts resulting from the 2024-2026 geotechnical activities will be reduced to less than significant with mitigation. The conclusions regarding a significant and unavoidable impact (Impact NOI-1), a less than significant impact (Impact NOI-2) and no impact (Impact NOI-3) from the Final EIR, for the approved project, remain unchanged, as executing the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for noise and vibration that could result in any new potentially significant impacts.

3.2.22 Hazards, Hazardous Materials, and Wildfire (Chapter 25)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 25, Section 25.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on hazards, hazardous materials, and wildfire are determined, are provided in the Final EIR, Volume 1, Chapter 25, Section 25.3.2 – Thresholds of Significance (Final EIR page 25-28).

Accidental release of these materials could result in a safety hazard to human health or the environment. Geotechnical and hydrogeologic testing would result in soil disturbance and the possibility of encountering contaminated soils which could be hazardous to human health or the environment. Compliance with applicable laws and regulations would reduce potential impacts resulting from the transport, handling, use, and disposal of these materials. Consistent with applicable laws and regulations, the transport, use, and disposal of hazardous materials would comply with regulations enforced by regulatory agencies such as CUPAs and Cal/OSHA. Implementation of the environmental commitments described in Appendix 3B, such as Environmental Commitment EC-2: Develop and Implement Hazardous Materials Management Plans; and EC-3: Develop and Implement Spill Prevention, Containment, and Countermeasure Plans would reduce the potential for hazardous materials effects by identifying known hazardous materials sites, designing protocols for reducing hazardous materials exposure, and treating and disposing of hazardous substances at construction sites. Geotechnical activities for Project construction would occur primarily within the footprint of the individual alternative and would not include structures that would impede airspace. Geotechnical activities would not result in a safety hazard involving airports. Geotechnical activities would not substantially conflict with emergency response plans. Geotechnical activities would involve the presence of personnel and equipment, both of which could inadvertently start a fire (e.g., smoking, sparks from equipment). Compliance with applicable laws and regulations regarding fire prevention and safety and Environmental Commitment EC-5: Develop and Implement a Fire Prevention and Control Plan would include provisions such as consultation with fire agencies, spark arrestors on construction equipment, and maintaining appropriate fire suppression equipment to further reduce impacts related to wildland fires. The potential for the Approved Project and geotechnical activities to expose people or structures to a substantial risk of wildland fire would be less than significant.

Geotechnical activities would not result in a safety hazard involving airports, are not associated with property acquisition, and do not directly conflict with emergency plans and evacuation routes. As such, MM HAZ-2 will not apply to the geotechnical activities.

3.2.22.1 Hazards, Hazardous Materials and Wildfire Impacts Conclusion

The conclusions regarding a less than significant impact with mitigation (Impact HAZ-2, Impact HAZ-4, Impact HAZ-6) and a less than significant impact (Impact HAZ-1, Impact HAZ-3, Impact HAZ-5, Impact HAZ-7) from the Final EIR remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for hazards, hazardous materials and wildfire that could result in any new potentially significant impacts.

3.2.23 Public Health (Chapter 26)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 26, Section 26.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on public health are determined, are provided in the Final EIR, Volume 1, Chapter 26, Section 26.3.2 – Thresholds of Significance (Final EIR page 26-27).

Ground-disturbing activities as part of geotechnical activities or exposure of disturbed sites immediately following geotechnical activities could result in precipitation-related soil erosion and runoff to surface waterbodies in the study area. Any existing trace metals, pesticides, other contaminants, or organic matter in the soil could incrementally increase concentrations in surface water. However, this potential effect on water quality would be temporary and fairly localized to areas of construction. The development and implementation of site-specific Erosion and Sediment Control Plans for the geotechnical activities would minimize the potential for this impact by controlling erosion and runoff to surface water, ensure that activities would not substantially increase or substantially mobilize legacy organochlorine pesticides or methylmercury during the geotechnical activities. The geotechnical activities will not occur over water and thus will not contribute to an increase in cyanobacterial harmful algal blooms (CHABs). Geotechnical activities will not expose sensitive receptors to new sources of electromagnetic fields because geotechnical activities do not involve the construction, operations, or maintenance of permanent aboveground and underground transmission lines.

Geotechnical activities, as described in this memorandum, do not involve facilities management. As such, mitigation measure PH-1b is not applicable to the geotechnical activities.

3.2.23.1 Public Health Impacts Conclusion

The conclusions regarding a less than significant impact with mitigation (Impact PH-1), and a less than significant impact (Impact PH-2, Impact PH-3, Impact PH-4, Impact PH-5) from the Final EIR remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for public health that could result in any new potentially significant impacts.

3.2.24 Paleontological Resources (Chapter 28)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 28, Section 28.3.3.2, which are based on the general questions posed in the CEQA guidelines Appendix G Environmental Checklist. The thresholds of significance for which impacts of the geotechnical activities on paleontological resources are determined, are provided in the Final EIR, Volume 1, Chapter 28, Section 28.3.2 – Thresholds of Significance (Final EIR page 28-16 through 28-17).

Most investigations would occur in young surficial sediments and would disturb a small area, and therefore would be unlikely to destroy paleontological resources. Although soil borings would be deep, the diameter of the bore is small, and the bore holes would therefore be unlikely to destroy unique paleontological resources. geotechnical activities are data collection efforts that do not involve tunnel construction or ground improvement and thus would be unlikely to destroy unique paleontological resources. (Final EIR Section 28.3.3.2).

Activities involving trenching would involve the implementation of mitigation measures PALEO-1a and PALEO-1b, however, because the geotechnical activities will not involve trenching, these mitigation measures are not applicable.

3.2.24.1 Paleontological Resources Impacts Conclusion

The activities being performed as part of the 2024-2026 geotechnical activities will occur in soil types that are unlikely to destroy paleontological resources, will not involve tunnel construction or ground improvements and will not involve trenching along faults. The impacts to paleontological resources as a result of the 2024-2026 geotechnical activities is less than significant. The conclusions regarding a significant and unavoidable impact (Impact PALEO-2) and a less than significant impact with mitigation (Impact PALEO-1), from the Final EIR remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for paleontological resources that could result in any new potentially significant impacts.

3.2.25 Environmental Justice (Final EIR Chapter 29)

Significant environmental impacts identified in the Final EIR for CEQA resource topics are considered to be surrogates for adverse effects under the National Environmental Policy Act (NEPA). The Final EIR therefore draws on CEQA analyses of other resource topics to establish which CEQA significant environmental impacts could have the potential for "disproportionately high and adverse" effects on environmental justice communities as defined in federal requirements under Executive Order (EO) 12898 (Section 29.2, Environmental Justice Context). The environmental justice analysis is primarily qualitative, and conclusions are stated in NEPA terms of adverse effect rather than CEQA significance terminology. Where the resource chapters in the Final EIR identify significant impacts before mitigation or significant and unavoidable impacts with or without mitigation, the potential effect on environmental justice is analyzed in Final EIR, Volume 1, Chapter 29, Section 29.4.2- Analysis of Disproportionately High and Adverse Effects. Mitigation measures or environmental commitments to reduce significant impacts identified in the resource chapters would not result in disproportionately adverse effects on environmental justice.

3.2.25.1 Environmental Justice Impact Conclusion

The conclusions from the Final EIR, regarding impacts to environmental justice remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for environmental justice that could result in any new potentially significant impacts.

3.2.26 Climate Change (Final EIR Chapter 30)

The Final EIR Chapter focuses on climate change's effects on the study area, in the future, presumably on how the Project operates and may also include some aspects of construction. The geotechnical activities will occur in the near term and are of a temporary nature. Impacts of geotechnical activities are analyzed based on conditions in 2020 and would not be affected by climate change. See analysis for Final EIR, Volume 1, Chapter 23 (Section 3.2.20 of this memorandum), with regards to geotechnical activities contribution to greenhouse gases and air quality.

3.2.27 Growth Inducement (Final EIR Chapter 31)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 31, Section 31.2.3. The thresholds of significance for which impacts of the geotechnical activities on growth

inducement are determined, are provided in the Final EIR, Volume 1, Chapter 31, Section 31.2.2 – Thresholds of Significance (Final EIR page 31-6).

Direct Growth inducement is a function of the highest projected employment during the peak construction period. The Final EIR analyses reveal that Project construction would not induce substantial new housing development, as a result of peak employment projections. Thus, geotechnical activities, that involve short term, temporary activities with minimal personnel would, in turn, not contribute to direct growth inducement. Indirect growth inducement is a function of the construction of new and/or modified infrastructure (e.g., new roads, levee modifications) and water deliveries associated with Project operations. Geotechnical activities do not involve construction nor operations and thus will not impact indirect growth inducement.

3.2.28 Tribal Cultural Resources (Final EIR Chapter 32)

The impact analysis assumes that the geotechnical activities would have a significant impact under CEQA if execution of the geotechnical activities would result in one of the potential impacts analyzed in Final EIR, Volume 1, Chapter 32, Section 32.3.3.2. The thresholds of significance for which impacts of the geotechnical activities on Tribal cultural resources are determined, are provided in the Final EIR, Volume 1, Chapter 32, Section 32.3.2 – Thresholds of Significance (Final EIR page 32-33).

The Approved Project may limit a Tribe's ability to physically experience character defining features by physically damaging or destroying them. And, while geotechnical activities are temporary in nature, like the Approved Project, investigations have the potential to affect individual resources or character-defining features of the Delta TCL as discussed in the Final EIR Impact TCR-1. To avoid such impacts, the 2024-2026 geotechnical activities will be moved the distance necessary so as not to impact any individual Tribal cultural resources or character-defining features of the Delta TCL that may be identified during site clearance activities. If moving an activity will still contribute to an impact, the location of the 2024-2026 geotechnical activities will be abandoned altogether.

The geotechnical activities will not involve the design or development of the compensatory mitigation plan. Therefore, mitigation measure TCR-1d is not applicable to the geotechnical activities.

3.2.28.1 Tribal Cultural Resources Impacts Conclusion

No mitigation measures or alternatives with the potential to substantially reduce the Project's significant and unavoidable Tribal cultural resource impacts (Impacts TCR-1 and TCR-2) and that DWR previously determined to be infeasible when it approved the

Project are now feasible. Furthermore, DWR has not identified any new mitigation measures or alternatives with the potential to substantially reduce these significant and unavoidable impacts and that is considerably different from those analyzed in the Final EIR. The conclusions regarding a significant and unavoidable impact from the Final EIR remain unchanged, as the execution of the geotechnical activities will not result in any new potentially significant impacts or substantial increase in the severity of previously identified potentially significant impacts. Additionally, no changes in circumstances or new information of substantial importance have been identified for Tribal Cultural Resources that could result in any new potentially significant impacts.

3.3 Next Steps

Compliance with applicable Delta Conveyance Project mitigation measures (and/or applicable components of such measures) is required to conduct the geotechnical activities. In addition to clearance surveys, monitoring, and regular reporting, the geotechnical activities will include the development of the following plans, documents, and trainings prior to commencing with the geotechnical activities:

- Environmental Resources Worker Awareness Trainings (EC-1)
- Health and Safety Plan to include:
    - Hazardous materials management plan (EC-2)
    - Spill prevention, containment, and countermeasure plan (EC-3)
    - Fire Prevention and Control Plan (EC-5)
- Environmental Compliance and Monitoring Plan (EC-14)
- Track GHG emissions resulting from geotechnical activities (AQ-9)
- Tribal Cultural Resources Management Plan specific to geotechnical activities (TCR-1b)
- Transportation Demand Management Plan and Transportation Management Plan (TRANS-1)
- Noise Control Plan (NOI-1)

References

California Department of Water Resources. 2023. Delta Conveyance Project Final Environmental Impact Report. December. (ICF 103653.0.003.) Sacramento, CA. Prepared by ICF, Sacramento, CA. Available at: https://www.deltaconveyanceproject.com/planning-processes/california-environmental-quality-act/final-eir/final-eir-document

California Invasive Plant Council. 2012. Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors. Cal-IPC Publication 2012-01. California Invasive Plant Council, Berkeley, CA. Available at: www.cal-ipc.org.

Attachment 1: 2024-2026 Equipment, Worker, and Vehicle Assumptions for use in Air Quality, GHG, and Transportation Analyses of the 2024-2026 Proposed Geotechnical Activities

		Average Duration (days)	Number of Vehicles per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Hours Per day on Site	Horsepower	Load Factor
15' Borings On Land	Field reconnaissance team - 5 vehicles	1	5	5	60	2		
	Drill Rigs - 50-foot deep borings [1]	1	1	1	60	10	500	0.50
	Water Truck [2]	1	1	2	60	10	250	0.38
	Liftgate Truck [1]	1	1	1	60	4	250	0.38
	Geotechnical Team Vehicles - 5 vehicles	1	5	5	60	10		
	Biological & Cultural Resources Monitors Vehicles - 2 vehicles	1	2	2	60	10		
	Regulatory Agency Vehicles - 2 vehicles	1	2	2	60	2		
	Engineering Team Vehicle - 1 vehicle	1	1	1	60	10		

[1] It was assumed 1 total round trip for the drill rig and liftgate truck.
[2] It was assumed 2 round trips per day to account for water truck refills each day.

		Average Duration (days)	Number of Vehicles per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Hours Per day on Site	Horsepower	Load Factor
50'-75' Borings On Land	Field reconnaissance team - 5 vehicles	1	5	5	60	2		
	Drill Rigs - 50- to 75-foot deep borings [1]	2	1	1	60	10	500	0.50
	Water Truck [2]	2	1	4	60	10	250	0.38
	Liftgate Truck [1]	2	1	1	60	4	250	0.38
	Geotechnical Team Vehicles - 5 vehicles	2	5	10	60	10		
	Biological & Cultural Resources Monitors Vehicles - 2 vehicles	2	2	4	60	10		
	Regulatory Agency Vehicles - 2 vehicles	2	2	4	60	2		
	Engineering Team Vehicle - 1 vehicle	2	1	2	60	10		

[1] It was assumed 1 total round trip for the drill rig and liftgate truck.
[2] It was assumed 2 round trips per day to account for water truck refills each day.

		Average Duration (days)	Number of Vehicles per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Hours Per day on Site	Horsepower	Load Factor
100'-150' Borings On Land	Field reconnaissance team - 5 vehicles	1	5	5	60	2		
	Drill Rigs - 100- to 150-foot deep borings [1]	4	1	1	60	10	500	0.50
	Water Truck [2]	4	1	8	60	10	250	0.38
	Liftgate Truck [1]	4	1	1	60	4	250	0.38
	Geotechnical Team Vehicles - 5 vehicles	4	5	20	60	10		
	Biological & Cultural Resources Monitors Vehicles - 2 vehicles	4	2	8	60	10		
	Regulatory Agency Vehicles - 2 vehicles	4	2	8	60	2		
	Engineering Team Vehicle - 1 vehicle	4	1	4	60	10		

[1] It was assumed 1 total round trip for the drill rig and liftgate truck.
[2] It was assumed 2 round trips per day to account for water truck refills each day.

		Average Duration (days)	Number of Vehicles per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Hours Per day on Site	Horsepower	Load Factor
175'-200' Borings On Land	Field reconnaissance team - 5 vehicles	1	5	5	60	2		
	Drill Rigs - 175- to 200-foot deep borings [1]	7	1	1	60	10	550	0.50
	Water Truck [2]	7	1	14	60	10	250	0.38
	Tractor-Trailer Lowboy Truck [3]	2	1	2	60	2	500	
	Liftgate Truck [1]	7	1	1	60	4	250	0.38
	Geotechnical Team Vehicles - 5 vehicles	7	5	35	60	10		
	Biological & Cultural Resources Monitors Vehicles - 2 vehicles	7	2	14	60	10		
	Regulatory Agency Vehicles - 2 vehicles	7	2	14	60	2		
	Engineering Team Vehicle - 1 vehicle	7	1	7	60	10		
	Traffic Control - 2 vehicles	7	2	14	60	10		

[1] It was assumed 1 total round trip for the drill rig and liftgate truck.
[2] It was assumed 2 round trips per day to account for water truck refills each day.
[3] It was assumed 2 total round trips for the tractor-trailer lowboy truck. It would be mobilized at the beginning and end of each investigation.

		Average Duration (days)	Number of Vehicles per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Hours Per day on Site	Horsepower	Load Factor
200' to 250' Borings On Land	Field reconnaissance team - 5 vehicles	1	5	5	60	2		
	Drill Rigs - 200- to 250-foot deep borings [1]	9	1	1	60	10	550	0.50
	Water Truck [2]	9	1	18	60	10	250	0.38
	Tractor-Trailer Lowboy Truck [3]	2	1	2	60	2	500	
	Liftgate Truck [1]	9	1	1	60	4	250	0.38
	Geotechnical Team Vehicles - 5 vehicles	9	5	45	60	10		
	Biological & Cultural Resources Monitors Vehicles - 2 vehicles	9	2	18	60	10		
	Regulatory Agency Vehicles - 2 vehicles	9	2	18	60	2		
	Engineering Team Vehicle - 1 vehicle	9	1	9	60	10		
	Traffic Control - 2 vehicles	9	2	18	60	10		

[1] It was assumed 1 total round trip for the drill rig and liftgate truck.
[2] It was assumed 2 round trips per day to account for water truck refills each day.
[3] It was assumed 2 total round trips for the tractor-trailer lowboy truck. It would be mobilized at the beginning and end of each investigation.

		Average Duration (days)	Number of Vehicles per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Hours Per day on Site	Horsepower	Load Factor
Up to 250' CPT on Land	Field reconnaissance team - 5 vehicles	1	5	5	60	2		
	CPT Truck [1]	2	1	1	60	10	500	
	Grout Truck [1]	2	1	1	60	2	250	
	Tractor-Trailer Lowboy Truck [2]	2	1	2	60	2	500	
	Geotechnical Team Vehicles - 4 vehicles	2	4	8	60	10		
	Biological & Cultural Resources Monitors Vehicles - 2 vehicles	2	2	4	60	10		
	Regulatory Agency Vehicles - 2 vehicles	2	2	4	60	2		
	Traffic Control - 2 vehicles	2	2	4	60	10		

[1] It was assumed 1 total round trip for the CPT truck and grout truck because they would be present throughout the entire investigation.
[2] It was assumed 2 total round trips for the tractor-trailer lowboy truck. It would be mobilized at the beginning and end of each CPT.

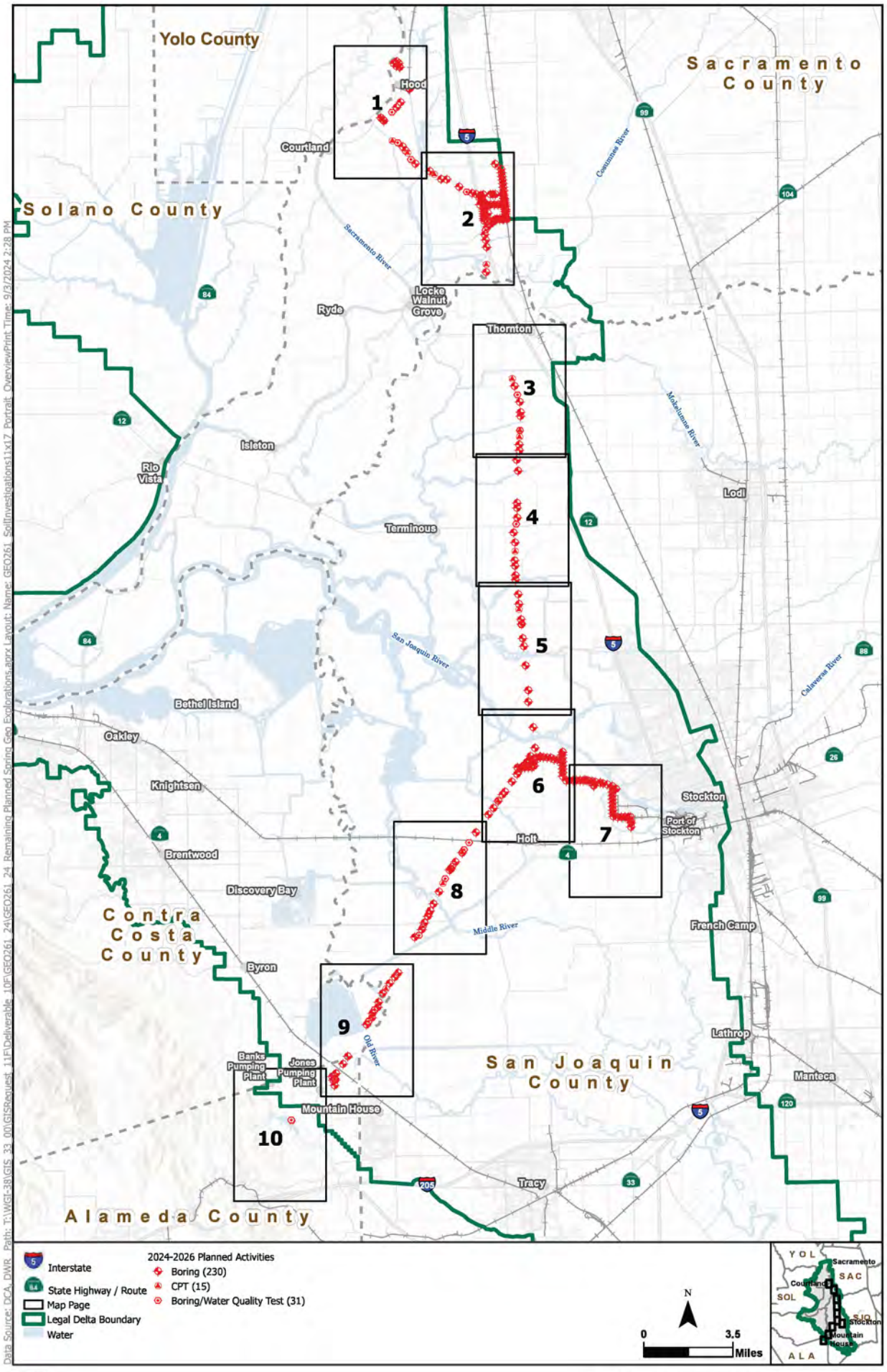
		Average Duration (days)	Number of Vehicles per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Hours Per day on Site	Horsepower	Load Factor
200'-250' Boring for Water Quality Tests	Field reconnaissance team - 5 vehicles	1	5	5	60	2		
	Drill Rigs - 200-250-foot deep borings [1]	9	1	1	60	10	550	0.50
	Water Truck [2]	9	1	18	60	10	250	0.38
	Tractor-Trailer Lowboy Truck [3]	2	1	2	60	2	500	
	Liftgate Truck [1]	9	1	1	60	4	250	0.38
	Geotechnical Team Vehicles - 5 vehicles	9	5	45	60	10		
	Biological & Cultural Resources Monitors Vehicles - 2 vehicles	9	2	18	60	10		
	Regulatory Agency Vehicles - 2 vehicles	9	2	18	60	2		
	Engineering Team Vehicle - 1 vehicle	9	1	9	60	10		

[1] It was assumed 1 total round trip for the drill rig and liftgate truck.
[2] It was assumed 2 round trips per day to account for water truck refills each day.
[3] It was assumed 2 total round trips for the tractor-trailer lowboy truck. It would be mobilized at the beginning and end of each investigation.

		Average Duration (days)	Number of Vehicles or pieces of equipment per Investigation	Number of Roundtrips Per Investigation	Average Mileage per Round Trip	Average Operations Hours Per day on Site	Horsepower	Load Factor
Pumping Assumptions for Water Quality Tests	Vertical turbine or submersible pump[1, 2]	3	1	n/a	n/a	4	50	
	Water Truck [3]	3	1	3	60	4	250	0.38
	Geotechnical Team Vehicles - 2 vehicles	3	2	6	60	10		
	Regulatory Agency Vehicles - 2 vehicles	3	2	6	60	2		

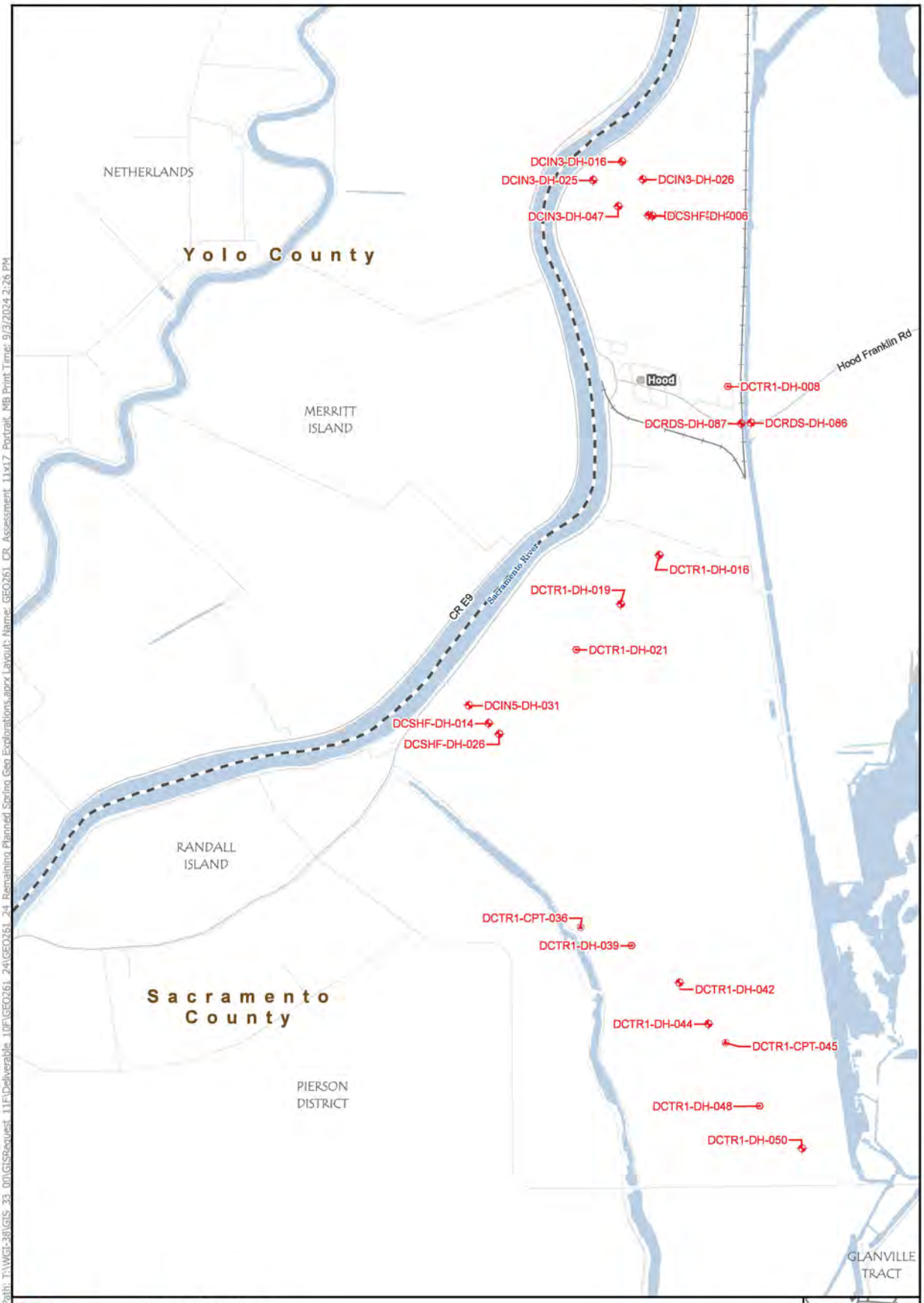
[1] A pump capable of pumping up to 50 gallons per minute is assumed.
[2] Drilling is covered under 200' -205' Boring for Water Quality Tests assumptions above.
[3] A Water truck would be used to collect excess water pumped and would be disposed of offsite

Attachment 2: 2024-2026 Proposed Geotechnical Activity Locations



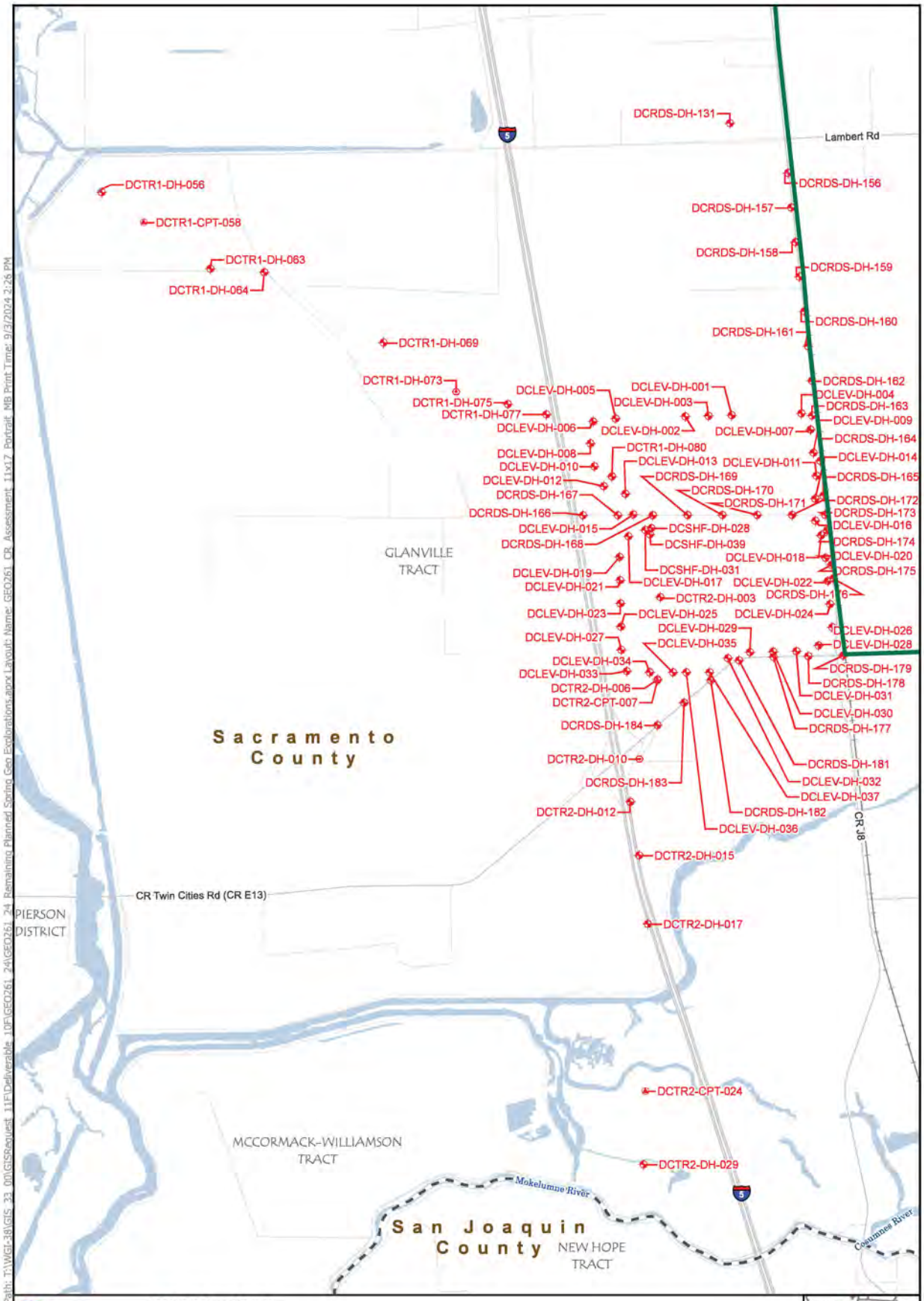
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2024-2026 Geotechnical Activity Locations
Delta Conveyance Project
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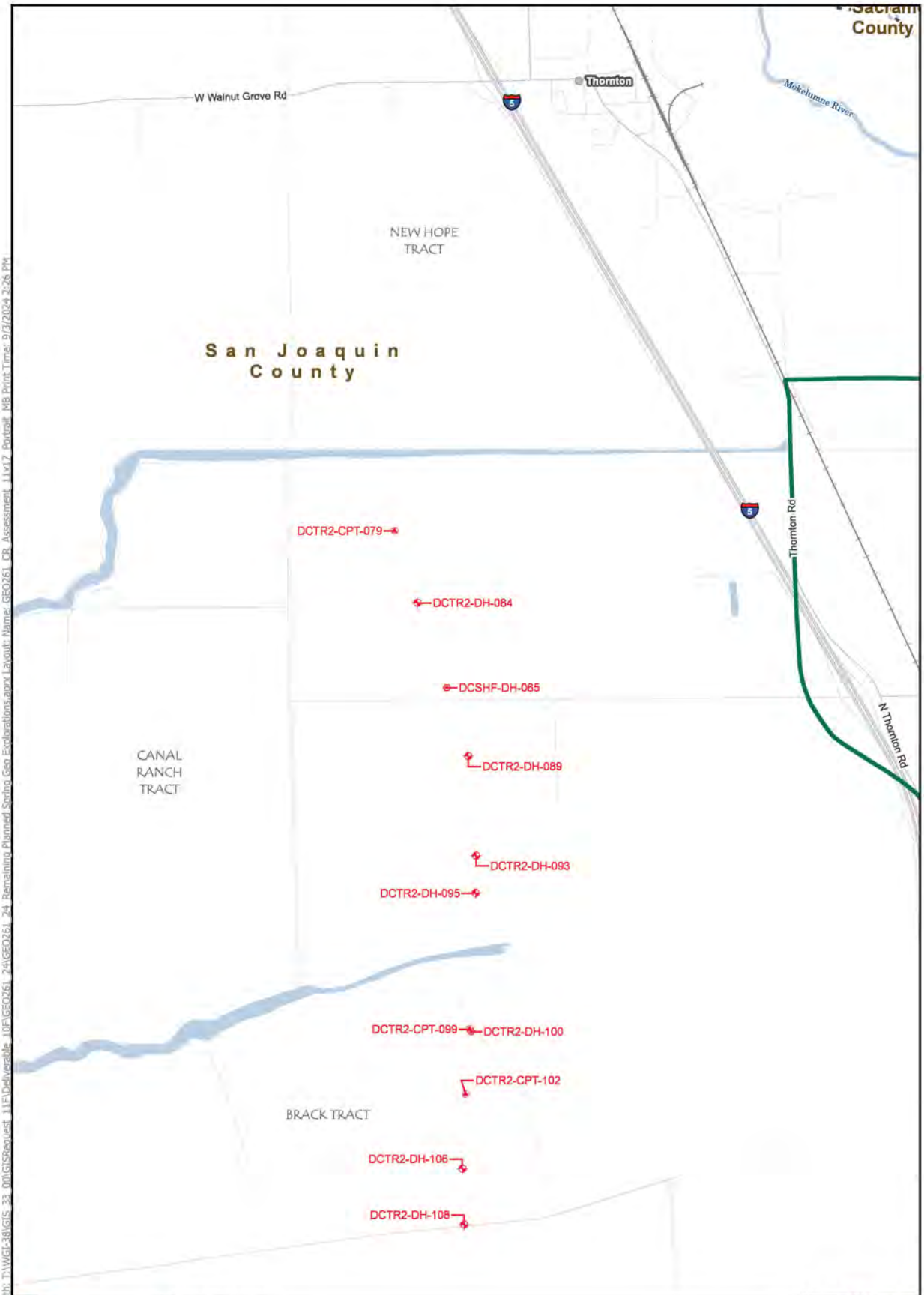
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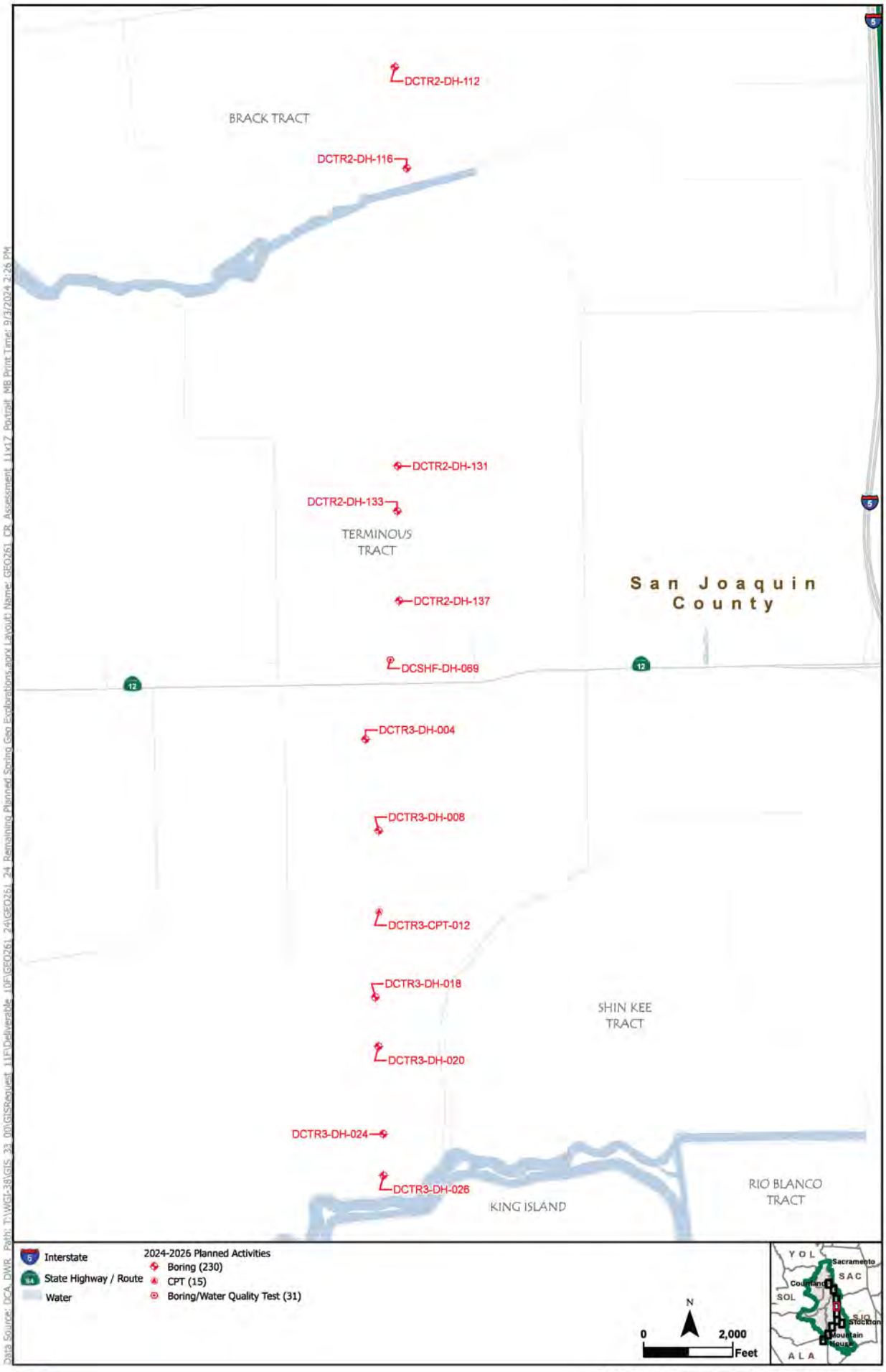
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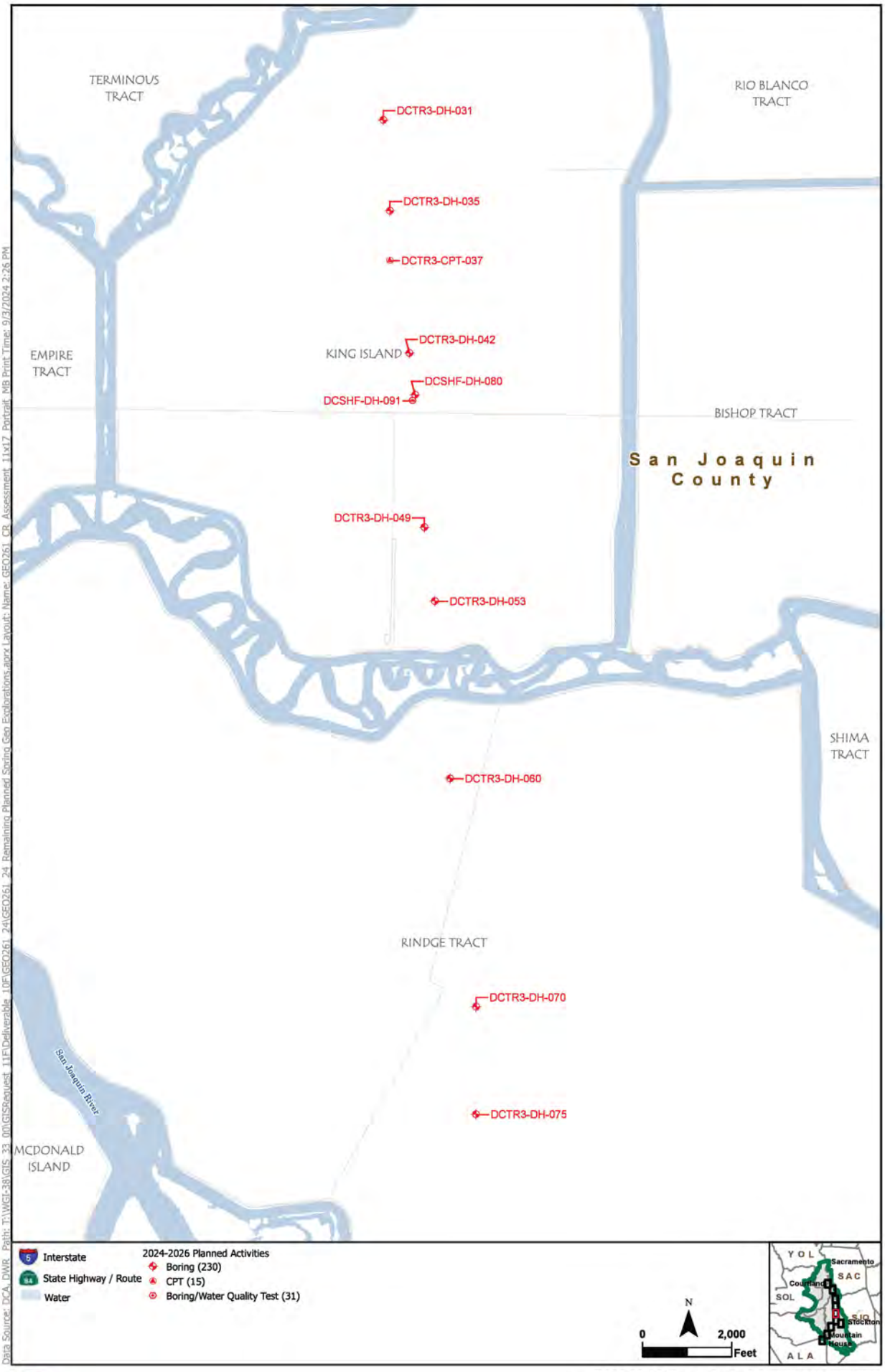
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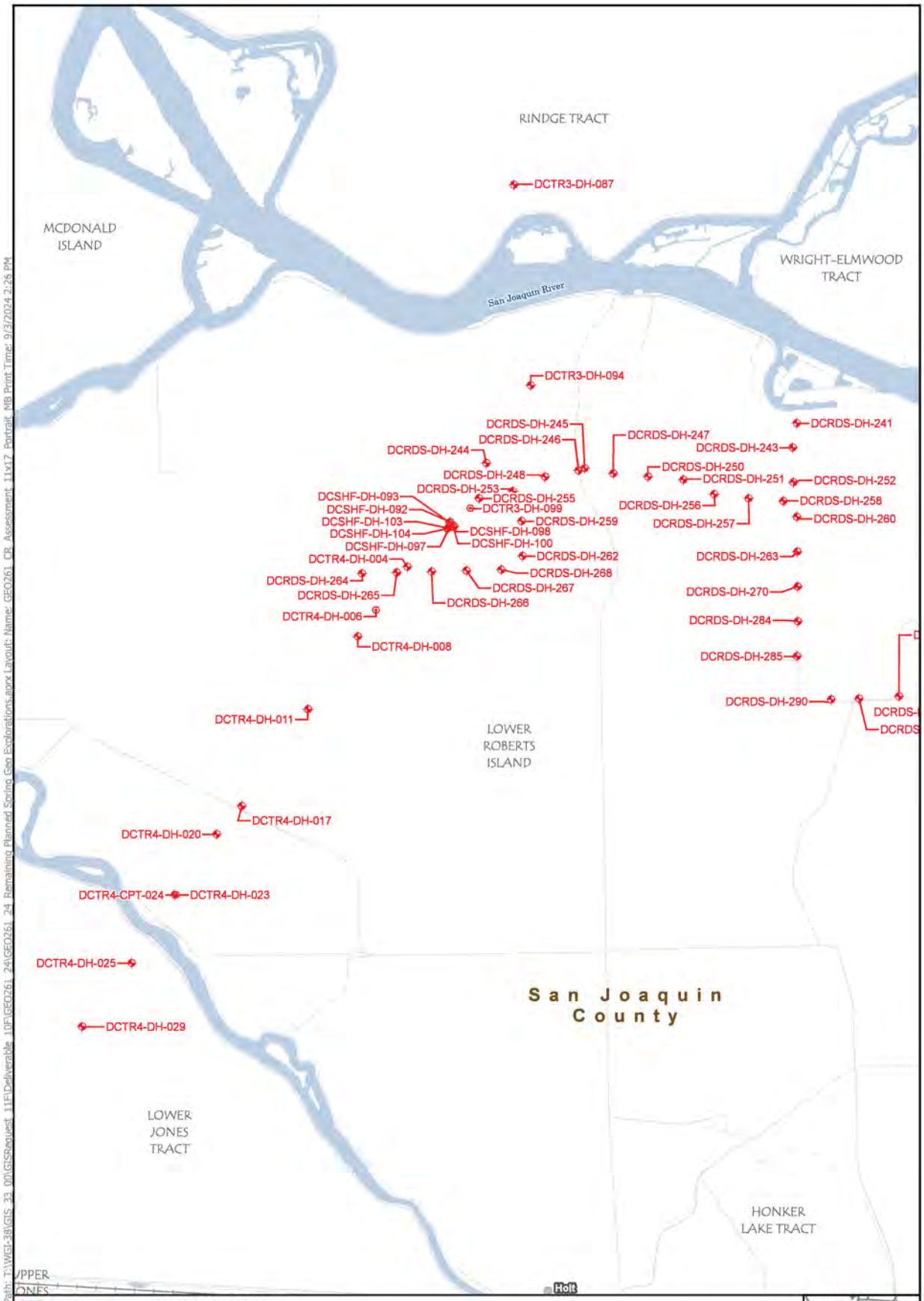
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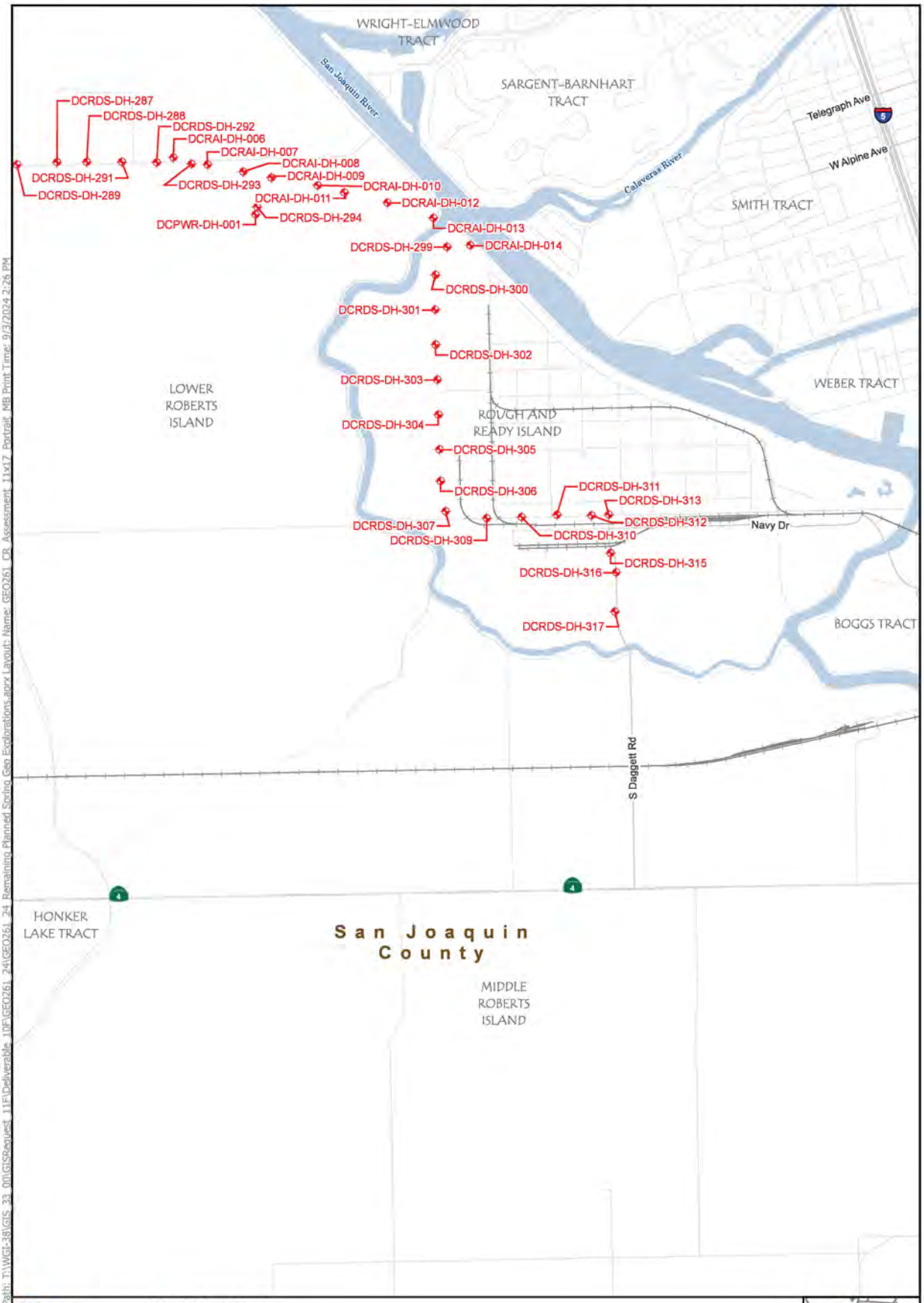
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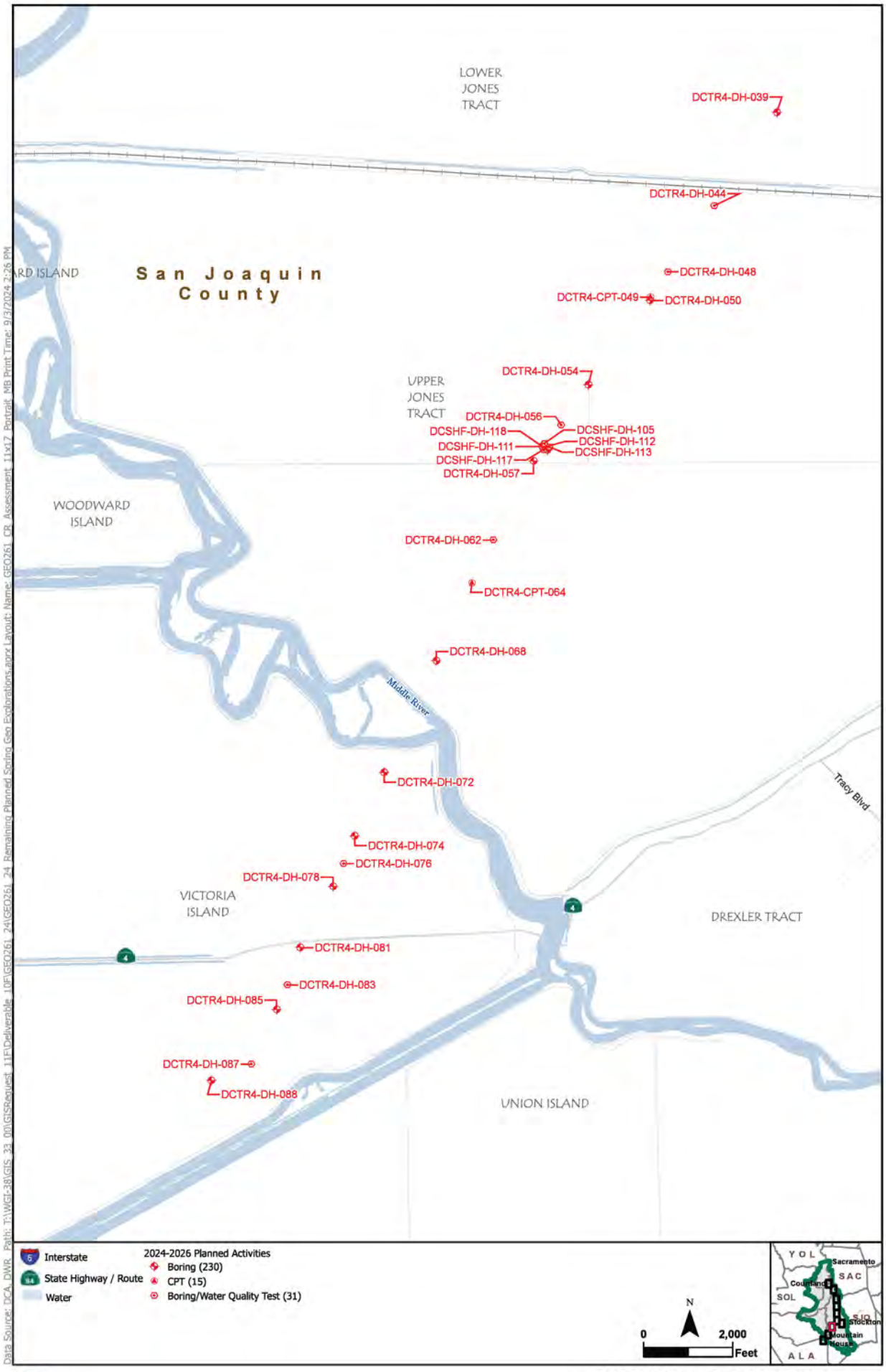
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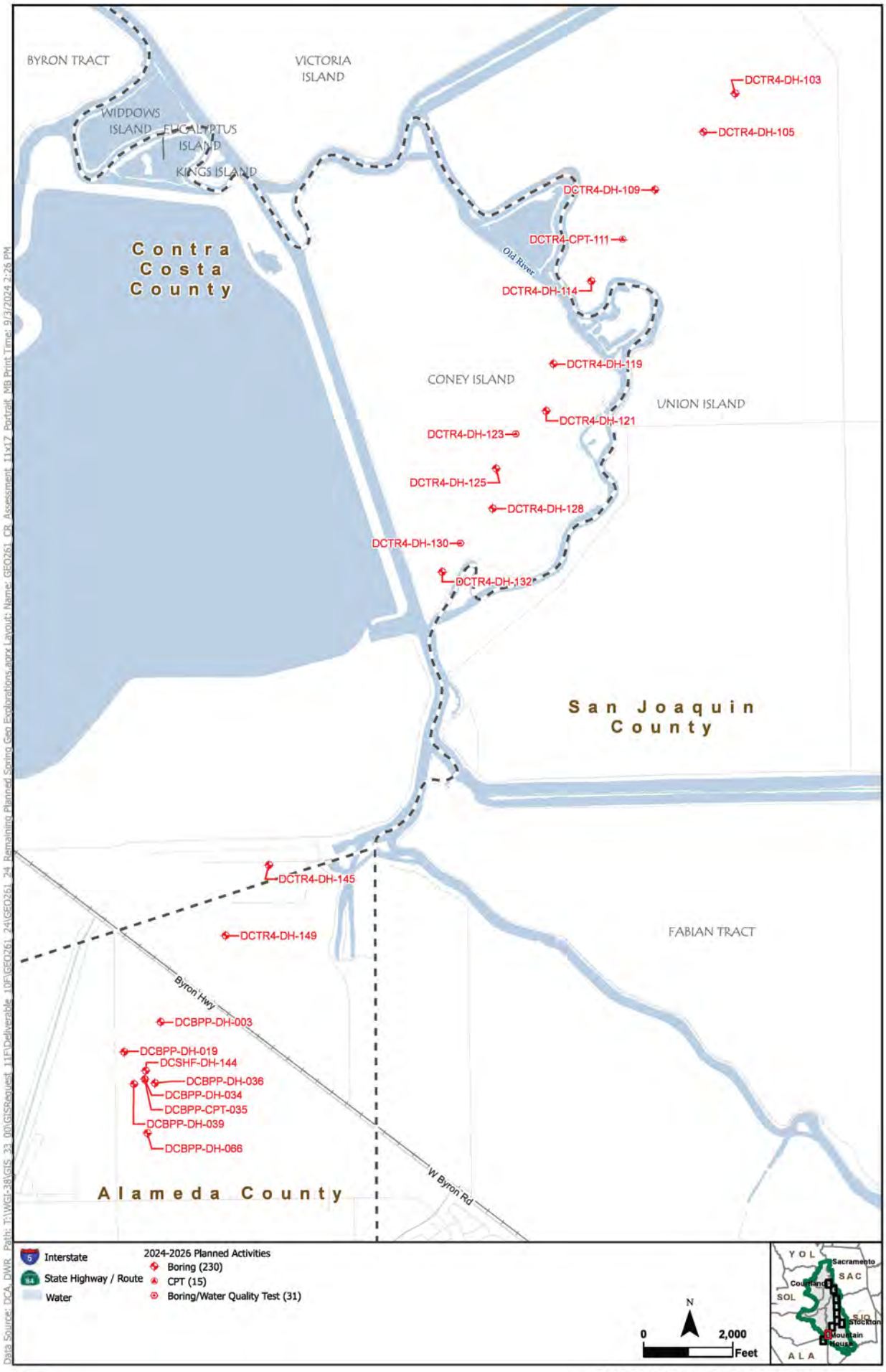
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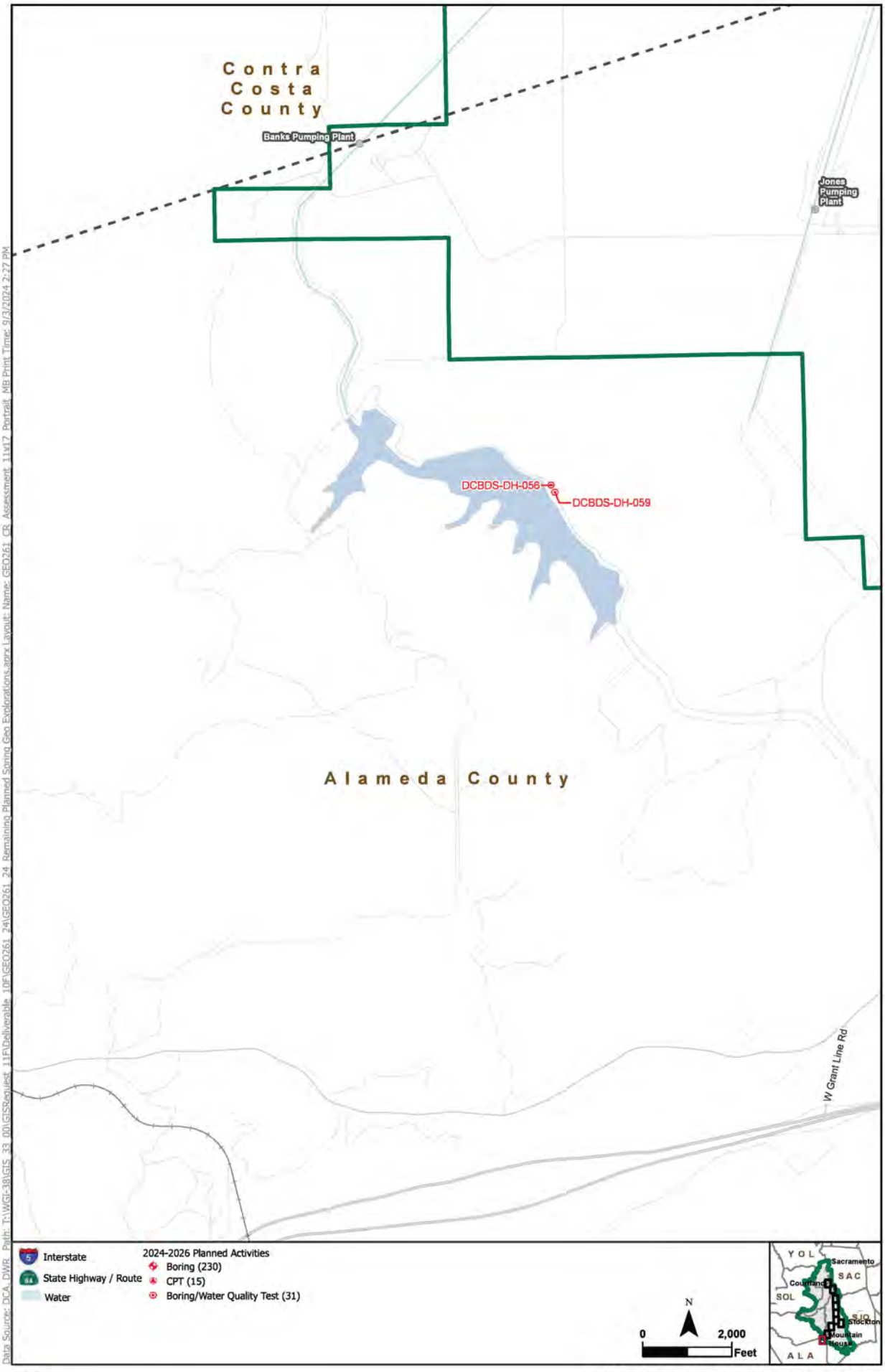
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Attachment 5

2024–2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan

2024-2026 Preconstruction Field Investigations Environmental Compliance, Clearance, and Monitoring Plan

1.0 Introduction

On June 20, 2024, the trial court assigned to the litigation challenging Department of Water Resources' (DWR) certification of the Delta Conveyance Project (DCP) Final Environmental Impact Report (Final EIR) and approval of the project, issued a ruling enjoining DWR from undertaking geotechnical work described in Chapter 3 of the Delta Conveyance Project's Final EIR prior to completion of the certification procedure that the Delta Reform Act requires ("Preliminary Injunction Ruling"). In response to the Preliminary Injunction Ruling, DWR has ceased all geotechnical work described in Chapter 3 of the Delta Conveyance Project's Final EIR. DWR will not recommence geotechnical work described in Chapter 3 of the Delta Conveyance Project's Final EIR until the Preliminary Injunction Ruling is stayed, modified, or satisfied. This document was prepared for the 2024-2026 Proposed Geotechnical Activities (hereafter preconstruction field investigations) that are currently enjoined by the Preliminary Injunction Ruling.

Data collected from preconstruction field investigations is used to inform planning and design studies prior to implementing and constructing the Delta Conveyance Project. As these preconstruction field investigations were described and evaluated as part of the Delta Conveyance Project's Final EIR (December 2023 – SCH # 2020010227), compliance with the Delta Conveyance Project's Mitigation Monitoring and Reporting Program (MMRP) is required (Final EIR Section 3.15). This document constitutes the activity-specific environmental compliance monitoring plan (Plan) required by Delta Conveyance Project's Final EIR Environmental Commitment (EC) – 14 (*Construction Best Management Practices for Biological Resources*) for the 2024-2026 preconstruction field investigations. DWR previously prepared an environmental compliance monitoring plan for the 2024 preconstruction field investigations that were completed in the Spring of 2024 prior to issuance of the Preliminary Injunction Ruling. As project planning proceeds, DWR will prepare separate activity-specific environmental compliance monitoring plans for other project activities. As discussed further below, this Plan includes the document objectives, the primary objectives of the 2024-2026 preconstruction field investigations, the study area, and monitoring commitments proposed to satisfy the needs of EC–14.

2.0 Document Objectives

Prior to commencing preconstruction field investigations, EC-14 requires DWR to develop an activity specific environmental compliance monitoring plan to monitor, enforce and

document measures to protect special-status fish, wildlife, plant species, and their habitats, designated critical habitat, and sensitive natural communities. This document provides the information that will be collected prior to, during, and then following preconstruction field investigations. Follow-up documentation will be required in the form of preconstruction site clearance survey documentation, daily monitoring logs, and quarterly monitoring reports. As per EC-14, this activity specific plan includes information and documentation collection protocols to satisfy the following elements (Refer to Section 6.0 – *Compliance with EC-14 Elements*).

- Reference to or inclusion of the Stormwater Pollution Prevention Plan (SWPPP) prepared under the Construction General Permit (CGP) (Order WQ 2022-0057- DWQ; NPDES NO. CAS000002), where one is needed. (See EC-4b, Develop and Implement Stormwater Pollution and Prevention Plans.)
- Summaries or copies of planning and preconstruction surveys (if applicable) for natural communities and special-status species.
- Description of mitigation measures to be implemented, including a description of site or activity specific Best Management Practices (BMPs) or additional measures not otherwise included in the project.
- Descriptions of monitoring parameters (e.g., turbidity), including the specific activities to be monitored (e.g., dredging, grading activities) and monitoring frequency and duration as well as parameters and reporting criteria (e.g., turbidity is not to exceed 10 nephelometric turbidity units (NTUs) above background. Exceedances will be reported, and the contractor must identify and correct the cause.).
- Description of roles and responsibilities of the monitors and protocols for notifying California Department of Fish & Wildlife (CDFW), National Marine Fish Service (NMFS), and U.S. Fish and Wildlife Service (USFWS), if needed.
- A daily monitoring log prepared by the monitor, which documents the day's activities, notes any problems identified and solutions implemented to rectify those problems, and document notifications of the superintendent and/or the fish and wildlife agencies regarding any exceedances of specific parameters (i.e., turbidity) or observations of special-status species. The monitoring log will also document activity start/end times, weather and general site conditions, and any other relevant information.

3.0 Preconstruction Field Investigations – Purpose and Background

Final EIR, Volume 1, Chapter 3 – *Description of the Proposed Project and Alternatives* describes the project evaluated in the Delta Conveyance Project's Final EIR. Section 3.15 – Field Investigations explains that 'work related to geotechnical, hydrogeologic, agronomic testing, and construction test projects (geotechnical investigations) would occur during the preconstruction and construction periods following the adoption of the Final EIR,

identification of an approved project footprint, and acquisition of all required permits.' The preconstruction field investigations will 'more specifically identify appropriate construction methods addressed in the final design documents. These investigations would also address the establishment of geological and groundwater monitoring programs that could extend during the design and construction phases of the [Approved] project' (TM 14B – Potential Future Field Investigations – Bethany Reservoir Alternative, 2022b).

To support the project description and environmental analysis in the Final EIR, the Delta Conveyance Design and Construction Authority (DCA) working under the direction of DWR developed Engineering Project Reports (EPRs) and associated technical memoranda (TMs) (DCA 2022a, 2022b) to detail project engineering considerations. The Bethany Reservoir Alternative (Approved Project) EPR contains a detailed description of the Approved Project and the TMs that informed its design. Among other information, TM 14B – Potential Future Field Investigations – Bethany Reservoir Alternative details the geotechnical explorations (or field investigations) that constitute preconstruction field investigations necessary to support continued development of the project design documents. TM 14B Attachments A-C provide additional information related to field investigations used in the Final EIR analysis of impacts for the Project (Option B2B or B2).

4.0 Preconstruction Field Investigations – Final EIR Description

The Final EIR provides precise zones where field investigations would occur, and an approximated acreage and maximum number of each type of exploration was used for the Final EIR impact analysis. This information was utilized to identify and disclose potential direct and indirect environmental effects that may result from the field investigations as analyzed in the Final EIR. TM 14B, Attachment A (Option B2) provides total estimates for preconstruction field investigations.

Final EIR Mapbook 3-3 for the Bethany Alternative (Approved Project) depicts the zones in which geotechnical investigations would occur (i.e., geotechnical investigation zone). Each map further indicates that geotechnical investigations would be conducted within all project feature construction boundaries.

5.0 Preconstruction Field Investigations – General Terms

As proposed, the 2024-2026 preconstruction field investigations will *not* include the following geotechnical activities described in Chapter 3 of the Delta Conveyance Project's Final EIR: overwater activities, activities that involve trenching, activities within the West Tracy Fault or Bethany Fault, pile driving, vibratory testing of dynamic properties, potholing, monument installation, test fills for settlement studies, 800 ft. inclined boreholes, or ground improvement test zones. Consistent with the protocols used for the

geotechnical activities completed between 2020 - 2023[1] and in May and June of 2024, the 2024-2026 preconstruction field investigations will adhere to the following general terms:

[1] DWR approved, and completed, the prior geotechnical activities between 2020-2023 in reliance on the July 2020 Soil Investigations for Data Collection in the Delta Final Initial Study and Mitigated Negative Declaration (Soil Investigations IS/MND) and associated addenda adopted in February 2021 and June 2022 (SCH#2019119073)

Table 1: General Terms for 2024-2026 Preconstruction Field Investigations

General Terms for 2024-2026 Preconstruction Field Investigations[2]:
Geologic activities shall occur for no more than 10.5 hours each day between 7:00 am to 7:00 pm Monday through Friday only, unless alternative arrangements are made with the landowner and are consistent with all other requirements.
No entries or inspections shall occur between Wednesday and Sunday of Thanksgiving week and between December 23 and January 1, or on the 4th of July, Labor Day, or the Memorial Day holidays
On vineyards and other planted land, there shall be no entries or inspections between September 1 and October 15 unless authorized by the landowner in writing
Between October 1 and February 25 there shall be no entries or inspections on hunting lands
DWR, its Contractors, and/or Representatives, will adhere to all access restrictions related to pesticides in use on the parcels where field investigations are proposed
In addition to preliminary site clearance and biological surveys, DWR may access a parcel for up to 2 days to undertake preliminary identification activities to designate the exact locations of the boring, and CPT sites, unless alternative arrangements are made with the landowner and are consistent with all other requirements
Entry for CPT shall be for no more than 2 days per CPT site, unless otherwise authorized by the owner due to site, weather, or other conditions
Entry for borings shall be permitted for up to 11 days per soil boring, unless otherwise authorized by the owner due to site, weather, or other conditions
Tribal representatives (2) and DWR (up to 4) have two (2) additional full days and two (2) half days to do pre-drilling site clearances prior to the commencement of drilling activities, unless alternative arrangements are made with the landowner and are consistent with all other requirements
DWR shall give approximately 14 days' notice of intended date to drill or CPT test by mail, phone and/or email to the owner's designated representative or, if none, to the owner; the notice will include a description of the activities that will be conducted on the property and a general description of the area where activities will take place
DWR shall give approximately 10 days' notice to confirm the information provided in the 14-day notification and to provide the owner's designated representative or, if none, the owner with information pertaining to the purpose of the several types of studies to be conducted on the property and the point of contact(s) for DWR

[2] DWR developed the terms in Table 1 in consideration of conditions included in prior court ordered entries for geotechnical activities, including the November 21, 2023, Order Permitting Entry and Investigation of Real Property for Environmental, Cultural, Geological, and Drilling Investigations entered by the San Joaquin County Superior Court in Judicial Council Coordination Proceedings (JCCP) Case No. 4594, as well as the terms of the proposed Temporary Entry Permits (TEPs) provided to landowners by DWR for the completed 2024 preconstruction field investigations.

General Terms for 2024-2026 Preconstruction Field Investigations[2]:
DWR shall give approximately 72-hour notice by phone and email (or utilizing the preferred communication method as agreed upon with the landowner or designated representative) to the owner's designated representative or, if none, to the owner for entries
DWR should make all reasonable efforts to accommodate reasonable requests to alter the dates based on the owner's necessary use of the property
Maximum soil boring depth is limited to 300 feet[3]
DWR shall not enter closed structures on the property, including, specifically, office buildings, garages, fully enclosed sheds, and buildings not considered open to the public, unless alternative arrangements are made with the landowner and are consistent with all other requirements
DWR shall comply with any general rules or regulations of a reclamation district applicable to the underlying property owner regarding use or weight of vehicles on its easement area, or restricted access to pumping stations, digging near levees, and the like
DWR shall coordinate with the CA Department of Fish and Wildlife regarding entry to all areas covered by a conservation easement or grant.
DWR personnel and its contractors shall have identification cards and be prepared to show them to any owner who requests to see such
DWR personnel shall use their best efforts not to needlessly block or impede any activity by the owner or his or her agents on the property
DWR shall contact railways prior to entry and shall comply with reasonable conditions of special visible clothing near the railroad tracks and shall cross the railroad tracks with vehicles only at designated public crossings or in consultation with railroad personnel
DWR personnel should not linger or loiter or perform work within 25 feet of the railway tracks
DWR shall use designated crossing points for pedestrian crossing where reasonably available and shall cross only when no trains are observable
DWR shall not fence any area of property or to prevent access of the owners to their properties, except when DWR personnel are utilizing that specific area of the property
DWR vehicles or equipment shall not unreasonably block access by other vehicles on levee roads or other reclamation district-operated roadways
DWR shall not perform any borings or CPT holes within three hundred (300) feet of a landside levee toe, without first giving ten (10) days' notice of the change of site plan and proposed work to both the affected reclamation district and the landowner

[3] Prior Court Ordered Entries have authorized, and DWR has completed, soil borings up to a depth of 300 feet. The 2024-2026 preconstruction field investigations propose a maximum depth of 250 feet.

General Terms for 2024-2026 Preconstruction Field Investigations[2]:
DWR shall follow the guidelines in its Bulletin 74-90 with respect to the method by which the exploratory borings will be sealed
DWR shall restore the property, as near as possible, to its original condition after the activities are completed
Upon request by an owner, DWR shall promptly provide a copy of the drilling and CPT fact sheets that DWR is using for the geologic and drilling activities
Following compilation of the data gathered and within one hundred fifty (150) days of a written request by the landowner, DWR will provide the landowner with all data, including, but not limited to notes, surveys, reports, and photographs, obtained from any investigation on the landowner's property

6.0 Compliance with EC-14 Elements

6.1 Reference to or inclusion of the SWPPP prepared under the CGP, where one is needed. (See EC-4b, Develop and Implement Stormwater Pollution and Prevention Plans.)

- Federal statutes and regulations require discharges to waters of the United States comprised of stormwater associated with construction activity to obtain NPDES permit coverage (except operations that result in disturbance of less than one acre of total land area and that are not part of a larger common plan of development or sale). (Order WQ 2022-0057-DWQ NPDES NO. CAS000002). A SWPPP is not required for the 2024-2026 preconstruction field investigations because all 2024-2026 preconstruction field investigations will disturb less than one acre of total land area. Summaries or copies of planning and preconstruction surveys (if applicable) for natural communities and special-status species

- Final EIR Chapter 13: Terrestrial Biological Resources includes a set of mapbooks specific to the approved project providing the distribution of natural communities (within the project area) and species-specific habitat models, used for the impact analyses. Summaries and/or copies of planning and preconstruction surveys, in compliance with the Delta Conveyance Project's Mitigation Monitoring and Reporting Program (MMRP), and measures in this document, will be developed once authorization is received to enter private properties. Preparation for preconstruction field investigation site clearance surveys typically involve a desktop review of aerial imagery which would include a California Natural Diversity Database (CNDDB) search, along with in-field surveys and verifications by qualified biologists and resource specialists. Information from on the ground surveys will be used to adjust preconstruction field investigation locations to avoid impacts to special status species, their habitats, as well as cultural and Tribal resources ascertained from California Historical Resources Information System (CHRIS) cultural resources records searches as well as field surveys. Daily monitoring reports and clearance survey information will be compiled into quarterly monitoring reports. Examples of daily logs and quarterly reports are attached to this report (See Attachments 1 and 2).

- Planning and preconstruction survey checklists will include elements from this document.

6.2 Description of mitigation measures to be implemented, including a description of site or activity specific BMPs or additional measures not otherwise included in the project.

- The 2024-2026 preconstruction field investigations will comply with a) the general

terms for preconstruction field investigations (See Table 1), b) the Delta Conveyance Project's MMRP measures (See Table 2), and c) an additional list of activity-specific measures informed by the protocols utilized by DWR in completing geotechnical activities from 2020-2023 (See Table 3).

Table 2: DCP MMRP Measures

DCP MMRP Measures[4] [5]

Title	Description/Purpose
EC-1	Conduct Environmental Resources Worker Awareness Training
EC-2	Develop and Implement Hazardous Materials Management Plans
EC-3	Develop and implement spill prevention, containment, and countermeasure plans
EC-4a	Develop and implement Erosion and sediment control plans
EC-4b	Develop and Implement Stormwater Pollution Prevention Plans
EC-5	Develop and Implement a Fire Prevention and Control Plan
EC-6	Conduct Cultural Resources Awareness Training
EC-7	Off-Road Heavy-Duty Engines
EC-8	On-Road Haul Trucks
EC-9	On-Site Locomotives
EC-10	Marine Vessels
EC-11	Fugitive Dust Control
EC-12	On-Site Concrete Batching Plants
EC-13	DWR Best Management Practices to Reduce GHG Emissions
EC-14	Construction best Management practices for biological resources (Appendix 3B)
EC-15	Sediment Monitoring, Modeling, and Reintroduction Adaptive Management
EC-16	Provide Notification of Construction and Maintenance Activities in Waterways
EC-17	Pursue Solar Electric Power Options at Conveyance Facility Sites
EC-18	Minimize Construction-Related Disturbances to Delta Community Events and Festivals
AES-1a	Install Visual Barriers between Construction Work Areas and Sensitive Receptors
AES-1b	Apply Aesthetic Design Treatments to Project Structures
AES-1c	Implement Best Management Practices in Project Landscaping Plan

[4] For the complete descriptions of the MMRP measures, please go to: https://cadwr.app.box.com/s/qct5ey81zeyaxouccc25yyrotzfh2wq8

[5] Part of documenting compliance with mitigation measures in the MMRP includes confirming whether specific measures are applicable to an activity. Based on the scope of the proposed 2024-2026 preconstruction field investigations, some of the mitigation measures in the MMRP are not applicable. For example, the 2024-2026 preconstruction field investigations do not include overwater activities, therefore mitigation measures specific to overwater activities do not apply.

DCP MMRP Measures[4] [5]

Title	Description/Purpose
AES-4a	Limit construction outside of daylight hours within 0.25 miles of residents at the intakes
AES-4b	Minimize fugitive light from portable sources used for construction
AES-4c	Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences
AG-1	Preserve Agricultural Land
AG-3	Replacement or relocation of affected infrastructure supporting agricultural properties
AQ-1	Offset construction-generated criteria pollutants in the Sacramento Valley Air Basin
AQ-2	Offset construction-generated criteria pollutants in the San Joaquin Valley Air Basin
AQ-3	Offset construction-generated criteria pollutants in the San Francisco Bay Area Air Basin
AQ-5	Avoid Public Exposure to localized particulate matter and nitrogen dioxide concentrations
AQ-9	Develop and implement a Greenhouse Gas (GHG) Reduction Plan to Reduce GHG Emissions from Construction and Net CVP Operational Pumping to Net Zero
AQUA-1a	Develop and Implement an Underwater Sound Control and Abatement Plan
AQUA-1b	Develop and Implement a Barge Operations Plan
AQUA-1c	Develop and Implement a Fish Rescue and Salvage Plan
BIO-2a	Avoid or minimize impacts on special-status natural communities and special-status plants
BIO-2b	Avoid or minimize impacts on terrestrial biological resources from maintenance activities
BIO-2c	Electrical Power Line Support Placement
BIO-14	Avoid and Minimize Impacts on Vernal Pool Aquatic Invertebrates and Critical Habitat for Vernal Pool Fairy Shrimp
BIO-18	Avoid and Minimize impacts on Valley Elderberry Longhorn Beetle (VELB)
BIO-21	Avoid and minimize impacts on bumble bees
BIO-22a	Avoid and minimize impacts on California Tiger Salamander (CTS)
BIO-22b	Avoid and minimize operational traffic impacts on wildlife
BIO-23	Avoid and minimize impacts on Western Spadefoot Toad
BIO-24a	Avoid and minimize impacts on California Red-legged frog (CRLF) and critical habitat
BIO-24b	Compensate for impacts on California Red-Legged Frog Habitat Connectivity
BIO-25	Avoid and minimize impacts on Western Pond Turtle (WPT)
BIO-26	Avoid and minimize impacts on special-status reptiles

DCP MMRP Measures[4] [5]

Title	Description/Purpose
BIO-30	Avoid and minimize impacts on Giant Garter Snake (GGS)
BIO-31	Avoid and minimize impacts on Western Yellow-Billed Cuckoo
BIO-32	Conduct preconstruction surveys and implement protective measures to avoid disturbance of California Black Rail
BIO-33	Avoid and minimize disturbance of Sandhill Cranes
BIO-34	Avoid California Least Tern Nesting Colonies and minimize indirect effects on colonies
BIO-35	Avoid and minimize impacts on Cormorant, Heron, and Egret Rookeries
BIO-36a	Conduct nesting surveys for special-status and non-special status birds and raptors and implement protective measures to avoid disturbance of nesting birds and raptors
BIO-36b	Conduct preconstruction surveys and implement protective measures to avoid disturbance of White-Tailed Kite
BIO-37	Conduct surveys for Golden Eagle and Avoid Disturbance of Occupied Nests
BIO-39	Conduct preconstruction surveys and implement protective measures to minimize disturbance of Swainson's Hawk
BIO-40	Conduct surveys and minimize impacts on Burrowing Owl
BIO-42	Conduct surveys and minimize impacts on Least Bell's Vireo
BIO-44	Conduct preconstruction surveys and implement protective measures to avoid disturbance of tricolored blackbird
BIO-45a	Compensate for the Loss of Bat Roosting Habitat on Bridges and Overpasses
BIO-45b	Avoid and Minimize impacts on roosting bats
BIO-46	Conduct Preconstruction survey for San Joaquin Kit Fox (SJKF) and implement avoidance and minimization measures
BIO-47	Conduct preconstruction survey for American Badger and implement avoidance minimization measures
BIO-53	Avoid and minimize impacts on terrestrial wildlife connectivity and movement
CMP	Compensatory Mitigation Plan
CUL-1a	Avoid Impacts on Built-Environment Historical Resources through Project Design
CUL-1b	Prepare and implement a built-environment treatment plan in consultation with interested parties
CUL-2	Conduct a survey of inaccessible properties to assess eligibility, determine if these properties will be adversely affected by the project, and develop treatment to resolve or mitigate adverse impacts
CUL-3a	Prepare and implement an archaeological resources management plan
CUL-3b	Conduct cultural resources sensitivity training
CUL-3c	Implement archaeological protocols for field investigations
CUL-5	Follow State and Federal Law Governing Human Remains If Such Resources Are Discovered during Construction
GW-1	Maintain groundwater supplies in affected areas
GW-5	Reduce Potential Increases in Groundwater Elevations near Project Intake Facilities

DCP MMRP Measures[4] [5]

Title	Description/Purpose
HAZ-2	Perform a phase I Environmental Site Assessment prior to construction activities and remediate
NOI-1	Develop and implement a noise control plan
PALEO-1a	Prepare and implement a monitoring and mitigation plan for paleontological resources
PALEO-1b	Educate construction personnel in recognizing fossil material
PH-1a	Avoid creating areas of standing water during preconstruction field investigations and project construction
PH-1b	Develop and implement a mosquito management plan for compensatory mitigation sites on Bouldin Island and at I-5 ponds
SOILS-5	Conduct site-specific soil analysis and construct alternative wastewater disposal system as required
TCR-1a	Avoidance of impacts on Tribal Cultural Resources
TCR-1b	Plans for the management of Tribal Cultural Resources
TCR-1c	Implement measures to restore and enhance the physical, spiritual, and ceremonial qualities of affected Tribal Cultural Resources
TCR-1d	Incorporate Tribal knowledge into compensatory mitigation planning (restoration)
TCR-2	Perform an assessment of significance, known attributes, and integrity for individual CRHR eligibility
TRANS-1	Implement site-specific construction transportation demand management plan and transportation management plan
WQ-4	Contra Costa Water District Interconnection Facility
WQ-6	Develop and implement a mercury management and monitoring plan

Table 3: Additional Compliance Parameters for 2024-2026 Preconstruction Field Investigations Based on Past Soil Investigations

Additional Compliance Parameters for 2024-2026 Preconstruction Field Investigations Based on Past Soil Investigations - Description[6]
Each Impact Area will be returned to as close to pre-activity conditions as possible. This will be documented by still photos taken pre- and post-activity
No building structures will be removed or disturbed. Preconstruction field investigations will occur at a distance greater than 100 feet (30.5 meters) from residences and small business operations, unless alternative arrangements are made with the landowner and are consistent with all other requirements. If fencing needs to be removed for access, it will be replaced after the work is completed.
No trees or vines will be removed during exploration activities; and only minor disturbances to vegetation would occur during mobilization of equipment. This minor disturbance may consist of mowing, removal of a few tree limbs, or trimming of bushes for site access. However, if access requires removal of any vegetation, the landowner would be consulted first to minimize the impact to both vegetation and the landowner.
Any proposed soil investigation activities that occur on agricultural lands will be grouted in accordance with materials that conform to ANSI and ASTM standards from the full depth to five feet (1.5 meters) below the surface. The final five feet (1.5 m) of topsoil will be replaced to return the Impact Area to as close to pre-activity conditions as possible. The backfill procedure will be in accordance with State of California Bulletin 74-81/74-90 and local county standards.
Water all exposed surfaces, as needed, two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
A qualified team of biologists will conduct a habitat assessment and reconnaissance level surveys (also referred to as site clearance surveys or preconstruction clearance surveys) approximately two weeks prior to the onset of ground disturbing soil investigation activities for any special status plants and wildlife that have the potential to occur within the project area (see Final EIR Appendix 13 A -Special-Status Species with Potential to Occur in the Study Area). If, based on the habitat assessment and reconnaissance level surveys, the biologists identify the potential for special status wildlife impacts, the location will be shifted to a suitable location as identified by the qualified team of biologists, which is defined as a location that achieves the following performance standards: (1) is the minimum distance necessary (informed by mitigation measures BIO-2a through BIO-53, as referenced in the MMRP), to ensure that no special status plants and wildlife with the potential to occur is disturbed during the work activities, (2) does not increase impacts to other resources to above a level of significance, and (3) the qualified biologist team must determine that commencing activities does not have the possibility to cause unpermitted take under federal or State law. If a suitable location, as defined above, cannot be determined within adjacent areas by the qualified team of biologists, then the soil investigation at that location will not be conducted.

[6] DWR developed the additional measures included in Table 3 in consideration of the mitigation measures included in the Mitigation Monitoring and Reporting Program for the Soil Investigations IS/MND, as modified January 2023.

Additional Compliance Parameters for 2024-2026 Preconstruction Field Investigations Based on Past Soil Investigations - Description[6]
The qualified biologist(s) must, at a minimum, have experience conducting surveys to identify the specific species and associated habitat that could occur on site.
All federally or state-listed species observed will be allowed to leave the Impact Area on their own. If the biologist determines that continuing activities could potentially cause unpermitted take under federal or State law to a federally or state-listed species, activities must cease. Work may not resume until the on-site biologist has determined there is no longer the possibility of causing unpermitted take under federal and State law.
No project activities will be conducted during or within 24 hours following a rain event in locations that have a potential for special status amphibians to occur or are near wetlands or other water features.
Any active rodent burrows or suitable cracks identified by a qualified biologist during the pre-construction survey will be flagged so that they can be avoided.
Any burrows, cracks, or fissures suitable for rodents that cannot be avoided and will be temporarily impacted by the movement and Placement of equipment or other project activities will be covered with plywood to avoid burrow collapse.
Leaf litter will be surveyed by the biologist for presence of wildlife prior to the onset of work, and if any special-status species are identified as using the leaf litter for refuge, it will be avoided, and a buffer will be established by a qualified biologist and flagged.
Piles of rock, riprap, or other materials that could provide refuge to reptiles or amphibians will be avoided. If movement of such materials cannot be avoided, a qualified biologist will survey the area prior to disturbance and monitor the material movement and restoration of the area following completion of Proposed Project activities.
Sanitation facilities (e.g., portable toilets) shall be sited in a manner that avoids any direct connection to the storm drainage system or receiving water.
Sanitation facilities shall be regularly cleaned and/or replaced and inspected daily for leaks and spills.
Stockpiling materials, portable equipment, vehicles, and supplies, including chemicals, will be restricted to areas adjacent to the drill or CPT rig, and not adjacent or within riparian and wetlands areas or other sensitive habitats.
No public roads, waterways or land access will be fully closed.

Additional Compliance Parameters for 2024-2026 Preconstruction Field Investigations Based on Past Soil Investigations - Description[6]
A field reconnaissance, marking or staking the exploration site, and calling Underground Service Alert (USA) for utility clearance will be conducted by qualified personnel for each planned soil exploration location. Based upon the information gathered, sites will be adjusted to ensure no utilities are impacted.
DWR shall not trap any wildlife in a conservation easement without specific approval or permit of USFWS, NMFS, or CDFW as appropriate.

6.3 Descriptions of monitoring parameters (e.g., turbidity), including the specific activities to be monitored (e.g., dredging, grading activities) and monitoring frequency and duration as well as parameters and reporting criteria (e.g., turbidity is not to exceed 10 NTUs above background. Exceedances will be reported, and the contractor must identify and correct the cause.).

- Daily monitoring activities by the biologist shall include, but will not be limited to the following:
  - Conducting pre-construction nesting bird and Swainson's Hawk surveys 72 hours prior to the start of preconstruction field investigations, if they are planned to occur during the nesting season.
  - Monitoring project field activities
  - Assisting with siting equipment to avoid any sensitive resources located nearby and clearly marking or delineating any exclusion areas and monitoring for compliance with these avoidance measures.
  - Walking the site before crews enter each day and examining the area below any vehicle or piece of equipment that has been stationary for 24 hours or greater to ensure that no wildlife species are present.
  - Conducting environmental awareness training and/or cultural sensitivity training session for all new field personnel prior to the start of each workday. Maintaining a list of trained staff and provide to DCA Field Activity Coordinator (or equivalent).
  - Confirming the location of and emphasizing to the crew any flagged avoidance areas.
  - Documenting the field crew's activities and their compliance with the program's commitments in Daily Monitoring Logs which include photos when available. (This may include adhering to speed limits, trash containment, ensuring that there are no firearms and no pets, installation of escape ramps where necessary, and capping pipes/removal of debris piles.)
  - Monitoring for any federally or state-listed species or California Species of Special Concern per requirements listed in the Delta Conveyance Project's MMRP and any environmental permits (where applicable). If any federally or state-listed species or nesting birds are observed, monitors will determine if activities are disturbing the species and if activities must cease or if the species are undisturbed and/or could leave on its own.
  - Alerting Lead Biological Monitor to any observations of federally or state-listed species or California Species of Special Concern immediately and recording in Daily Monitoring Log. (Follow protocols for wildlife agency notifications, as above.)

- Limiting work to periods of no precipitation.
- Completing Daily Monitoring Logs and providing to Project Biologist who will provide to DWR Environmental Manager. Ensure that Daily Monitoring logs include documentation of field activities, observations, and hours on site.

6.4 Description of roles and responsibilities of the monitors and protocols for notifying CDFW, NMFS, and USFWS, if needed.

- Section 2.1 (page 2-4) of the Delta Conveyance Project's MMRP describes the primary parties responsible
  for implementation, monitoring and reporting as it relates to the MMRP.

- <u>Protocols for notifying wildlife agencies:</u>
  - Per EC-14, any sightings of special status species will be reported to CDFW and USFWS via email within 1 working day of the discovery. A follow-up report will be sent to these agencies, including dates, locations, habitat description, and any corrective measures taken to protect special status species.
  - The qualified biologist(s) will maintain monitoring records that include (1) the beginning and ending time of each day's monitoring effort; (2) a statement identifying the species encountered, including the time and location of the observation; (3) the time the specimen was identified and by whom and its condition; (4) the capture and release locations of each individual (where permitted); (5) photographs and measurements of each individual; and (6) a description of any actions taken. The biologist(s) will maintain complete records in their possession while conducting monitoring activities and will immediately provide records to USFWS and CDFW upon request. If requested, all monitoring records will be provided to agencies according to the reporting requirements of the relevant permits.

6.5 A daily monitoring log will be prepared by the monitor, which documents the day's construction activities, notes any problems identified and solutions implemented to rectify those problems, and document notifications of the construction superintendent and/or the fish and wildlife agencies regarding any exceedances of specific parameters (i.e., turbidity) or observations of special-status species. The monitoring log will also document construction start/end times, weather and general site conditions, and any other relevant information.

- Daily biological monitoring reports will include the following, at minimum (refer to element, above, regarding protocols for notifying wildlife agencies) (See Example of Daily Monitoring Report in Attachment 1):
  - Date

- Start time.
- End time.
- Monitor name.
- Location Description
- Groups/Personnel
- Weather conditions
- Air Temperature (low/high)
- Precipitation
- Field Investigation Activity
- Daily Observation Summary
    - If special status species are encountered, include identification, by whom, time and condition
- Communication Summary
    - Shall include actions taken if special status species are encountered
- Site Photos containing locational data, altitude, and direction of view.

7.0 Demonstrated Compliance for past Geotech Activities

Based on clearance survey results, 2024-2026 preconstruction field investigations will be relocated, where necessary, to avoid potentially significant impacts on special status natural communities, special status plants, cultural resources, and Tribal resources. Prior field investigation (soil investigations) completed by DWR in 2020 through 2023, and in May and June of 2024, included this same commitment and were successfully completed or, where necessary, abandoned to avoid potentially significant impacts on these resources. This Plan incorporates measures implemented for DWR's prior field investigations in 2020 through 2023 (See Table 1 and Table 3). Compliance with these additional measures will further reduce the less than significant biological resource impacts identified and analyzed in the Delta Conveyance Project's Final EIR.