

PUBLIC NOTICE

Availability of Notice of Preparation of Environmental Impact Report and Notice of Public Scoping Meetings

Date: May 31, 2019

Project Title: Watsonville Slough System Managed Aquifer Recharge and Recovery Projects

Location: Unincorporated Santa Cruz County

APN: Harkins Slough Facilities Upgrades Project is in unincorporated Santa Cruz County. Pump Station Upgrades: 052-211-29. Southwest Recharge basin and recovery wells: 052-181-20, 052-181-17, 052-541-02, and 046-151-24. Southeast Recharge Basin and recovery wells: 052-181-18, 052-181-20, and 052-191-58. Struve Slough Project is in unincorporated Santa Cruz County. Screened Intake and Pump Station: 052-081-38. Monitoring Well-7 Recharge Basin and recovery wells: 046-151-37, 052-311-01, and 052-181-19. Pipelines and appurtenant facilities for both projects would be located in unincorporated Santa Cruz County on multiple properties with numerous APNs, identified in the NOP.

Project Sponsor: Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

Lead Agency: Same as Project Sponsor

Staff Contact: Brian Lockwood, General Manager
Pajaro Valley Water Management Agency
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The Pajaro Valley Water Management Agency (PV Water) has prepared a Notice of Preparation (NOP) of an environmental impact report (EIR) in connection with the proposed Watsonville Slough System Managed Aquifer Recharge and Recovery Projects (Projects) which consists of the Harkins Slough Facilities Upgrades Project (Harkins Slough Project) and Struve Slough Project to inform the public, responsible and trustee agencies, and interested parties about the Projects and the intent to prepare an EIR. The purpose of an NOP is to provide sufficient information describing a project and the potential environmental effects to enable responsible and trustee agencies to make a meaningful response related to the scope and content of the EIR (CEQA Guidelines Section 15082). The NOP is available for public review and comment online at:

<http://pvwater.org/about-pvwma/bmp-update.php>

Paper copies are also available at PV Water's office, 36 Brennan Street, Watsonville, CA 95076; Watsonville Public Library, 275 Main Street, Suite 100, Watsonville, CA 95076; Watsonville Public Library, Freedom Branch, 2021 Freedom Boulevard, Freedom, CA 95077, and Monterey County Library, Pajaro Branch, 29 Bishop Street, Pajaro, CA 95076.

Project Summary

The Projects are priority supplemental water supply projects outlined in PV Water's Basin Management Plan (BMP) Update (adopted in 2014). The primary purpose of the Projects is to help balance the Pajaro Valley Groundwater Basin, prevent further seawater intrusion, and meet the water supply needs in PV Water's service area by upgrading and expanding the existing Harkins Slough pump station, developing Struve Slough as a water supply source, and constructing new recharge basins. The Harkins Slough Project components would consist of upgrades to the Harkins Slough pump station, installation of a backwash and raw water pipeline from the filter plant at the Harkins Slough pump station to an existing gravity sewer in West Beach Street, and construction of two new recharge basins and associated recovery wells and pipelines. The Struve Slough Project components would consist of a new screened intake, new pump station, a new pipeline to connect the new pump station to the Harkins Slough pump station, a new pipeline to connect the Harkins Slough pump station to the recharge basins, and a new recharge basin and associated recovery wells and pipelines.

Public Scoping Process

To ensure that the public and regulatory agencies have an opportunity to ask questions and submit comments as to the scope and content of the EIR, a scoping meeting will be held during the NOP review period, on **Wednesday, June 12, 2019**, in the **Community Room B at the City of Watsonville Civic Plaza (275 Main Street, Fourth Floor, Watsonville, CA 95076)**. The meeting will be held from **4:00 to 5:30 PM**, and will start with a brief presentation providing an overview of the Projects. Following the presentation, interested parties will be provided an opportunity to ask questions and provide comments. Participants are encouraged to submit written comments; comment forms will be supplied at the scoping meeting. Written comments may also be submitted anytime during the NOP scoping period to the mailing address, fax number, or email address listed below.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than **5:00 PM on July 1, 2019**. Please include a name, address, email address, and telephone number of a contact person in your agency (if applicable) for all future correspondence on this subject. Please send your comments to:

Pajaro Valley Water Management Agency
ATTN: Brian Lockwood, General Manager
36 Brennan Street
Watsonville, CA 95076

Fax: (831) 722-3139
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NOTICE OF PREPARATION

Watsonville Slough System Managed Aquifer Recharge and Recovery Projects Environmental Impact Report

Introduction

In accordance with the provisions of the California Environmental Quality Act (CEQA) and the CEQA *Guidelines*, the Pajaro Valley Water Management Agency (PV Water), as CEQA Lead Agency, is preparing a project level environmental impact report (EIR) for the proposed Watsonville Slough System Managed Aquifer Recharge and Recovery Projects (Projects) which consists of the Harkins Slough Facilities Upgrades Project (Harkins Slough Project) and Struve Slough Project.

PV Water has prepared this Notice of Preparation (NOP) of an EIR in connection with the Projects to inform the public, responsible and trustee agencies, and interested parties about the Projects and the intent to prepare an EIR. The purpose of an NOP is to provide sufficient information describing the Project and the potential environmental effects to enable the responsible agencies to make a meaningful response related to the scope and content of the EIR (CEQA *Guidelines* Section 15082). The purpose of the EIR is to provide information about potential significant physical environmental effects of the Projects, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the Projects. PV Water is seeking your views regarding the scope and content of the environmental document in connection with the Projects. Written comments will be accepted until **5:00 PM on July 1, 2019**. PV Water will also hold a scoping meeting on **Wednesday, June 12, 2017**, in the **Community Room B at the City of Watsonville Civic Plaza (275 Main Street, Fourth Floor, Watsonville, CA 95076)**. The meeting will be held from **4:00 to 5:30 PM**.

Project Background

Pajaro Valley Water Management Agency

PV Water was formed in 1984 by the Pajaro Valley Water Management Agency Act (Agency Act), for the primary purpose of managing groundwater resources and supplemental water supplies in its service area. The 2014 Sustainable Groundwater Management Act (SGMA) listed PV Water as the exclusive Groundwater Sustainability Agency within its service area (Water Code Section 10723), and in 2015 the PV Water Board of Directors (Board) elected to become a Groundwater Sustainability Agency. PV Water's service area encompasses approximately 70,000 acres in the Pajaro Valley, located in southern Santa Cruz County, northern Monterey County, and a small

portion of San Benito County. Seawater intrusion in the Pajaro Valley Groundwater Basin was first documented in 1953. In the coastal areas and throughout much of the Pajaro Valley Groundwater Basin, overdraft conditions¹ have caused groundwater levels to drop below sea level, creating a landward pressure gradient that causes seawater to move inland. Seawater intrusion has elevated the chloride concentrations in groundwater up to two and a half miles inland from the coast, in some areas contaminating the groundwater to the point that it is unsuitable for agricultural irrigation and domestic (potable) uses without treatment.

PV Water was created to manage existing and supplemental water supplies for its service area. Its objective is to achieve a sustainable groundwater basin by managing local groundwater resources to reduce, and eventually halt, long-term seawater intrusion and overdraft of the groundwater basin while ensuring sufficient water supplies for present and anticipated needs. To achieve this objective, PV Water has prepared and periodically updates a basin-wide groundwater management plan, the Basin Management Plan (BMP), which serves as the guiding document for its major projects and programs. The BMP preparation process includes engaging the public, forming a stakeholder committee, reviewing existing groundwater basin conditions, evaluating the results of implemented projects to reduce overdraft and seawater intrusion, as well as identifying additional projects and management strategies to achieve its stated goals and testing the strategies with the Pajaro Valley Hydrologic Model.

Previous Basin Management Planning Efforts

PV Water prepared its first BMP in the 1990s. The “1993 BMP” identified a preferred alternative that called for importing a surface water supply to the region from the federal Central Valley Project to substantially augment the use of local surface water supplies. A program environmental impact report (1993 BMP PEIR) was prepared for the 1993 BMP to analyze, at a program-level, these concepts.

A redraft of the BMP was prepared in 2000 but its completion was delayed to allow additional analyses of local water supply options, which were then incorporated into the 2002 Revised BMP. The 2002 Revised BMP EIR provided a program-level analysis of the environmental impacts of two alternatives, and a project-level analysis of local projects. The final strategy of the 2002 Revised BMP adopted by the Board was called the Modified BMP 2000 Alternative and included the following major projects and programs: Harkins Slough Managed Aquifer Recharge and Recovery Facility, Coastal Distribution System (CDS), 54-Inch Import Water Project with Out-of-Basin Banking, Recycled Water Project, and Conservation and Watershed Management Programs. Subsequently, PV Water constructed the Managed Aquifer Recharge and Recovery Facilities (comprised of the Harkins Slough pump station, recharge basin, and associated recovery wells and pipelines), a significant portion of the CDS, supplemental wells, and, in cooperation with the City of Watsonville, the Recycled Water Facility (RWF).

However, while the implementation of the Managed Aquifer Recharge and Recovery Facilities, the RWF, supplemental wells, and the CDS has helped to reduce the magnitude of the groundwater

¹ Overdraft occurs when the amount of groundwater withdrawn from a basin exceeds the volume of freshwater replenishing the basin.

overdraft and resulting seawater intrusion problems, these problems still persist. In 2005, PV Water contracted with the United States Geological Survey to cooperatively develop a robust, regional hydrologic model to simulate the use and movement of water within the groundwater basin. Based on the hydrologic modeling results, PV Water has established a target of reducing groundwater pumping in the Pajaro Valley Groundwater Basin by 12,100 acre-feet per year (AFY).²

Basin Management Plan Update

In 2010, PV Water formed the 21-member Ad Hoc BMP Committee as a means for the Pajaro Valley community to help guide the Board in the development of an updated BMP (BMP Update) focused on implementing locally controlled solutions (e.g., additional conservation, surface water supplies, and/or reductions in groundwater pumping). The BMP Update planning process began with the development of a comprehensive list of supplemental water supply projects, including some identified in previous BMPs, that could help meet the goals of stopping seawater intrusion and basin overdraft. Potential projects (44 in total) were identified, screened, ranked, and prioritized for feasibility, cost, and other factors. Based on this analysis, seven projects were recommended by the Ad Hoc BMP Committee, and ultimately selected by the Board for inclusion in the BMP Update portfolio. These projects are:

- Conservation;
- Increased Recycled Water Storage at the RWF;
- Increased Recycled Water Deliveries;
- Harkins Slough Recharge Facilities Upgrades (this project was subsequently renamed the Harkins Slough Facilities Upgrades Project);
- Watsonville Slough with Recharge Basins (this project was subsequently renamed the Struve Slough Project to reflect the location of the proposed intake);
- College Lake with Inland Pipeline to Coastal Distribution System (this project was subsequently renamed the College Lake Integrated Resources Management Project); and
- Murphy Crossing with Recharge Basins.

2014 Program Environmental Impact Report

To address the potential environmental impacts of the BMP Update components, PV Water prepared the *Final Environmental Impact Report for the Basin Management Plan Update* (State Clearinghouse #2000062030, referred to herein as 2014 BMP Update PEIR), which evaluated the environmental impacts of the seven components at a program level of detail.³ A program EIR is prepared for a group of potential actions that can be characterized as one large project, such as the BMP Update (CEQA *Guidelines* Section 15168). A program EIR is a first-tier environmental document that assesses and documents the broad environmental impacts of a program with the understanding that a more detailed site-specific review may be required to assess future projects

² One acre-foot equals about 326,000 gallons, or enough water to cover an acre of land one foot deep.

³ The *Final Environmental Impact Report for the Basin Management Plan Update* is available online at <https://www.pvwater.org/bmp-update>. (PV Water, *Final Environmental Impact Report for the Basin Management Plan Update*, prepared by Denise Duffy & Associates, Inc., February 2014.)

implemented under the program. The 2014 BMP Update PEIR evaluated the BMP Update components based on conceptual information available at that time, and established a framework for “tiered” or project-level environmental documents that would be prepared in accordance with the overall program.

The Board certified the 2014 BMP Update PEIR on April 16, 2014 (Resolution 2014-04). The Board then approved the BMP Update and made findings pursuant to CEQA, including a statement of overriding considerations, and adopted a mitigation monitoring and reporting program for the BMP Update (Resolution 2014-05).

Sustainable Groundwater Management Act⁴

The SGMA was signed into law in September 2014, after the 2014 BMP Update PEIR was certified.⁵ SGMA defines sustainable groundwater management as the “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.”⁶ “Undesirable Results” are defined in SGMA and may be summarized as any of the following effects caused by groundwater conditions occurring throughout the basin:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality;
- Significant and unreasonable land subsidence; and/or
- Surface water depletions that have significant and unreasonable adverse impacts on the beneficial uses of surface water.⁷

SGMA requires critically overdrafted, high priority basins like the Pajaro Valley Groundwater Basin⁸ to be managed under a Groundwater Sustainability Plan by January 31, 2020, and to achieve sustainability by 2040. SGMA also:

- Empowers local agencies to manage groundwater basins sustainably;
- Establishes basic requirements for Groundwater Sustainability Plans; and
- Provides for a review, evaluation and assessment of Groundwater Sustainability Plans by DWR (See Water Code sections 10733-10733.8) and intervention by the State Water Board if

⁴ Cal. Water Code § 10720, et seq.

⁵ California Department of Water Resources, Sustainable Groundwater Management Act and Related Statutory Provisions from SB1168 (Pavley), AB1739 (Dickinson), and SB1319 (Pavley) as Chaptered], effective January 1, 2016.

⁶ Cal. Water Code § 10721(v).

⁷ Cal. Water Code § 10721(x).

⁸ Officially, the basin is referred to as the Pajaro Valley Groundwater Subbasin 3-002.01 (Corralitos Basin, Pajaro Valley Subbasin).

the applicable requirements of SGMA have not been met (see Water Code sections 10735-10735.8).

SGMA places the responsibility of sustainable groundwater management on Groundwater Sustainability Agencies, which can be any local agency that has water supply, water management, or land use responsibilities within a groundwater basin, or a combination of such agencies overlying a basin. SGMA designated PV Water as the exclusive local agency to manage groundwater within its statutory boundaries (Water Code Section 10723) and the Board voted to be the Groundwater Sustainability Agency for the Pajaro Valley Groundwater Basin in August 2015. In September 2015, PV Water submitted a formation notice to the California Department of Water Resources and the Department posted this notice.^{9,10} In 2016, PV Water submitted the BMP Update and associated documents as an Alternative to a Groundwater Sustainability Plan.¹¹

Harkins Slough Facilities Upgrades Project and Struve Slough Project EIR

Since completing the 2014 BMP Update PEIR, PV Water has developed the Projects in greater detail through planning and conceptual design studies. The Harkins Slough Project and Struve Slough Project will be described in the Watsonville Slough System Managed Aquifer Recharge and Recovery Projects EIR, which will evaluate the proposed design, construction, and operation of the Projects, tiering from the 2014 BMP Update PEIR and incorporating parts of the PEIR by reference. The EIR will be prepared as a supplement to the 2014 BMP Update PEIR pursuant to Section 15163 of the CEQA *Guidelines*. The 2014 BMP Update PEIR is available for review at the PV Water offices (36 Brennan Street, Watsonville, CA 95076) and on PV Water's website at <http://pvwater.org/about-pvwma/bmp-update.php>.

Current Slough Operations

The Watsonville Slough system consists of six major branch sloughs: Watsonville, Harkins, Hanson, Struve, West Branch of Struve, and Gallighan. The slough system is a network of approximately 800 acres of coastal salt marsh, seasonal wetlands, brackish and freshwater emergent marsh and riparian communities. It receives runoff from a 13,000-acre watershed area.¹²

Harkins Slough

The Harkins Slough pump station, recharge basin, and associated pipelines were constructed in 2002, to filter water and seasonally store wet weather flows from Harkins Slough in the shallow aquifers of the San Andreas Terrace. Via a Santa Cruz County-owned pump station that is operated by PV Water, the wet weather flows are pumped through pressure sand filters and then to the

⁹ PV Water, Sustainable Groundwater Management, 2019. Available online at <https://www.pvwater.org/sgm>. Accessed on April 10, 2019.

¹⁰ California Department of Water Resources, All posted Groundwater Sustainability Agency Notices, last modified October 8, 2015. Available online at <http://sgma.water.ca.gov/portal/gsa/all>. Accessed on April 10, 2019.

¹¹ California Department of Water Resources, SGMA Portal, Alternatives. Pajaro Valley Water Management Agency, last modified October 8, 2015. Available online at <https://sgma.water.ca.gov/portal/alternative/print/22>. Accessed on April 10, 2019.

¹² PV Water, *Final Environmental Impact Report for the Basin Management Plan Update*, prepared by Denise Duffy & Associates, Inc., February 2014.

existing recharge basin where the water percolates into the ground. Stored water is pumped from a series of recovery wells and is delivered to coastal farms through the CDS during the irrigation season.

There are constraints on existing diversion and recovery operations that adversely affect the yield of the existing Harkins Slough facilities. Historically, PV Water has not been able to divert more than 1,000 acre-feet per year (AFY) to the recharge basin. Water quality issues are one of the primary reasons for the low diversion rates, and in years when water supply and quality are good, infiltration capacity becomes the limiting factor. At the time of construction, the Harkins Slough Project was designed to recover an average of 1,100 AFY from the recovery wells, but PV Water has recovered an average of 200 AFY. Low recovery rates are due to low diversions, decreased infiltration rates, and limited recovery well and pumping capacities,¹³ including the recovery wells being located in a localized aquifer below a clay unit that impedes recharge water from entering the aquifer. With the Projects' upgrades and new facilities, PV Water would be able to increase these diversion rates, potentially up to the 2,000 AFY authorized by PV Water's water-right Permit 21039 (Application 30522) for the Harkins Slough Project.

Struve Slough

Struve Slough is not currently used by PV Water for any purposes. Around the banks and upland areas above the sloughs are recreational trails, agricultural, commercial, and residential land uses.

Project Description

Project Purpose and Objectives

The primary purposes of the Projects are to help balance the groundwater basin, prevent further seawater intrusion, and meet water supply needs in PV Water's service area by upgrading the Harkins Slough pump station, developing Struve Slough as a new water supply source, and constructing new recharge basins and associated recovery wells and pipelines. The following objectives were included in the 2014 BMP Update PEIR:

- Prevent seawater intrusion, long-term groundwater overdraft, land subsidence, and water quality degradation;
- Manage existing and supplemental water supplies to control overdraft and provide for present and future water needs;
- Create a reliable, long-term water supply, which has been identified as an important cornerstone of the long-term economic vitality of the Pajaro Valley;
- Develop water conservation programs; and
- To recommend a program that is cost effective and environmentally sound.

¹³ Carollo Engineers, *Harkins Slough Filter Plant Water Quality Study*, Final, August 2017.

PV Water anticipates that the Projects would advance all of these objectives, with the exception of development of water conservation programs, which is being addressed by other PV Water programs.¹⁴

As discussed above, SGMA was enacted after PV Water’s approval of the 2014 BMP Update. In light of the BMP objectives, the requirements of SGMA, and the mitigation measures adopted as part of its approval of the BMP Update, the Board may consider additional project-specific objectives for the Projects that would be identified in the EIR.

Project Location

The Projects include the following components that would be located in unincorporated Santa Cruz County (see **Figure 1**). The locations of the following components and related construction staging areas are collectively referred to as the “Project sites.” **Appendix NOP-1** lists by Assessor Parcel Number (APN) the properties that are associated with the Projects.

Harkins Slough Facilities Upgrades Project

Figure 2 shows the location and schematic of the Harkins Slough pump station. The existing Harkins Slough pump station is located approximately one mile southwest of the Watsonville city limits, north of San Andreas Road and west of State Route (SR) 1.

- **Harkins Slough Pump Station Upgrades.** The proposed filter plant expansion and pump station upgrades would occur at the existing Harkins Slough pump station at the southern end of Harkins Slough, approximately 900 feet north of San Andreas Road (Figure 2).
- **Backwash and Raw Water Pipeline.** A backwash and raw water pipeline would extend from the Harkins Slough pump station across agricultural fields to connect with an existing 33-inch gravity sewer in West Beach Street (Figure 1). The proposed pipeline alignment follows existing developed road rights-of-way and traverses agricultural land in unincorporated Santa Cruz County.
- **Southwest and Southeast Recharge Basins, Recovery Wells, and Associated Pipelines.** The proposed Southwest and Southeast recharge basins would be located on farmland west of San Andreas Road and north of Dairy Road in unincorporated Santa Cruz County. The Southwest basin site is approximately 850 feet south of the existing recharge basin, while the Southeast basin site is adjacent to the southeast side of the existing recharge basin (refer to **Figure 3**). Both basins would be connected via new pipelines to the existing 24-inch filtered water pipeline that connects the Harkins Slough pump station with the existing recharge basin. Up to ten recovery wells would be installed for each recharge basin.
- **Modifications to Intake.** Prior to publication of the Draft EIR PV Water will explore with resource agencies whether modifications to the existing Harkins Slough intake are warranted.

¹⁴ PV Water’s water conservation programs are designed to reduce water use in the Pajaro Valley. Information on PV Water’s water conservation programs is available at <https://www.pvwater.org/>.

- **Point of Diversion and Place of Use.**¹⁵ Water would continue to be diverted at the existing point of diversion on Harkins Slough pursuant to PV Water’s water-right Permit 21039.

Struve Slough Project

Figure 5 shows the locations and schematic of the proposed screened intake and pump station for the Struve Slough Project.

- **Intake and Pump Station.** The proposed screened intake for this Project would be located in Struve Slough. The pump station would be located about 200 feet northwest of the intake on land zoned for agriculture. A pipeline would connect the intake to the pump station.
- **Struve Slough Pipeline.** The proposed Struve Slough pipeline would extend from the proposed pump station to the filters at the Harkins Slough pump station. The proposed alignment traverses agricultural land in unincorporated Santa Cruz County (Figure 1).
- **Filter Plant to Recharge Basins Pipeline.** An approximately one-mile-long pipeline would extend from the filters at the Harkins Slough pump station approximately 900 feet north of San Andreas Road to the recharge basins, parallel to and within the same right-of-way of an existing 24-inch filtered water pipeline. The proposed alignment traverses agricultural land and existing road right-of-way in unincorporated Santa Cruz County (Figure 1).
- **Monitoring Well-7 Recharge Basin, Recovery Wells, and Associated Pipeline.** The proposed Monitoring Well 7 (MW-7) recharge basin would be located on farmland west of San Andreas Road and north of Dairy Road in unincorporated Santa Cruz County. The MW-7 basin site is located about 375 feet northwest of the existing recharge basin, and would be connected via a short pipeline to the proposed filter plant to recharge basins pipeline (refer to Figure 3). Up to ten recovery wells would be placed around the MW-7 recharge basin.
- **Point of Diversion and Place of Use.** As part of the Struve Slough Project, PV Water will file an application with the State Water Resources Control Board for a new water-right permit. The proposed point of diversion would be located in Struve Slough, as depicted in Figure 5. **Figure 4** depicts the proposed place of use, which would include the areas where agricultural water users served by PV Water’s CDS would use Project water.

As part of the Projects, PV Water intends to negotiate with affected property owners to obtain property rights to access and use the Project sites.

Project Components

Harkins Slough Facilities Upgrades Project

The components proposed to be constructed and operated as part of the Harkins Slough Project include upgrades at the Harkins Slough pump station, construction of the Southwest and Southeast recharge basins and associated recovery wells and pipelines, and a backwash and raw water pipeline, each of which is described below. PV Water may choose to implement a combination of components associated with the Harkins Slough Project and Struve Slough Project.

¹⁵ The place of use consists of the areas where the appropriated water is to be used.

Harkins Slough Pump Station Upgrades

Upgrades to the Harkins Slough pump station would include construction of coagulant addition facilities and the addition of new filters (gravity synthetic medium or pressure sand) to reduce the amount of solids sent to the recharge basins, replacement of three existing intermediate pumps with new pumps, replacement of two existing diversion pumps, and additional yard piping improvements. The pump station upgrades may also include upgrades to the pump controls, and potentially the intake, to improve facility reliability. The pump station and filter plant upgrades would be designed to meet Santa Cruz County noise standards. The filter plant would use polyaluminum chloride coagulant for filtration with up to 5,000 gallons of storage. The yard piping upgrades would include approximately 350 feet of new 24-inch diameter pipelines, one which would convey raw (untreated) water to the filters and the other which would convey filtered water from the filters to the pump station. Refer to Figure 2 for a site plan of the Harkins Slough pump station.

Southwest and Southeast Recharge Basins, Recovery Wells, and Pipelines

The Southwest recharge basin would be approximately 16.7 acres while the Southeast recharge basin would be approximately 12.7 acres. Construction of the Southeast recharge basin may require the demolition of an existing structure and the construction of an approximately 11-foot by 5-foot equalization structure that would stand approximately 8 feet tall. There may be refinements to the Southeast recharge basin boundaries during design subsequent to publication of the NOP. Up to ten recovery wells would be placed near each basin to extract water during the irrigation season. Horizontal wells will also be considered. 20-inch to 36-inch diameter pipelines would convey water from the Harkins Slough pump station to the recharge basins, and from recovery wells to the existing CDS.

Backwash and Raw Water Pipeline

An approximately 4,600-foot-long backwash and raw water pipeline would be constructed between the Harkins Slough pump station and the existing 33-inch gravity sewer line under West Beach Street for discharge of filter backwash and to allow diversion of raw water from the sloughs to the Watsonville Wastewater Treatment Facility and RWF, collectively known as the Water Resources Center.

Struve Slough Project

The components proposed to be constructed and operated as part of the Struve Slough Project include the screened intake, pump station, Struve Slough pipeline, filter plant to recharge basins pipeline, and MW-7 recharge basin and associated recovery wells and pipeline, each of which is described below.

Screened Intake

The screened intake at the diversion point in Struve Slough would be installed on an approximately 25 feet by 15 feet pile-supported slab. An approximately 250-foot-long 36-inch diameter high-density polyethylene pipeline would convey water from the intake to the pump station.

Pump Station

A pump station at Struve Slough would divert water from the intake to the filter plant at the Harkins Slough pump station. The pump station at Struve Slough would have three 200-horsepower pumps (two duty plus one standby) that would be designed to meet Santa Cruz County noise standards. The pump station would be approximately 30 feet long by 20 feet wide, be set at existing grade, and extend about 30 feet below grade. Included at the pump station site would be an electrical controls building that would be about 8 feet wide by 40 feet long and approximately 10 feet tall (refer to Figure 5).

Struve Slough Pipeline

An approximately 6,360-foot long, 30-inch polyvinyl chloride or high-density polyethylene pipeline would be constructed to convey water from the proposed pump station at Struve Slough to the filters at the Harkins Slough pump station.

Filter Plant to Recharge Basins Pipeline

PV Water would construct an approximately 5,500-foot-long, 24-inch diameter polyvinyl chloride or high-density polyethylene water pipeline from the filters at the Harkins Slough pump station to an existing pipeline adjacent to the existing recharge basin. The new filter plant to recharge basins pipeline would run parallel to and within the same right-of-way as an existing 24-inch filtered water pipeline. The proposed pipeline would be used in addition to the existing pipeline to accommodate the increased diversions from Harkins and Struve Slough. Approximately 4,400 feet of the pipeline would traverse agricultural land, while 700 feet would be under a paved section of Dairy Road.

MW-7 Recharge Basin, Recovery Wells, and Pipeline

The MW-7 recharge basin would be approximately 3.9 acres, and would be connected to the either the proposed or existing 24-inch filtered water pipeline that delivers water from the Harkins Slough pump station by a 20-inch filtered water pipeline. Up to ten recovery wells would be placed near the recharge basin, and would extract water to meet irrigation needs in-lieu of groundwater pumping. Horizontal wells will also be considered.

Construction

Construction activities would include staging/laydown, site clearing, earth work, pile driving, structural placement and backfilling, concrete and paving work, dewatering, excavation, and trenching in the Project area.

Schedule

Construction of the Harkins Slough Project is expected to occur in approximately 30 months over a four-year period between 2020 and 2025. Construction of the Struve Slough Project is expected to last one year between 2022 and 2023, with the exception of the MW-7 recharge basin, recovery wells, and associated pipelines, the construction of which is expected to occur over nine months between 2027 and 2028.

Site Clearing and Preparation

Construction workers would clear and prepare the construction work areas in stages as construction progresses. Before construction starts, the contractor would clear and grade portions of the Projects' areas, removing vegetation and debris as necessary to provide a level surface for equipment access, materials staging, and construction activities.

Staging and Laydown Areas

Construction equipment and materials would be stored within the construction work areas to the extent feasible, though additional offsite laydown areas may be required. If required, the additional laydown area(s) would be located near the Projects' sites. Construction staging and laydown for the proposed Harkins Slough Facility improvements would use PV Water's property for storage/staging of equipment and materials. Construction staging and laydown for the proposed Struve Slough screened intake would require a one-acre staging area near the footprint of the proposed Struve Slough pump station. Staging and laydown for pipeline construction would occur primarily within the width of the pipeline construction corridor along the pipeline route.

Project Component Construction

In general, construction of the proposed screened intake, pump station, recharge basins, and recovery wells, and upgrades to the Harkins Slough pump station would involve dewatering; grading and excavation; pile-driving; erecting concrete structures; installing piping, pumps, electrical and mechanical equipment; testing and commissioning facilities; finish work such as erecting enclosures; installing flooring, and fencing; and painting and paving. Installation of the intake in Struve Slough and the pipeline connecting the intake to the pump station would likely require a cofferdam or shoring to create a construction work area. Dust control measures would be taken to reduce fugitive dust emissions during construction, including implementation of adopted Mitigation Measure AQ-1 (refer to **Appendix NOP-2**) which includes a dust control program.

Pipeline Installation

The construction method for installation of the proposed pipelines would depend on their locations. Conventional cut and cover construction techniques would be used for installing pipelines in existing roadways or agricultural fields. Creeks, drainages, and railroads may require trenchless construction techniques. The type of water year would determine if trenchless construction techniques are necessary to install the pipelines across Watsonville Slough; if water levels are low enough, open-trench pipeline installation could occur.

Typical construction equipment for pipeline installation would include pavement saws, flatbed trucks, backhoes, excavators, pipe cutting and welding equipment, haul trucks for soils transport and materials delivery, compaction equipment, pickup trucks, generators, air compressors, cranes, drill rigs, skip loaders, and pavers.

Proposed Operations and Maintenance

Operation and maintenance of the Projects would include:

- Diversion of water from Struve Slough at the proposed screened intake, and the conveyance of the water to the proposed pump station and pipelines;
- Continued diversion of water from Harkins Slough pursuant to PV Water's existing water right Permit 21039, and operations of associated pumped conveyance and filtration components;
- Operation and monitoring of the new recharge basins and recovery wells; and
- Inspection and maintenance of the Projects' components.

The goal for the Projects as identified in the BMP Update is to obtain a total average yield of 2,400 AFY to put to beneficial use, which would require an estimated maximum diversion of up to 4,000 AFY. Diversion to storage would be seasonal, occurring between November 1 and May 31 each year.

When sufficient water is available and meets water quality objectives, PV Water would pump water from Harkins Slough and Struve Slough to the upgraded Harkins Slough pump station where it would be filtered at the filter plant. The filtered water would flow through existing and proposed pipelines to the recharge basins. Water would be pumped from the recovery wells and delivered to agricultural users served by the CDS as needed to meet irrigation demand and offset groundwater production.

Backwash water from filter cleaning would be pumped to the existing gravity sewer pipeline in West Beach Street and conveyed to the Water Resources Center for treatment. Under favorable water availability, demand, and quality conditions, the same pipeline could also be used to convey raw water diverted from the sloughs directly to the Water Resources Center where it would be treated and then pumped into the CDS.

The number of employees required to operate and maintain the new and expanded facilities would not increase from current requirements.

Environmental Commitments Proposed as Part of the Project

Appendix NOP-2 identifies mitigation measures that the Board of Directors adopted on April 16, 2014 (Resolution 2014-05) as part of the mitigation monitoring and reporting program for the BMP Update. Implementation of these measures is proposed as part of the Projects.

Permits and Approvals

The Projects may require permits and other approvals from the agencies listed below.

Agency or Organization	Action Requiring Permit or Consultation	Permit or Approval	
		Harkins Slough Facilities Upgrades	Struve Slough
Federal			
U.S. Army Corps of Engineers	Impacts to wetlands/waters of the U.S.	Clean Water Act Section 404 Permit	
U.S. Fish and Wildlife Service	Impacts to biological resources	Endangered Species Act Section 7 compliance	
U.S. Fish and Wildlife Service: National Marine Fisheries Service	Construction in wetland and upland areas where federally listed species may be present	Endangered Species Act Section 7 compliance	
State			
State Historic Preservation Officer	Construction in or near cultural resources	National Historic Preservation Act Section 106 compliance	
State Water Resources Control Board: Division of Water Rights	Diversion and beneficial use of surface water	PV Water holds water right Permit 21039; no new water-right permit or amendment to Permit 21039 is necessary.	New Water Right Permit
California Department of Fish and Wildlife	Alteration of streambeds	Section 1602 Lake and Streambed Alteration Agreement	
	Effects of state-listed species	California Endangered Species Act Section 2081 Incidental Take Permit	
Regional Water Quality Control Board	Potential for surface water quality impairment from pollutant discharge	401 Certification and NPDES for Construction	
Local			
Santa Cruz County - Coastal Development Permitting	Construction in coastal zone	Minor Coastal Development Permit	
Santa Cruz County	Pipeline construction in unincorporated Santa Cruz County	Encroachment Permit	

Environmental Effects to be Analyzed

The EIR will analyze, at a project-level of detail, the potential environmental effects of constructing, operating, and maintaining the Projects. As indicated above, the Projects include mitigation measures adopted by the Board of Directors to reduce the severity and magnitude of environmental effects (presented in Appendix NOP-2). Analyses conducted as part of the Watsonville Slough System Managed Aquifer Recharge and Recovery Projects EIR may identify

the need for additional or modified mitigation, which could take the form of (1) modifications to update the mitigation measures presented in Appendix NOP-2 to reflect current conditions and site-specific impacts; or (2) new mitigation measures to replace or augment an adopted mitigation measure. Topics to be addressed in the EIR include, but are not limited to, the following:

- Land Use and Agricultural Resources
- Surface Water, Groundwater, and Water Quality
- Biological Resources
- Air Quality and Greenhouse Gases
- Geology and Soils
- Hazards and Hazardous Materials
- Noise
- Transportation and Traffic
- Cultural Resources
- Tribal Cultural Resources
- Energy
- Utilities
- Public Services
- Recreation
- Aesthetic Resources
- Alternatives
- Cumulative Impacts

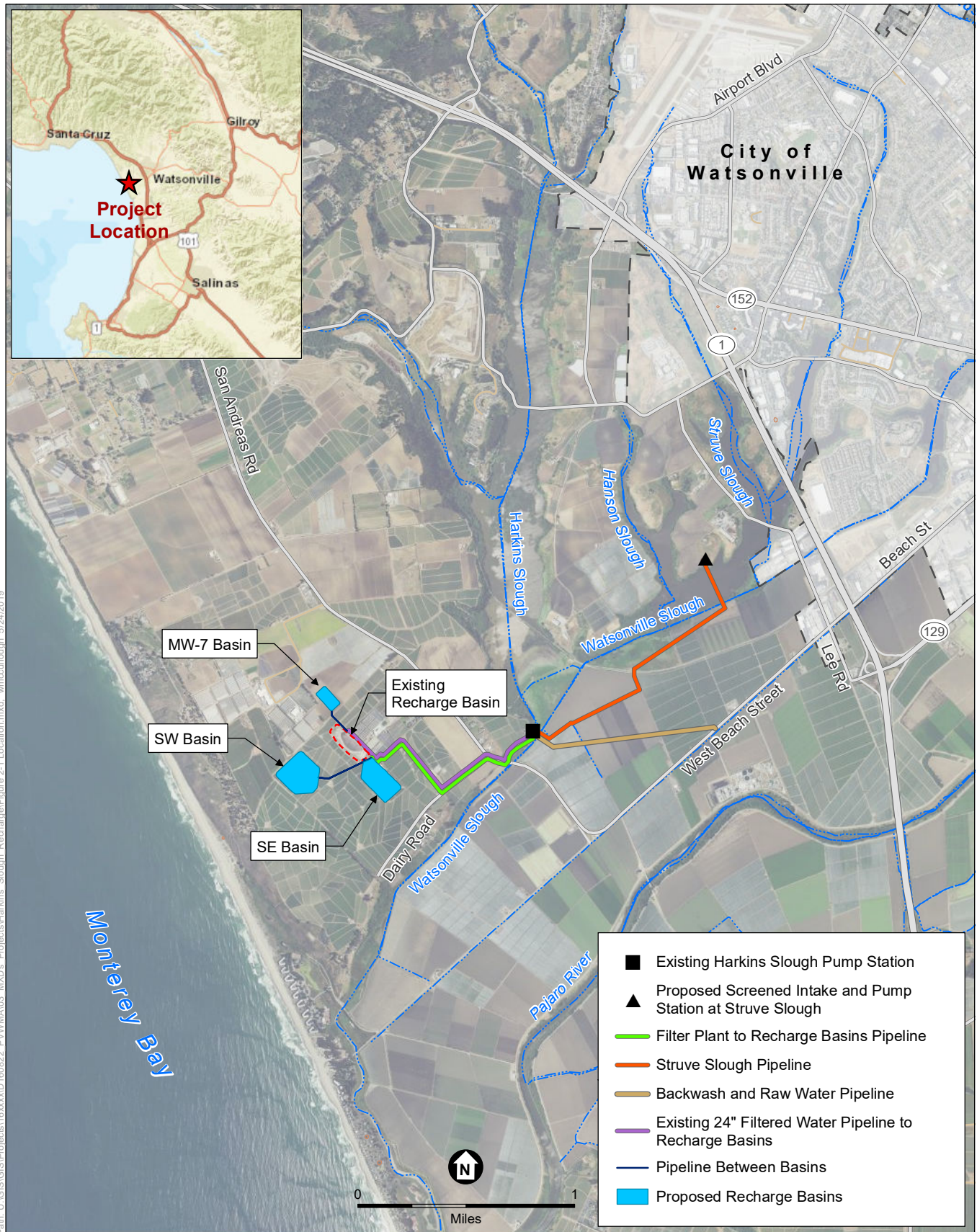
The Projects are not likely to result in potentially significant environmental effects with respect to the following environmental issue areas; as such, these topics will not be addressed in the EIR.

- **Forestry and Mineral Resources** - The proposed pipelines would be installed generally in existing roadways or agricultural fields. The recharge basins would be located in parcels zoned for Commercial Agriculture and Commercial Agriculture-Agricultural Preserve and Farm-land Security, the intake and pump station at Struve Slough would be located in parcels zoned for Commercial Agriculture-Watsonville Utility Prohibition, and the Harkins Slough pup station is zoned for Commercial Agriculture. The entire Projects' area is mapped by the California Geological Survey as MRZ-1 (no significant mineral deposits are present). Therefore, no impact to mineral resources is expected and the EIR will not address this topic. The Project area contains no timber harvesting activities or land specifically designated as forest land or timberland and no impact to forestry resources would occur.
- **Physically divide an established community** – The Projects' area is surrounded by predominantly agricultural uses; implementation of the Projects would alter the use of land at the recharge basins and the facilities at Struve Slough, but would not physically divide an established community. The Projects' pipelines would traverse agricultural lands in unincorporated Santa Cruz County, but the pipelines would be installed underground, and thus would not divide any established communities. Therefore, this criterion is not applicable.
- **Having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater** – None of the Projects' components include the use of septic tanks or alternative wastewater disposal systems, and therefore, there would be no impact on the support capacity of affected soils. For these reason, this criterion is not applicable to the Projects.
- **Release or handling of hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school** – None of the Projects' sites are within one-quarter mile of an existing or proposed school. Therefore, this criterion is not applicable to the Projects.

- **Safety hazards from public airports** – The nearest public airport, the Watsonville Municipal Airport, is located over 2 miles from Project components. Therefore, this criterion is not applicable to the Projects.
- **Wildfire** – The Projects’ sites are located in urban and agricultural areas and are not located within a high or very high fire hazard severity zone. The Projects’ sites are in areas classified as Local Responsibility Area and are not within Generalized Critical Fire Hazard Areas mapped by Santa Cruz County. Therefore, this criterion and related criteria are not applicable to the Projects.
- **Exposure of people to excess noise due to proximity to an airport land use plan or private airstrip** – The Projects’ sites would not result in the placement of workers in areas where they would be exposed to excessive noise levels associated with airports or airstrips. The nearest airport is the Watsonville Municipal Airport, approximately two miles to the north. The year 2020 noise contours for the Airport Master Plan indicates that the lowest (55 A-weighted decibels) noise contour does not extend into the Project area. Therefore, the Projects would have no impact related to this criterion.
- **Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise during project operations** – Project operations and routine maintenance would not expose people to, or generate, groundborne vibration. Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with underground railway operations and with construction activities such as blasting, neither of which would result from implementation of the Projects. Operation of the Projects would not involve equipment that would produce groundborne vibration. Therefore, the Projects would have no impact related to this criterion.
- **Population and Housing** - Project facilities would not displace substantial numbers of people or existing housing given the location of proposed facilities and existing land uses on affected parcels. The Projects would not increase available water supplies for domestic or municipal purposes (instead, surface water supplies would be substituted for groundwater supplies currently used for irrigation) and, consequently, the Projects would not induce any substantial population growth. The new water supply developed under the Projects would replace use of groundwater in an effort to stop overdraft and seawater intrusion in the groundwater basin. For these reasons, criteria related to population and housing would be less than significant.
- **Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities** – In 2000, the Santa Cruz County Regional Transportation Commission exercised its right on behalf of the local jurisdictions in Santa Cruz County to be exempt from preparation and implementation of a Congestion Management Plan. As a result, none of the roadways in the Project area are subject to Congestion Management Plan-established Level of Service standards. Therefore, this criterion will not be discussed in the EIR. Further, the Projects would not directly or indirectly eliminate alternative transportation corridors or facilities (e.g., bike paths, lanes, bus turnouts, etc.) both because of Projects’ site locations and because of the short-term nature of construction activities where potential effects could occur. In addition, the Projects would not include changes in policies or programs that support alternative transportation. Therefore, the Projects would not conflict with adopted policies, plans, or programs supporting alternative transportation,

- **Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)** – The provisions of CEQA *Guidelines* section 15064.3, subdivision (b) will apply statewide on July 1, 2020. Since no vehicle miles travelled thresholds have been adopted yet, no further analysis is required and no impacts related to CEQA Guidelines section 15064.3, subdivision (b) would occur.
- **Increased hazards due to a geometric design feature or incompatible uses** – The Projects would not include new design features (e.g., new facilities or obstructions within public roadways) or alterations of existing features (e.g., road realignment) that could increase operations-phase transportation hazards. In addition, traffic generated by the Projects would be compatible with the mix of vehicle types (automobiles and trucks) currently using roads in the Project area. Therefore, the Projects would not result in transportation hazards caused by a design feature or incompatible use.
- **Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.** Backwash water from the filters at the Harkins Slough pump station would be diverted through a new backwash and raw water pipeline to the existing gravity sewer within West Beach Street that connects to the Water Resources Center. PV Water would comply with City of Watsonville requirements for discharge of the backwash water. The City of Watsonville's Water Resources Center has capacity for secondary treatment of 12.1 million gallons per day (mgd) and tertiary treatment of 7.7 mgd, which is sufficient capacity to accommodate backwash water derived from operation of the Projects. The Projects do not require relocation, construction, or expansion of stormwater drainage, natural gas, or telecommunications facilities. In addition, the Projects would not induce significant population growth either directly (by constructing housing) or indirectly (for example, by reducing flood risk in currently undeveloped areas into which additional housing could be built). For these reasons, this criterion is not applicable to the Projects. The need for additional electric power facilities will be considered in the EIR.
- **Have insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.** During construction, the Projects would intermittently use water for dust control, pressure washing, and cement mixing. Construction would also use relatively small amounts of potable water for some site needs such as drinking water, hand-washing, and other on-site sanitary needs. The small increase in potable water use would be temporary, terminating with the completion of construction. Water supplies are planned such that short-term spikes in potable use can be accommodated during normal, dry, and multiple dry years. For these reasons, this criterion is not applicable to the Projects.
- **Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments during operation.** During construction of the Projects, new sources of wastewater discharges would include wastewater resulting from sanitary needs of construction workers. The maximum construction work force would be approximately 12 workers per day. Assuming that each worker would generate 2.81 gallons per day of wastewater, the total increase in wastewater volumes would be less than 0.00003 million gallons per day, an increase well within the dry weather capacity of the existing wastewater system. The Project would generate even less wastewater during operations due to minimal number of staff necessary to operate the facilities proposed as part of the Projects. For these reasons, this criterion is not applicable to the Projects.

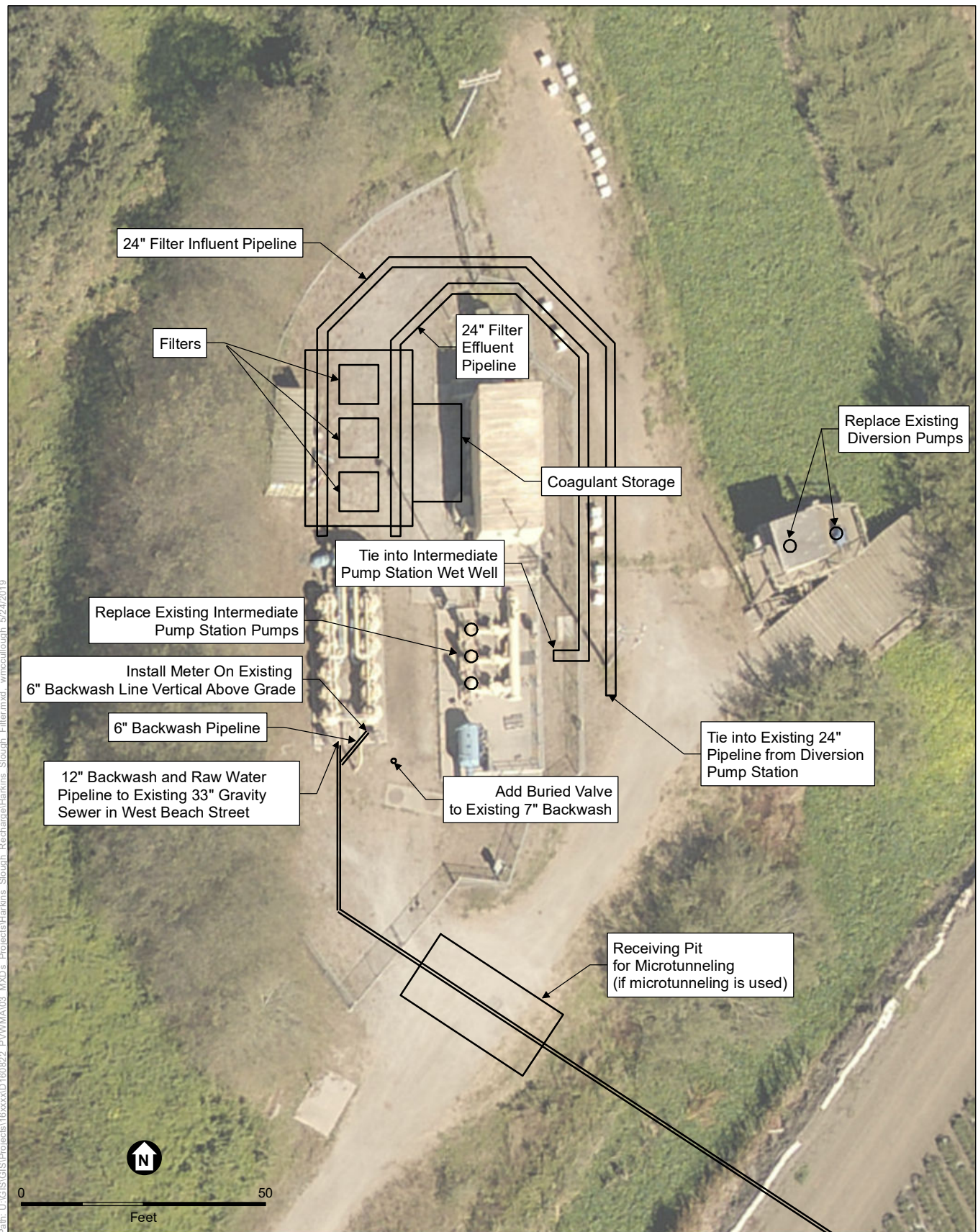
- **Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.** The Projects do not include recreational facilities and would not require the construction or expansion of recreational facilities because they do not displace any existing facilities. Inclusion of recreational facilities may be revisited in the future and would be separately subject to CEQA if proposed. For these reasons, this criterion is not applicable to the Projects.
- **Growth Inducement** – CEQA requires a discussion of a project’s potential to remove an obstacle to growth (e.g., a major public service expansion) or result in increases in population, and an evaluation of the potential indirect environmental impacts, or secondary effects, of that growth (CEQA Guidelines section 15126.2(d)). The 2014 BMP Update PEIR concluded that “implementation of the BMP Update’s components would not result in construction of residential, commercial, or industrial structures, and thus would not directly foster population or economic growth.” The purpose of the BMP Update components, of which the Projects are a part, is to help balance the groundwater basin, prevent further seawater intrusion, and meet the water supply needs in the service area. The BMP Update components do not provide water supply for municipal or industrial uses that would support growth of residential, commercial, or industrial uses. The water supply from Harkins Slough and Struve Slough under the Projects would not be a new potable water supply source but would be used to offset existing groundwater pumping for agricultural use. The PV Water’s enabling act also includes provisions indicating that no water shall be imported for purposes other than agricultural use. The Projects would not expand PV Water’s service area, or increase water supply to meet planned growth within the service area. Given that the Projects are consistent with the 2014 BMP Update PEIR conclusions, the EIR will not address growth inducement.



SOURCE: Carollo Engineers, 2019;
ESRI World Imagery, 7/23/2016; ESA

Watsonville Slough System Managed Aquifer Recharge and Recovery Projects

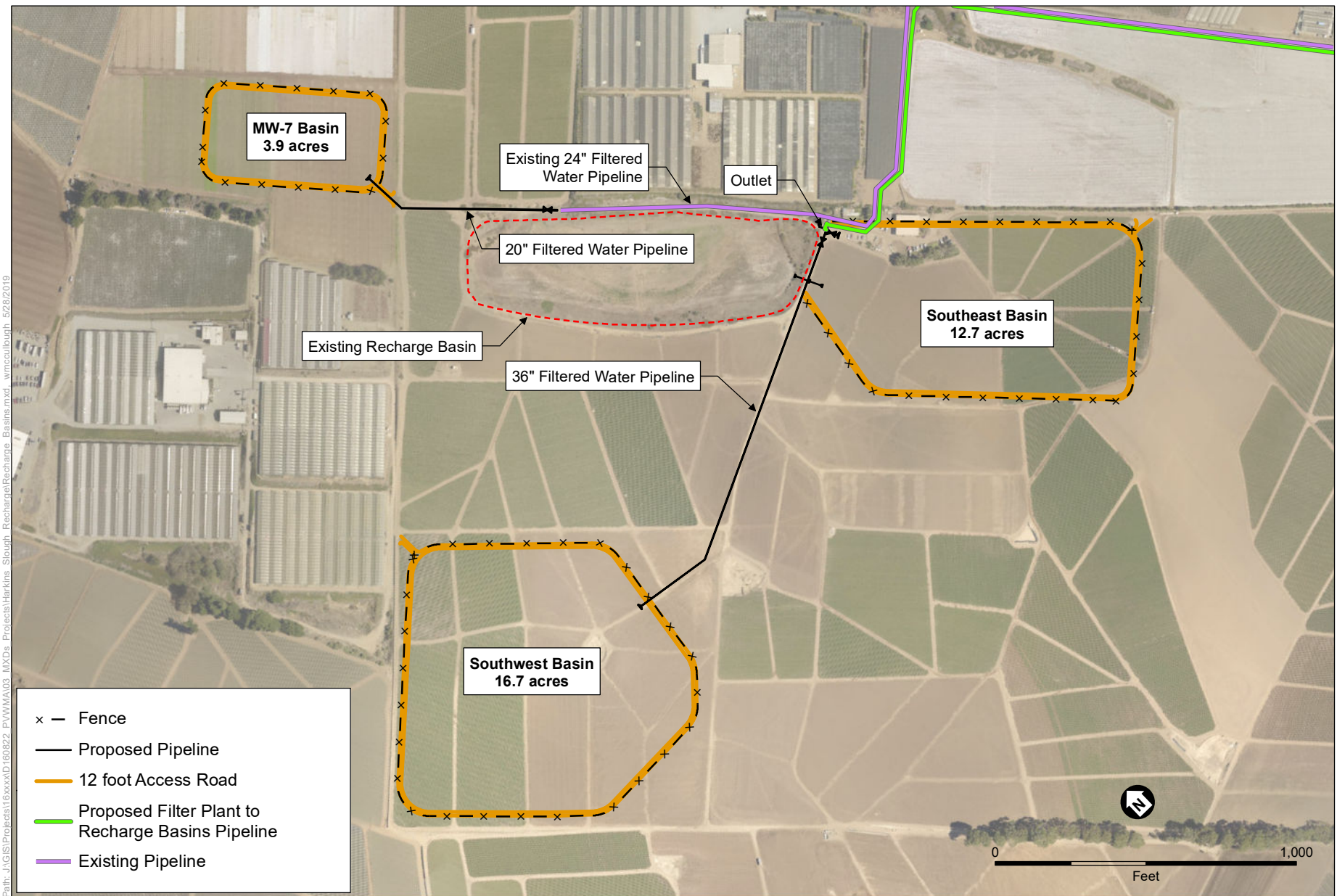
Figure 1
Project Location Map



SOURCE: Carollo Engineers, 2019

Watsonville Slough System Managed Aquifer Recharge and Recovery Projects

Figure 2
Harkins Slough Pump Station Site Plan



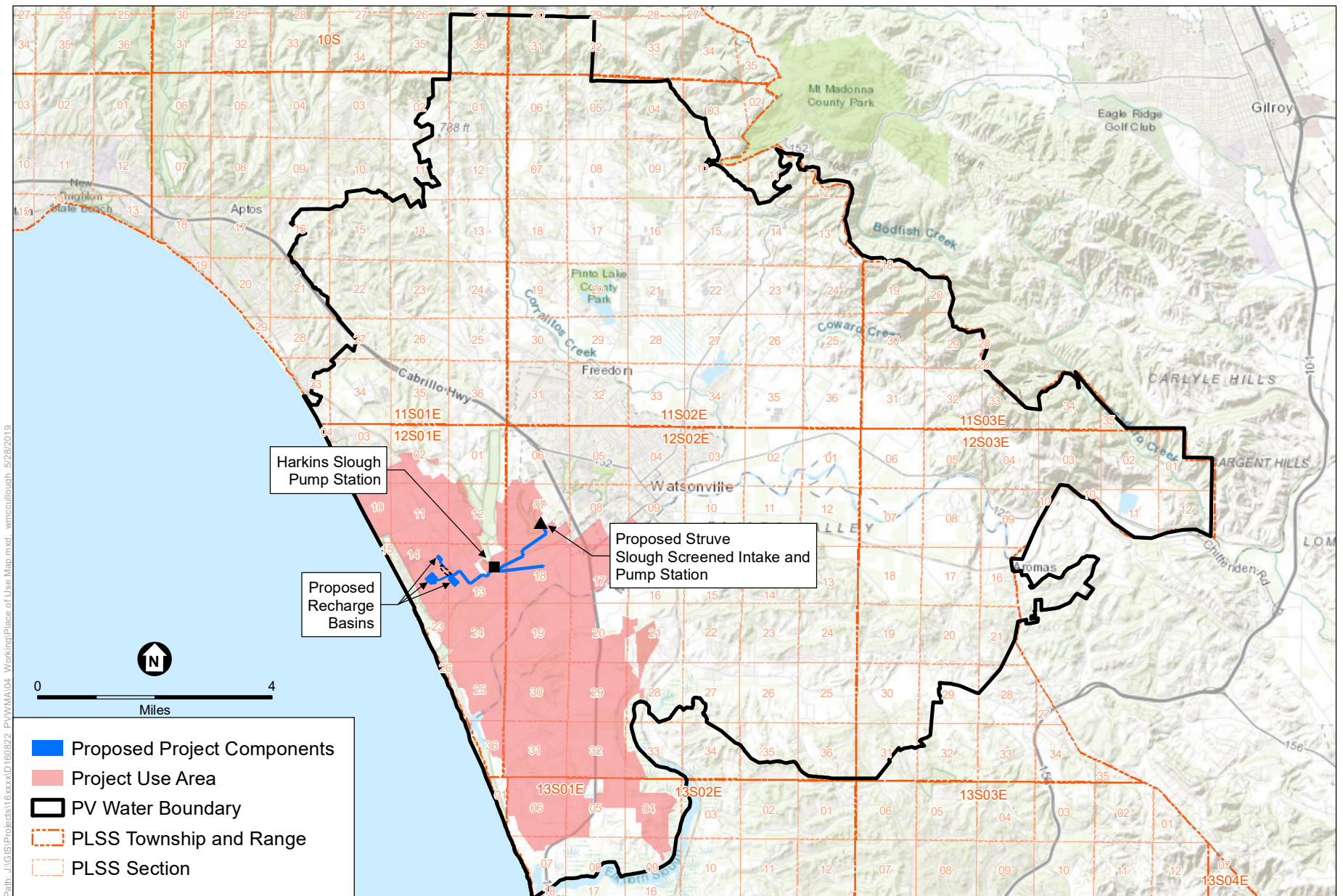
SOURCE: Carollo Engineers, 2019

Note:

1. Recovery wells would be located within 500 feet of each proposed recharge basin.
2. Not shown: connection from recovery wells to existing Coastal Distribution System pipelines.
3. A portion of the existing 24-inch filtered water pipeline located within the boundary of the proposed Southeast recharge basin would be relocated as needed.

Harkins and Watsonville/Struve Slough Projects

Figure 3
Recharge Basins



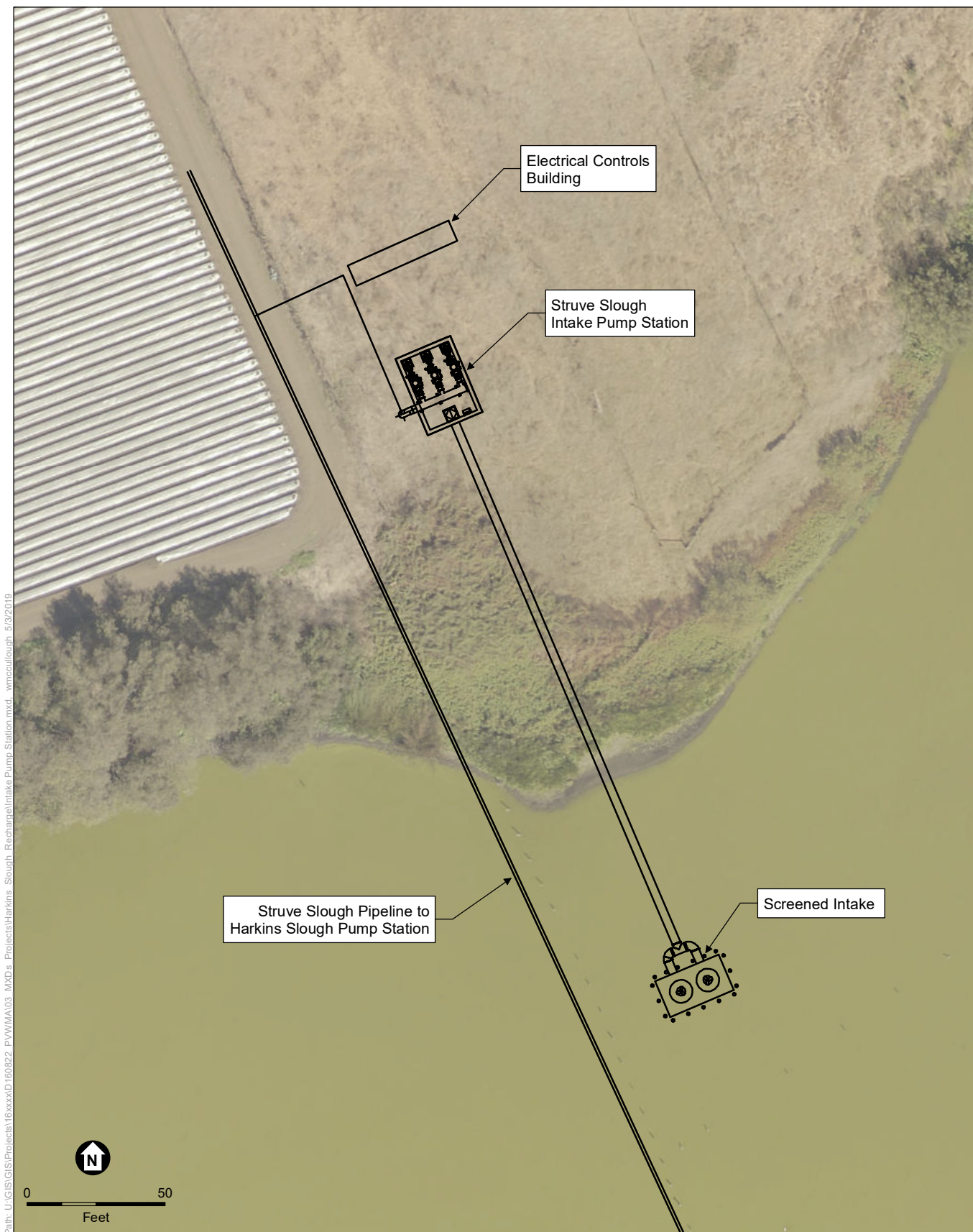
SOURCE: Carollo Engineers, 2017; ESA, 2019

Watsonville Slough System Managed Aquifer Recharge and Recovery Projects

Notes:

1. The proposed place of use includes parcels served by the existing Coastal Distribution System (CDS) and parcels that may be served by an expanded CDS.
2. PLSS = Public Land Survey System

Figure 4
Place of Use



SOURCE: Carollo Engineers, 2019

Watsonville Slough System Managed Aquifer Recharge and Recovery Projects

Figure 5
Struve Slough Screened Intake and Pump Station

APPENDIX NOP-1

Assessor Parcel Numbers Associated with the Watsonville Slough System Managed Aquifer Recharge and Recovery Projects

This appendix lists the Assessor Parcel Numbers of privately owned properties that are wholly or partially within the footprint of proposed Project facilities (e.g., intake and pump station, recharge basins, pipelines).

TABLE NOP 1-1
PARCELS POTENTIALLY AFFECTED BY THE WATSONVILLE SLOUGH SYSTEM MANAGED AQUIFER RECHARGE AND RECOVERY PROJECTS

SCREENED INTAKE AND PUMP STATION AT STRUVE SLOUGH			
052-081-38			
PIPELINES			
052-081-37	052-191-08	052-191-53	052-191-54
052-191-55	052-191-57	052-191-58	052-211-12
052-211-14	052-211-15	052-211-26	052-211-28
052-221-09	052-221-23	052-221-24	052-221-25
052-551-01	052-551-03	052-551-04	052-551-05
HARKINS SLOUGH PUMP STATION			
052-211-29			
RECHARGE BASINS, RECOVERY WELLS, AND ASSOCIATED PIPELINES			
046-151-24	046-151-37	052-181-17	052-181-18
052-181-19	052-181-20	052-191-57	052-311-01
052-311-05	052-311-06	052-311-08	052-541-02

APPENDIX NOP-2

2014 BMP Update PEIR Mitigation Measures

The Watsonville Slough System Managed Aquifer Recharge and Recovery Projects (Projects) were analyzed at a program-level in the 2014 Basin Management Plan Update Program Environmental Impact Report (2014 BMP Update PEIR) as two of seven components under the BMP. The 2014 BMP Update PEIR identified programmatic mitigation measures. Under Resolution No. 2014-05, the Board of Directors adopted the BMP Update Mitigation Monitoring and Reporting Program (MMRP) that identifies programmatic mitigation measures applicable to the BMP Update components, including the Projects. Table NOP 2-1 presents mitigation measures that apply to the Projects as adopted by the Board of Directors. Refer to Chapter 3 of the 2014 BMP Update PEIR for proposed revisions to some of these mitigation measures.

**TABLE NOP 2-1
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR**

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
AIR QUALITY AND GREENHOUSE GASES		
<p>AQ-1: The construction contractor shall implement a dust program that includes the following elements:</p> <ul style="list-style-type: none"> • Water all active construction sites at least twice daily • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard • Pave, apply water three times daily, or apply (non- toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites • Sweep daily (with water sweepers) all paved access roads, paved parking areas and paved staging areas at construction sites • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. • Hydroseed or apply (non-toxic) soil binders to inactive construction areas. However, do not apply these measures in operating agricultural fields under cultivation unless requested by the grower • Enclose, cover, water twice daily or apply (non- toxic) soil binders to exposed stockpiles (dirt, sand, etc.). • Limit traffic on unpaved roads to 15 mph • Install sandbags or other erosion control measures to prevent silt runoff to public roadways • Replant vegetation in disturbed areas as quickly as possible <p>The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork or demolition.</p>	X	X
BIOLOGICAL RESOURCES		
<p>BIO-1a: Wetlands and riparian habitat will be avoided by project construction activities. All facilities and construction activities will be maintained outside the jurisdictional area defined by riparian or emergent wetland vegetation and applicable setbacks and buffers where feasible. Within the Coastal Zone, project improvements will be located 100 feet from coastal review wetlands. Within the City of Watsonville, development will be located 100 feet from riparian areas. Within the unincorporated areas of the County, yet outside the Coastal Zone, a setback of 30 feet and 50 feet will be established adjacent to intermittent and perennial streams, respectively. If complete avoidance of wetlands and riparian areas is infeasible and/or development occurs within a regulated buffer/setback area, impacts would be minimized through implementation of Mitigation Measures BIO-1b, BIO- 1c BIO-1d, and BIO-1e.</p>	X	X
<p>BIO-1b: Standard measures to maintain water quality and to control erosion and sedimentation will be implemented. These measures include:</p> <ul style="list-style-type: none"> • Restrict trenching across all waterways to low-flow periods. • Exclude water from around the section of trench that is within the actively flowing channels. This will further reduce the potential for sediment or other pollutants to enter the waterways and impact downstream resources. The diversion will consist of water pillows, rock, sandbags, or other structural methods deemed most effective by the project engineer. • Place sediment curtains downstream of the construction zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone. • Locate spoil sites so they do not drain directly into the waterways. If a spoil site drains into a channel, catch basins will be constructed to intercept sediment before it reaches the channels. Spoil sites will be graded to reduce the potential for erosion. 	X	X

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
<ul style="list-style-type: none"> • Prepare and implement a spill prevention plan for potentially hazardous materials. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching the creek channels. • Store equipment and materials away from the waterways, outside existing levees or at least 50 feet from waterways, but within the pipeline right-of-way. No equipment or materials will be deposited within 100 feet of wetlands. • Provide proper and timely maintenance for vehicles and equipment used during construction to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the creeks. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e., away from the creeks). • Prior to construction, install temporary construction fencing at the perimeter of the construction zone to prevent inadvertent equipment access or construction staging within adjacent riparian forest and/or coastal marsh habitats. This fencing will be signed in the field as "SENSITIVE HABITAT AREA — NO CONSTRUCTION ACCESS". Monitor construction activities to verify compliance with the perimeter fencing and limits of construction access and staging and implement remedial action if non-compliance is noted. <p>Restrict limbing of riparian forest trees; if trees are limbed for construction access, document the impact and provide compensation as per Mitigation Measure BIO-1c.</p>		
<p>BIO-1c: Where impacts to mixed riparian or willow riparian forest occurs, revegetation measures will be developed as part of a revegetation plan approved by CDFW, RWQCB, and if applicable, USACE and/or California Coastal Commission, pursuant to regulatory agency permitting. The revegetation plan will include specific plans for the revegetation of impacted riparian forest, and for restoration of nearby creek riparian habitat, as appropriate. Upon approval by Santa Cruz County and other applicable agencies, the PVWMA may choose to coordinate with the Natural Resources Conservation Service (NRCS) and the Santa Cruz County Resource Conservation District (RCD) to develop and implement the required riparian revegetation, including providing funds to the RCD for their implementation of the revegetation. Revegetation measures will include the use of locally obtained plant materials, detailed descriptions of installation methods, after-installation care, weed control measures, success criteria, and corrective measures if the success criteria are not met. Revegetation will include a 3:1 replacement ratio the acreage of riparian habitat lost and for all trees lost as result of the project to account for the reduced habitat values of smaller trees compared with mature vegetation. Success criteria for replanting will be less than 20 percent mortality of individual species yearly for 5 years. Replanting will be conducted each year that plantings exceed 20% mortality, such that 80% plant survival is maintained each year of the 5-year monitoring period. Cover provided by invasive, non-native plant species shall not exceed 5% during each year of the 5-year monitoring period.</p>	X	X
<p>BIO-1d: Where impacts to coastal freshwater marsh occurs, revegetation measures will be developed as part of a revegetation plan approved by CDFW, RWQCB, USACE, and/or California Coastal Commission, pursuant to regulatory agency permitting. Upon approval by Santa Cruz County and other applicable agencies, the PVWMA may choose to coordinate with the Natural Resources Conservation Service (NRCS) and the Santa Cruz County Resource Conservation District (RCD) to develop and implement the required wetland revegetation, including providing funds to the RCD for their implementation of the revegetation. The revegetation plan will include specific plans for the revegetation of impacted coastal marsh, and for restoration of nearby wetland habitat, as appropriate. Revegetation measures will include the use of locally obtained plant materials, detailed descriptions of installation methods, after-installation care, weed control measures, success criteria, and corrective measures if the success criteria are not met. Revegetation will include a 3:1 replacement ratio (or an equivalent habitat replacement strategy as agreed upon by PVWMA and regulatory agencies) for impacted wetlands. If natural recovery is a viable strategy, then a wetland plant cover exceeding 50% should be attained after two growing seasons. Mitigation may occur via restoration, creation, or preservation of wetlands. Mitigation will occur at a site acceptable to permitting agencies and pursuant to Project permit requirements. If the compensatory mitigation includes restoration, enhancement, or creation of wetlands, a qualified biologist will monitor the designated wetland mitigation area for a minimum of five years to ascertain if the wetland mitigation is successful. Annual reports will be submitted to permitting agencies by December 31 of each monitoring year, describing the results of the monitoring and any remedial actions needed to achieve a minimum 3:1 habitat replacement ratio or equivalent for permanent impacts to wetlands and other waters.</p>	X	X

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
BIO-1e: Where construction and/or facilities are placed within a riparian or wetland development setback area, indirect impacts to adjacent riparian and wetland vegetation will be minimized. Where feasible, buffer plantings of native trees and shrubs will be installed between the facility and the adjacent wetland or riparian resource to provide a vegetated buffer. A buffer planting plan will be prepared as part of a revegetation plan approved by CDFW, RWQCB, USACE, and/or California Coastal Commission, pursuant to regulatory agency permitting. The buffer planting plan will include specific revegetation measures, including the use of locally obtained plant materials, detailed descriptions of installation methods, after-installation care, weed control measures, success criteria, and corrective measures if the success criteria are not met.	X	X
BIO-2: During the development of BMP Update components, PVWMA will implement conservation measures during construction activities to avoid and minimize incidental take and significant impacts on individuals, populations, or habitat of special-status wildlife species to the maximum extent practicable. The following general measures will be incorporated into the planning and construction of BMP Update components, as appropriate, to ensure that the effects of the BMP Update are avoided, minimized, and mitigated. Suggested species-specific measures for CA red-legged frog, WPT, and steelhead are included, as well, although BMP Update components that proposed to divert surface waters beyond existing entitlements would require future additional project-level CEQA analyses of specific diversion and operation plans to support water rights application and environmental permits. It is assumed that project-level biological studies and analysis for these BMP Update components will be required to support those future permits and biological opinions.	X	X
BIO-2a: During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.	X	X
BIO-2b: All refueling, maintenance, and staging of equipment and vehicles will occur at least 65 feet from any riparian habitat or water body. The Agency will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the Agency will ensure that the contractor has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.	X	X
BIO-2c: The spread or introduction of invasive exotic plant species will be avoided to the extent practicable. When practicable, invasive exotic plants in the project areas will be removed.	X	X
BIO-2d: Prior to any on-site work in areas where special-status species may occur, a qualified biologist will conduct a tailgate training session in which all construction personnel will receive training regarding measures (below) that are to be implemented to avoid environmental impacts. This training will include a presentation of the potential for sensitive species to occur at the site and measures to protect habitat including aquatic habitat and avoid impacts to the species. All personnel working on the site will receive this training, and will sign a sign-in sheet showing they received the training.	X	X
BIO-2e: Prior to the commencement of work, the limits of the work area (including haul routes, access ramps, storage areas and material stockpiles) will be clearly marked with orange construction fencing to prevent workers from impacting habitat outside the work area. No work will occur outside the designated marked work areas.	X	X
BIO-2f: Each morning before work begins on any components in or within 100 feet of a suitable habitat area (defined as: riparian habitat, USACE jurisdictional wetlands or "other waters" of the U.S., or sensitive habitats identified in subsequent USFWS Biological Opinions and CDFW 1600 Lake and Streambed Alteration Agreements), a qualified monitor will survey the work site and habitat immediately surrounding the active work site for conditions that could impact special-status species, and will remain on-site whenever work is occurring that may adversely impact special-status species and their habitats. No work will be allowed to begin each morning until the monitor has inspected the work site.	X	X

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
BIO-2g: A USFWS-approved biologist or biological monitor will permanently remove from within the project area(s), any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes to the extent practicable.	X	X
BIO-2h: Upon locating individuals of special-status species that are dead or injured as a direct result of activities conducted by PVWMA, initial notification will be made to the USFWS's Division of Law Enforcement at (916) 978-4861 (Sacramento) within three working days of its finding. The USFWS Field Office within whose area of responsibility the specimen is recovered will also be notified. Written notification will be made within five calendar days and include the date, time, and location of the carcass, a photograph, cause of death, if known, and any other pertinent information.	X	X
<p>BIO-2i: Nesting Bird Surveys. Prior to any project construction activities, the project proponent will take the following steps to avoid direct losses of nests, eggs, and nestlings and indirect impacts to avian breeding success:</p> <ul style="list-style-type: none"> • If construction activities occur only during the non- breeding season, between August 31 and February 1, no surveys will be required. <p>During the breeding bird season (February 1 through August 31), a qualified biologist will survey construction areas in the vicinity of the project site for nesting raptors and passerine birds not more than 14 days prior to any ground-disturbing activity or vegetation removal. Surveys will include all potential habitats within 500 feet (for raptors) of activities and all on-site vegetation including bare ground within 250 feet of activities (for all other species). If results are positive for nesting birds, avoidance procedures will be adopted, if necessary, on a case-by-case basis. These may include implementation of buffer areas (minimum 50-foot buffer for passerines and 250-foot minimum buffer for raptors) or seasonal avoidance.</p>	X	X
<p>BIO-2j (CRT): The following measures for avoidance and minimization of adverse impacts to California Red- Legged Frog (<i>Rana draytonii</i>) (CRF) during construction of the BMP Update components are those typically employed for construction activities that may result in short-term impacts to individuals and their habitat. The focus of these measures is on scheduling activities at certain times of year, keeping the disturbance footprint to a minimum, and monitoring. Consultation with the USFWS will be conducted and a Biological Opinion developed for each BMP Update component that requires a USACE Section 404 Wetland Permit. Ongoing and future CRF studies in the project area may result in site-specific conditions that would be integrated into the future project-level BMP Update component designs, permitting and operations.</p> <p>CRF-1. The Agency will annually submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities will begin until the Agency receives approval from the Service that the biologist(s) is qualified to conduct the work.</p> <p>CRF-2. A USFWS-approved biologist will survey the work site 48 hours prior to the onset of activities. If CRF, tadpoles, or eggs are found, the approved biologist will determine the closest appropriate relocation site. The approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and moving of CRF.</p> <p>CRF-3. Before any activities begin on a project, a USFWS-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRF and its habitat, the importance of the CRF and its habitat, general measures that are being implemented to conserve the CRF as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.</p> <p>CRF-4. A USFWS-approved biologist will be present at the work site until such time as all removal of CRF, instruction of workers, and disturbance of habitat have been completed. After this time, the biologist will designate a person to monitor on-site compliance with all minimization measures and any</p>	X	X

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
<p>future staff training. The USFWS-approved biologist will ensure that this individual receives training outlined in measure WPT-2 and in the identification of CRF. The monitor and the USFWS-approved biologist will have the authority to stop work if CRF are in harm's way.</p> <p>CRF-5. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas to the extent practicable.</p> <p>CRF-6. Work activities will be completed between April 1 and November 1 to the extent practicable. Should the Agency demonstrate a need to conduct activities outside this period, the Agency may conduct such activities after obtaining the Service's approval.</p> <p>CRF-7. If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than five millimeters (mm) to prevent CRF from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.</p> <p>CRF-8. The Declining Amphibian Populations Task Force's Fieldwork Code of Practice will be followed to minimize the possible spread of chytrid fungus or other amphibian pathogens and parasites.</p> <p>CRF-9: Implement Mitigation Measure 3.10-1 through 3.10-4 in Section 3.10, Hydrology and Water Quality: Surface Water Systems.</p>		
<p>BIO-2k (WPT): The following measures for avoidance and minimization of adverse impacts to western pond turtle (<i>Actinemys marmorata</i>) (WPT) during construction of the BMP Update project elements are those typically employed for construction activities that may result in short-term impacts to individuals and their habitat. The focus of these measures is on keeping the disturbance footprint to a minimum and aggressive monitoring of WPTs before vegetation removal and during the construction and revegetation phase.</p> <p>WPT-1. The Agency will annually submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities will begin until proponents have received approval from CDFW that the biologist(s) is qualified to conduct the work.</p> <p>WPT-2. A CDFW-approved biologist will survey the work site 48 hours prior to the onset of activities. If WPT adults, juveniles or eggs are found, the approved biologist will determine the closest appropriate relocation site. The approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only CDFW-approved biologists will participate in activities associated with the capture, handling, and moving of WPT.</p> <p>WPT-3. Before any activities begin on a project, a CDFW-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the WPT and its habitat, the importance of the WPT and its habitat, general measures that are being implemented to conserve the WPT as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.</p> <p>WPT-4. A CDFW-approved biologist will be present at the work site until such time as all removal of WPT, instruction of workers, and disturbance of habitat have been completed.</p>	X	X

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
<p>WPT-5. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the project plans. Routes and boundaries will be clearly demarcated.</p> <p>Where impacts occur in these staging areas and access routes, restoration will occur as identified in the general BMP Update components above.</p>		
<p>BIO-3a: Occurrences of special status plant species shall be avoided by project construction activities to the extent feasible. All facilities and construction activities will be maintained outside habitats supporting special status plant species where feasible. Prior to construction, a qualified biologist will conduct a survey of the project area to ascertain the presence or absence of special status plant species. If no species are encountered, no mitigation is required. If a special status species is found within a BMP Update component project area, a setback of 50 feet will be established between the occurrence and the BMP Update construction activities. Prior to construction, PVWMA will install temporary construction fencing at the 50-foot setback line to prevent inadvertent equipment access or construction staging within the special status plant habitat. This fencing will be signed in the field as "SENSITIVE HABITAT AREA - NO CONSTRUCTION ACCESS". A qualified biologist will inspect the temporary construction barrier fence and monitor the contractor's compliance with this avoidance measure. If complete avoidance of special status plant species is infeasible, impacts would be minimized through implementation of Mitigation Measure BIO-3b.</p>	X	X
<p>BIO-3b: Prior to clearing and grubbing in areas where impacts to special status plant species cannot be avoided, PVWMA will consult with applicable resource agencies (i.e., CDFW and/or USFWS) prior to implementing salvage and revegetation actions. A qualified biologist will collect any available above- ground seed pods/seed heads for their use in future revegetation efforts. During construction, the upper 6 inches of topsoil from areas supporting the plant species will be stripped from the construction area and stored for later use. The topsoil will be used in future revegetation efforts which may be on-site (if feasible) or at an off-site location approved by permitting agencies (i.e., USFWS, CDFW). At the designated revegetation area, all stockpiled topsoil will be placed on site and finish graded to blend with surrounding topography. Under direction of a qualified biologist, the areas will be revegetated with locally native herbaceous plant species compatible with natural regeneration of the special status plant species. The qualified biologist will hand broadcast any seeds collected from the special status plant species into the appropriate habitat areas. The revegetation will achieve a minimum of 2:1 plant replacement (i.e., re- establish two plants for every plant impacted). The qualified biologist will monitor the revegetation areas for two years after construction to ascertain if the special status plant species re-established within the revegetation area. Annual reports will be submitted to permitting agencies by December 31 of each monitoring year, describing the results of the revegetation measures, for a period of 5 years.</p>	X	X
CULTURAL RESOURCES		
<p>CR-1a: Final pipeline and facility plans shall locate facilities and pipeline alignments away from identified and recorded archaeological sites in each component area based on a site reconnaissance and archaeological investigation conducted by a qualified archaeologist at the time site-specific construction plans are developed. The archaeologist shall identify the areal extent of potential recorded sites, assess potential significance to identified resources, recommend adjustment to siting of improvements, facilities and/or pipeline alignments, if necessary, and provide other recommendations to avoid impacts to identified significant resources. If a significant or potentially significant archaeological or historic resource is identified pursuant to the definitions in the State CEQA Guidelines as identified above, the consulting archaeologist shall develop an appropriate mitigation plan for the cultural resource. Possible mitigation measures for important cultural resources may include monitoring by a qualified archaeologist during construction at identified sensitive sites, documentation and recordation of the resource, recovery and relocation, or stabilization of the resource.</p>	X	X

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
CR-1b: The cultural resource boundaries of potentially significant sites shall be marked as exclusion zones both on ground and on construction maps prior to the commencement of construction activities on component sites. Construction supervisory personnel shall be notified of the existence of cultural resources in each component area and will be required to keep personnel and equipment away from these cultural resources sites. During construction and operational phases, personnel and equipment will be restricted to each surveyed corridor for each component.	X	X
CR-1c: Should any as yet undiscovered cultural resources be uncovered at any component site, such as structural features, or unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work will be suspended and PVWMA staff will be contacted. A qualified professional archaeologist shall be retained and will perform any necessary investigations to determine the significance of the find. PVWMA will then implement any mitigation deemed necessary for the recordation and/or protection of the cultural resources. In addition, pursuant to Sections 5097.97 and 5097.98 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work must be halted and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.	X	X
ENERGY, UTILITIES, AND SERVICES		
<p>ES-1: A study to identify utilities along proposed alignments will be conducted by PVWMA during pre- design states of projects. The following mitigation measures are required for segments identified in final design as having potential conflicts with significant utilities:</p> <ul style="list-style-type: none"> a. Utility excavation and encroachment permits would be required from the appropriate agencies, including the Public Works Departments of Santa Cruz County, City of Watsonville, Caltrans, and Union Pacific Railroad. These permits include measures to minimize utility disruption. PVWMA and its contractors shall comply with permit conditions. Permit requirements shall be included in construction contract specifications. b. Utility locations would be verified through field survey (potholing) and use of an underground locating service. c. A detailed engineering and construction plan shall be prepared as part of the design plans and specifications. This plan shall include procedures for the excavation, support, and fill of areas around utility cables and pipes. All affected utility services would be notified of PVWMA's construction plans and schedule. Arrangements would be made with these entities regarding protection, relocation, or temporary disconnection of services. d. In areas where the pipeline would parallel wastewater mains, engineering and construction plans shall include trench wall support measures to guard against trench wall failure, and possible resulting loss of structural support for the wastewater main. <p>Residents and businesses in the project area shall be notified in writing by the contractor of planned utility service disruption two to four days in advance, in conformance with state and County standards.</p>	X	X
ES-2: PVWMA shall include in its construction specifications a requirement for the contractor to provide plans for recovering, reusing, and recycling construction, demolition, and excavation wastes and providing for composting of plant material, where feasible.	X	X
GEOLOGY AND SOILS		

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
GS-1: Future construction of proposed BMP Update facilities shall be designed in accordance with design recommendations of geotechnical reports and in compliance with applicable policies and appropriate engineering investigation practices necessary to reduce the potential detrimental effects of ground shaking and liquefaction. Construction shall be in accordance with applicable City and County ordinances and policies regarding mitigation of seismic and geologic hazards, and appropriate geotechnical studies shall be conducted.	X	X
GS-2: Construction of future BMP Update facilities shall include preparation and implementation of erosion control plans to minimize erosion and inadvertent transport of sediments into water bodies during installation of facilities. Measures shall include, but not be limited to: limiting the area of ground disturbance and vegetation removal at any one time during construction; conducting work prior to the rainy season if possible and protecting disturbed areas during the rainy season; installing bales or other appropriate barriers adjacent to water bodies to prevent transport of sediments into sloughs and water courses; immediately revegetating disturbed areas; and other Best Management Practices during construction to protect water quality. All grading and construction shall conform to requirements of the Santa Cruz County Grading Ordinance. To the extent possible, grading activities in non-cropped areas shall be limited to the period between April 15 and October 31.	X	X
GS-3: All diversion and pipeline facilities shall be designed and engineered in accordance with recommendations of a geotechnical report and appropriate engineering designs to reduce the potential detrimental effects of expansive soils, corrosivity, and/or other identified soils constraints. A licensed geotechnical engineer shall prepare recommendations applicable to foundation design, earthwork, and site preparation prior to or during the project design phase. Recommendations will address mitigation of site- specific, adverse soil and bedrock conditions that could hinder development. Project engineers shall implement the recommendations. Geotechnical design and design criteria will comply with applicable codes and requirements of the California Building Code with California additions (CCR Title 24), applicable City and County construction and grading ordinances.	X	X
HAZARDS AND HAZARDOUS MATERIALS		
HM-1: Prior to initiation of earthwork activities, PVWMA shall perform soil testing on agricultural sites proposed for development and analytically test for pesticide residuals and pesticide-related metals arsenic, lead, and mercury. If contamination is identified in the soil samples above applicable levels, PVWMA shall prepare a Site Management Plan (SMP) to establish protocols/guidelines for the contractor including: identification of appropriate health and safety measures while working in contaminated areas; soil reuse; handling, and disposal of any contaminated soils; and agency notification requirements. The SMP shall be subject to the review and approval of the appropriate regulatory agency.	X	X
SURFACE WATER, GROUNDWATER, AND WATER QUALITY		
HWQ-1: PVWMA shall require contractors to apply for all applicable NPDES permits, including dewatering permits, develop a SWPPP for construction of proposed facilities, and comply with conditions of the permit(s), as required by the CCRWQCB. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of stormwater discharge and to implement BMPs to reduce pollutants in stormwater discharges. The SWPPP for this proposed action would include the implementation, at a minimum, of the following elements: <ul style="list-style-type: none"> • Source identification • Preparation of a site map 	X	X

TABLE NOP 2-1 (Continued)
MITIGATION MEASURES ADOPTED FOR THE 2014 BMP UPDATE PEIR

Mitigation Measure	Harkins Slough	Struve Slough (Watsonville Slough in the 2014 BMP Update PEIR)
<ul style="list-style-type: none"> • Description of construction materials, practices, and equipment storage and maintenance • List of pollutants likely to contact stormwater • Estimate of the construction site area and percent impervious area • Erosion and sedimentation control practices, including soils stabilization, revegetation, and runoff control to limit increases in sediment in stormwater runoff, such as detention basins, straw bales, silt fences, check dams, geofabrics, drainage swales, and sandbag dikes • Proposed construction dewatering plans • Provisions to eliminate or reduce discharge of materials to stormwater • Description of waste management practices <p>Maintenance and training practices</p>		
<p>HWQ-2: Rapid, imposed water-level fluctuations shall be avoided within the sloughs, Salsipuedes Creek, and the Pajaro River to minimize erosion and failure of exposed (or unvegetated), susceptible banks. This can be accomplished by operating the pumps at an appropriate flow rate, in conjunction with commencing operation of the pumps only when suitable water levels or flow rates are measured in the water body. Criteria for minimizing fluctuations and/or protecting banks from related erosion will need to be developed, as some banks presently are stable and others are not. Control is important, as the mobilized sediment also impairs in-slough habitat values, and potentially exacerbates bacterial levels in the slough system. It may be that water-level fluctuations may be controlled as well to minimize other impacts, such as desiccation of amphibian eggs or waterlogging of agricultural soils adjacent to the sloughs.</p>	X	
<p>HWQ-4: Facilities shall be designated to comply with FEMA and County of Santa Cruz requirements to floodproof the facilities and shall not exacerbate upstream or downstream flood hazards on other properties. The FEMA process will require identification of the FEMA floodway zone and may require no increase water elevations for a one percent chance annual flood. The FEMA process will require identification of the FEMA zone type and may require no increase water elevations for a one percent chance annual flood. To meet the specific FEMA requirements for the component, substantial modifications to the facility design and additional mitigation may be required.</p>	X	X
TRANSPORTATION AND TRAFFIC		
<p>TR-1: Conduct a preconstruction survey of road conditions on key access routes to the project sites (e.g., San Andreas Road). The pavement conditions of local streets judged to be in good condition for use by heavy truck traffic shall be monitored. Roads damaged by construction shall be repaired to a structural condition equal to, or better than, that which existed prior to construction activity.</p>	X	X