

# Petaluma River and Sonoma Creek Levee Maintenance Manual

Developed by the:  
Sonoma Resource Conservation District

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## 1.0 Program Overview

### 1.1 Introduction

The Sonoma Resource Conservation District (RCD) was formed in 1946 after the Dust Bowl era when legislation was passed declaring soil and water conservation a national policy and priority. RCDs were established to work with landowners on a voluntary basis to help conserve natural resources. The Sonoma RCD is governed by an independent board of directors approved by the Sonoma County Board of Supervisors.

The boundaries of the district are mostly contiguous with those of Sonoma County, covering over 85% of Sonoma County, including the Russian River, Petaluma River, Sonoma Creek, Stemple Creek and Gualala watersheds.

The SRCD helps individuals and community groups drive the solutions to our most pressing natural resource issues, such as prolonged drought and climate change. A key area of the RCDs work is creating quality conservation programs that suit the needs of agriculture, rural residents and urban constituents. The RCD works with individuals within the Petaluma River and Sonoma Creek watersheds on permit compliance through the levee maintenance program.

### 1.2 Historical Context of Levee Maintenance in Petaluma River and Sonoma Creek

During the late 1800s the tidelands bordering San Pablo Bay were "reclaimed" for farm land. Levees were constructed to keep out the bay waters and the lands were drained and allowed to dry out, rain water flushed out the salts from the land and crops were planted. Currently, these lands are either private or publicly owned and support local agricultural operations, infrastructure (i.e. roads) and important habitat and the levees require ongoing maintenance to prevent these lands from flooding.

In order to maintain the levees, landowners are required to obtain permits from some, or all, of the following regulatory agencies: the U.S. Army Corps of Engineers (with consultation from the National Marine Fisheries Service and U.S. Fish and Wildlife Service), County of Sonoma, Department of Fish and Wildlife, Regional Water Quality Control Board, Bay Conservation and Development Commission and the State Lands Commission. Often, obtaining permits can be a lengthy and costly process. For example, receiving an individual permit for levee maintenance could take approximately 2 years to complete and can cost the landowner thousands of dollars. One way to assure regulatory compliance while saving the landowner time and money, and streamlining the time spent by the regulatory agencies reviewing the permit applications, is for the RCD to administer one permit issued by each regulatory agency for levee maintenance activities being completed by numerous landowners. The effort of creating a permit program for maintaining the levees required the cooperation of many agencies, landowners, politicians and the RCD. The first permits were issued in 1980 and the RCD applies for a renewal of permits approximately every five years. Mitigation for this permit program was required by the regulatory agencies and included the construction of approximately 71 acres of wetlands in Southern Sonoma County.

As of 2022, there are twenty four participating landowners from the Petaluma River and Sonoma Creek Watersheds. Each year, the RCD gathers information from each landowner on the work done in the previous year and work to be done the coming year, and submits it to the permitting agencies. The permits include restrictions as to when and how much levee maintenance work can be completed. It

also ensures that the environment and endangered species are protected. Under these permits, landowners are not allowed to construct new levees or expand an existing levee.

With the assistance of the RCD, the landowners and regulators have reached an agreement to make maintaining levees an easier process for all parties.

### **1.3 Manual Organization**

This document is organized as follows: Chapter 1 introduces the program and describes the program activities, responsible parties, partners and supporting documents. Chapter 2 describes the environmental and geomorphic settings of the project area. Chapter 3 details the impact avoidance and minimization measures. Chapter 4 details the maintenance activities, listing of the program activities, triggers, contractors and timing and frequency details. Chapter 5 outlines how the program is managed, describes the annual work cycle and explains the management procedures. Finally Chapter 6 discusses the regulatory framework pertaining to the program.

### **1.4 Program Purpose and Objectives**

During the late 1800s the tidelands bordering San Pablo Bay were "reclaimed" for farm land. Many miles of levee were constructed in the watershed to keep out the bay waters and the lands were drained and allowed to dry out, rain water flushed out the salts from the land and crops were planted. Currently, these lands are either private or publicly owned and support local agricultural operations, infrastructure (i.e. roads) and important habitat and the levees require ongoing maintenance to prevent these lands from flooding. The U.S. Army Corps of Engineers (US ACOE) is not responsible for maintenance of the many levees throughout the Petaluma watershed and private landowners have to conduct that maintenance at their own expense.

In order to maintain the levees, landowners are required to obtain permits from some, or all, of the following regulatory agencies: the US ACOE (with consultation from the National Marine Fisheries Service and U.S. Fish and Wildlife Service), County of Sonoma, Department of Fish and Wildlife, Regional Water Quality Control Board, Bay Conservation and Development Commission and the State Lands Commission. Often, obtaining permits can be a lengthy and costly process. Currently the RCD administers permits issued by each regulatory agency for levee maintenance activities being completed by numerous landowners in the Petaluma River and Sonoma Creek Watersheds. Since the 1980s, the RCD has assisted landowners in permit compliance for levee maintenance in the Petaluma River and Sonoma Creek Watersheds.

This manual defines the maintenance activities that could be conducted by landowners under these permits. It establishes programmatic guidance to conduct these activities for levee maintenance proposed while avoiding and minimizing environmental and habitat impacts. This manual also provides the organizational framework for RCD staff to manage this program to help ensure that levee maintenance work complies with the terms and conditions of regional, state and federal regulations.

### **1.5 Summary of Maintenance Activity**

Levee maintenance to be conducted under this program is mechanical dredging (from the channels and/or wetlands adjacent to the existing levees) using long-reach excavators or drag lines working from the top of existing levees. Dredge material will be excavated on the outboard side of the levee at the

extreme reach of the available equipment to avoid damage to the levee toe. Dredging material will not occur within 10 feet of the toe of the levee. Dredged material will be placed on the levee crown and mechanically compressed.



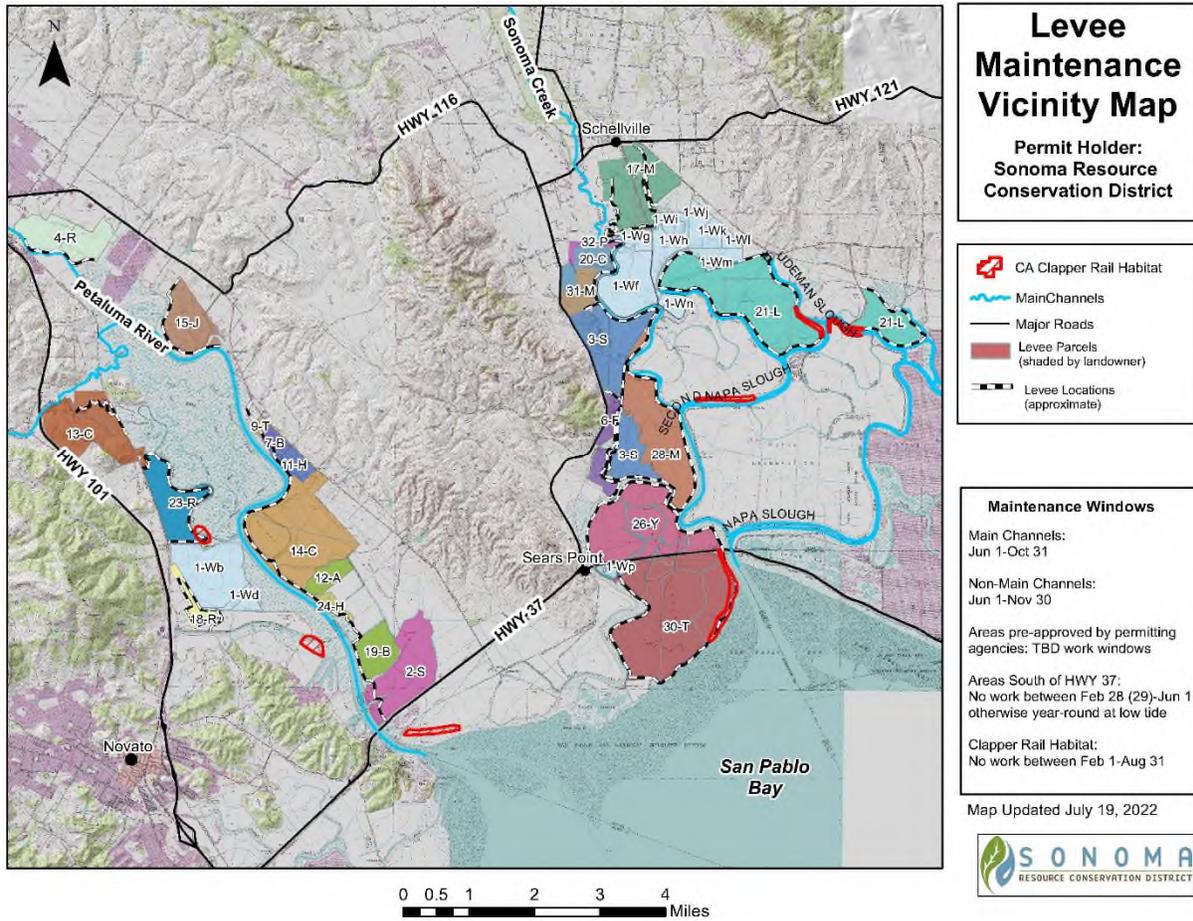
*Levee Maintenance by Long-Reach Excavator*

To minimize impacts to water quality, wildlife and native habitat, this manual specifies levee maintenance conditions, sensitive species- specific avoidance and minimizations measures and best management practices (BMPs) to be employed as part of program implementation. This manual does not include projects using imported fill for levee maintenance.

### **1.6 Program Area and Sites**

The geographic extent of this manual includes 24 distinct project areas properties located within the Petaluma River and Sonoma Creek watersheds as shown below in Figure 1 Vicinity Map.

Figure 1: Project Areas covered by the Sonoma RCD's Levee Maintenance Program



Project areas are distinguished by ownership and range from one to eleven parcels. Estimated levee length with the potential to be maintained vary from <1 to 10 miles over all the project areas. A majority of the project areas are privately owned (19 properties) with the remainder owned by City, County or State governments. The RCD holds no fee title to any properties or lands in this program. The RCD will hold agreements with each landowner that includes landowner acknowledgement of permit and permit conditions, fee and reporting requirements, and rights for access.



Table 1: List of Project Areas by Responsible Party

	RCD ID #	Contact Last Name	Contact First Name	Business, if applicable	# of APNs in participating in program
1	12-A	Kay	Zach	City of Santa Rosa- Twin House	1
2	19-B	Kay	Zach	City of Santa Rosa - Twin Vista	2
3	7-B	Bachman	Thomas	Fairview Vineyards	1
4	20-C	Cline	Frederick	Oxfoot Associates, LLC	1
5	13-C	Corda	Jerry	Landowner	4
6	4-R	Thompson	Chelsea	City of Petaluma	2
7	14-C	Crane	Thomas	NA; Landowner	2
8	6-F	Faggioli & Sandra Donnell	Justin	El Novillero- Donnell Ranch	3
9	11-H	Hendricks	Sidney	Hendricks Development Company	1
10	24-H	Herman	Howard	Riverside Equestrian Center	1
11	15-J	Jacobsen	Craig	NA; Landowner	2
12	21-L	Leveroni	Joe	Pat Stornetta	4
13	31-M	Domer	Michael	Viansa Winery	1
14	17-M	Mulas	Vicki/Ray	NA; Landowner	6
15	32-P	Prevost	Christopher	Sonoma Valley Airport/Vintage Airport LLC	1
16	18-R	Jensen	Dan	Marin County Airport-County of Marin	3
17	23-R	Roycroft	Glen	Redwood Landfill-Empire Waste Management	1
18	3-S	Smith	Sue	Circle Bar Partnership. L.P.	3
19	2-S	Von Schalsha	Craig	Carneros River Ranch	1
20	30-T	Harrington	Jennifer	Vallejo Flood and Wastewater District	9
21	9-T	Tsang	Frank & Judy	Franks' Trading Co. Inc.	1
22	26-Y	Sutsos	Mike	Kenwood BPSC Hunt Club, LLC	8
23	28-M	Mertens	Steve	Mertens Dairy, Leasee	2
24	1-Wb*	Martinelli	Greg	California Department Fish & Wildlife (CDFW)	11
<b>Total</b>					71

\*See all CDFW properties identified on Vicinity Map as 1-Wb, 1-Wd, 1-Wf through 1-Wn and 1-Wp.

Potential levee areas to be maintained are identified on individual property maps included in Appendix A.

## **1.7 Program Impacts**

The potential impacts to the waters of the state from maintenance activities can occur when dredging work is conducted within waters of the state. Responsible parties will adhere to potential impacts estimated at 1.22 acres (cumulatively) over 5 years for this General Order.

Additional program limitations under other regulatory agencies, limit dredging to up to 4 cubic yards (cy) of material within jurisdictional waters and wetlands, per foot of levee, not to exceed 10,000 cubic yards (cy) or 2,500 linear feet per parcel, per year, from the channels for each participating landowner or responsible party with total program dredging volumes shall not exceed 150,000 cubic yards in any given year.

## **1.8 Responsible Parties and Program Partners**

### **Responsible Parties**

The individual landowners and land managers both private and municipal will be the responsible parties of this program responsible for levee maintenance implementation, contractor selection, providing reporting information to the RCD, and adherence to all permit requirements. From here on they'll be referred to as responsible parties.

*Responsible parties must submit information by February 1 to the RCD regarding the project location, linear distance of levee repairs, levee area type, delineation map (US ACOE) and the source and volume of fill material.*

### **Sonoma Resource Conservation District**

The RCD is responsible for program administration and tracking management of all permits held by RCD for levee maintenance work and will be responsible for:

- 1) Coordinating with responsible parties regarding information requests from regulatory agencies providing educational and technical information to responsible parties regarding permit limitations, allowances, avoidance measure and BMPs.
- 2) gathering information on proposed and completed maintenance from responsible parties
- 3) annual reporting to all permitting agencies

## **1.9 Supporting Documents for Levee Maintenance Manual**

Permit conditions/limitations outlined in this Levee Maintenance Manual are largely based on the U.S. Fish and Wildlife Service's Biological Opinion (BO) dated September 9, 1994 (and subsequent amendments dated January 12, 1995 and January 1, 2000). Copies of supporting documents are included in Appendix B: Supporting Documents.

## 2.0 Environmental Setting and Project Areas

### 2.1 Physical Description

The Petaluma River Watershed is a 146-square mile area draining from its headwaters on the southwest slopes of Sonoma Mountain and eastern slopes of Weigand’s Hill and Mount Burdell to its mouth in the northwest portion of San Pablo Bay. The Petaluma River watershed is located within southern Sonoma County with a small portion of the watershed within northeastern Marin County. Mountainous or hilly upland areas comprise 56% of the watershed, 33% percent of the watershed is valley, and the lower 11% is salt marsh. The Petaluma Marsh is the largest remaining salt marsh in San Pablo Bay, totaling an estimated 5,000 acres.

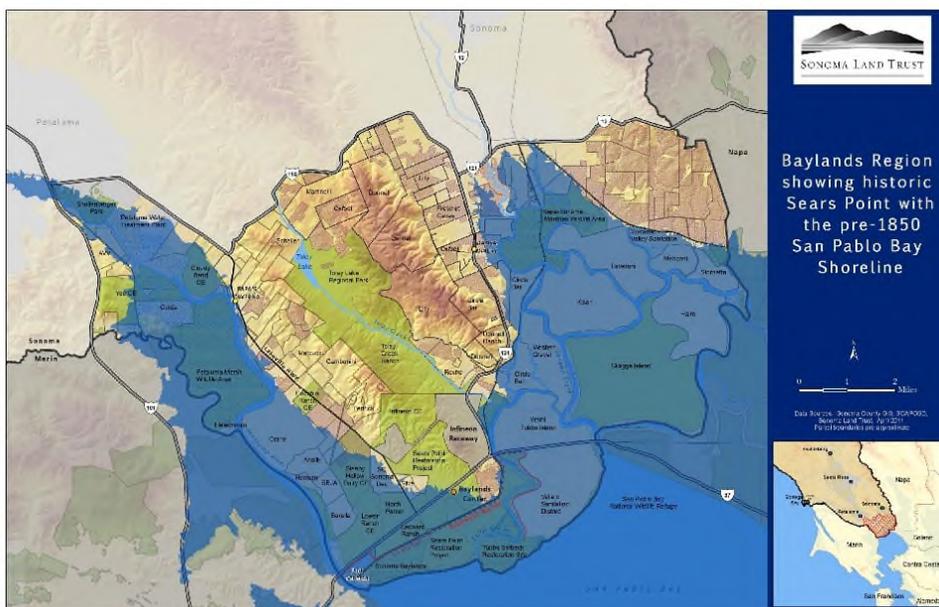
The Sonoma Creek Watershed is a 170-square mile area draining from its headwaters in the Sugarloaf Ridge State Park to its mouth in the northern portion of San Pablo Bay. The Sonoma Creek watershed is located in southern Sonoma County. It is bounded on the east by the Mayacamas Mountains, on the west by the Sonoma Mountains and on the north by a slight rise north of Kenwood that separates it from the Laguna de Santa Rosa watershed. Highway 12 intersects the watershed along the valley floor. The watershed has diverse range of habitats from redwood/fir forests in the headwaters to chaparral, oak woodland and bayland areas.

This manual covers project areas located within the Petaluma River and Sonoma Creek watersheds.

### 2.2 Geomorphic Setting

Project areas are located within the historic Baylands of the lower Petaluma River and Sonoma Creek watersheds. These areas are located south of Lakeville Hwy/Hwy 116 in the Petaluma River watershed and south of Hwy 121 within the Sonoma Creek watershed. The main habitats in areas that were historically marsh include agricultural Baylands (hayfields and vineyards) and diked wetlands with linear strips of tidal marsh, adjacent to tidal sloughs, between these parcels. Surrounding areas include grassland and agriculture.

Figure 2: Baylands Region



### **2.3 Biological Resources**

As previously mentioned, a BO was completed by the USFWS in 1994 (and subsequent amendments in 1995 and 2000) to address the effects of levee maintenance and dredging on special-status species. The BO specifically addressed the effects of levee maintenance and dredging on the endangered California clapper rail, endangered salt marsh harvest mouse and proposed threatened Sacramento splittail.

### **2.4 Special Status Plant and Wildlife Species**

The following are special status animal species known to be present on or near the project areas: Sacramento splittail, California clapper rail, California black rail, salt marsh harvest mouse, steelhead trout, Chinook salmon, green sturgeon and burrowing owl.

Known locations of California clapper rail were included in the original BO and are noted on project area site maps in Appendix A. The BO recommended several actions for avoiding and minimizing impacts to these special status species and these recommendations have been incorporated into this manual.

### **2.5 Archeological Resources**

In order to protect historic and archaeological resources and comply with the terms of the Department of the Army Regional General Permit for this program, The RCD will:

- a. Provide notification to the Federated Indians of Graton Rancheria (FIGR) of all pre-work planned and post work conducted. The RCD will provide archeological presence/absence summary reports from the Northwestern Information Center at Sonoma State University for sites proposing levee maintenance. The RCD will further consult with FIGR for next steps if summary reports indicate potential for archeological artifacts in work areas proposed.
- b. In the event that previously unknown historic or archaeological remains are discovered while accomplishing levee maintenance, immediately notify the US ACOE office of what was found. US ACOE will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

## **3.0 Program Mitigation**

Habitat mitigation for this project has been completed. Under an agreement approved by the US ACOE, the RCD, EPA and USFWS, the applicant was required to mitigate for disturbance created by levee maintenance with the construction of 71 acres of wetland in association with the Tolay Creek Restoration Project located south of the Highway 121/37 intersection in southern Sonoma County. All agencies agreed that the mitigation was to mitigate for levee maintenance activities in perpetuity. The mitigation acreage was derived by determining the maximum annual acreage of wetland disturbed by levee maintenance activity. This disturbed acreage was then multiplied by five, based on an assumption that the disturbed area would take five years to recover. This acreage yielded the required 71 acres of mitigation. See US ACOE public notice for more information

<https://www.spn.usace.army.mil/Missions/Regulatory/Public-Notices/Article/1346893/spn-2004-249121n-reissuance-of-rgp-6-southern-sonoma-county-resource-conservati/>

### 3.1 General Avoidance and Minimization Measures

The following are general conditions and avoidance and minimization measures outlined in project permits:

- All areas requiring dredging for levee maintenance shall have a delineation map showing the extent and location of USACE jurisdiction prior to any dredging occurring at the specific location.
- The RCD will provide notification to the Federated Indians of Graton Rancheria of all pre-work planned and post work conducted. SRCD will provide archeological presence/absence summary reports from the Northwestern Information Center at SSU for sites proposing levee maintenance.
- No excavation shall occur within 10 feet of the toe of the levee, on the waterborne side of the levee.
- No dredging authorized by the permit may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area.
- No discharge of dredge material may consist of unsuitable material (trash, debris, etc) and material discharged must be free of toxic pollutants in toxic amounts.
- To the extent practicable, landowners should avoid dredging the same location more than once every two years in wetted areas within the main-stem channels or areas that connect to main-stem channels.
- Total dredging volumes shall not exceed 150,000 cubic yards in any given year.
- Temporary or permanent erosion control devices containing plastic netting, including photo- or bio-degradable plastic netting shall not be used.
- In performing the dredging, the Responsible Parties will abide by best management practices to control turbidity to protect marine resources and habitats from excessive siltation in the general vicinity of the project.
- All waste material and debris created by Responsible Parties shall be entirely removed from the Lease premises and lands subject to Lessor's justification.
- Work Periods for Excavation of Borrow Pits. Potential impacts to aquatic and wildlife species will also be avoided and minimized by restricting the levee maintenance activities to the approved time schedules as follows:
  - From Highway 37 upstream to Highway 121 (including Lakeville Highway), participating landowners may dredge material from the main channels of the Petaluma River, Sonoma Creek, San Antonia Creek, Napa Slough, Second Napa Slough, Third Napa Slough and Hudeman Slough from June 1 to October 31.
  - From Highway 37 upstream to Highway 121 (including Lakeville Highway), participating landowners (Responsible Parties) may dredge material from the non-main channels (i.e. secondary channel, sloughs or creeks) that are subject to a daily tidal influence from June 1 to November 30. These areas include areas such as Steamboat Slough, Railroad Slough, and Tolay Creek as well as unnamed borrow areas that are subject to daily tidal influence.
  - For the entire project area, if the proposed repair site contains no identified channel and the site is not subject to daily tidal influence, maintenance may be performed at any time. This may include the silted in areas that were previously borrowed and currently not subject to tidal influence. If work is proposed outside of construction work windows of June 1- Oct 31<sup>st</sup>, the landowner shall comply with the Rainy Season Protective Measures included in Appendix C and document implementation of the Rain Event Action Plan with post-construction photographs to be included in annual reporting.

- Along the shoreline of Sonoma Creek, Tubbs Island and San Pablo Bay from Highway 37 downstream to the mouth of Sonoma Creek, and extending to the southwestern extent of the levees along the shoreline of San Pablo Bay, dredging must be restricted to periods of low tide.
- To avoid impacts to California clapper rail, and salt marsh harvest mouse, dredging shall be limited to daytime work only; work shall occur at least ½ hour after sunrise and end a ½ hour before sunset.
- The project sites are identified as areas that are potentially inhabited by species listed under the federal Endangered Species Act and/or the California Endangered Species Act, including steelhead trout (Federal Threatened), Chinook salmon (Federal Threatened), green sturgeon ((Federal Threatened), California clapper rail (Federal Endangered, California Fully Protected), California black rail (California Fully Protected) and salt marsh harvest mouse (Federal Threatened, California Fully Protected). These permits do **not** allow for the relocation or take of any endangered species, species of special concern, candidate species or federally listed, threatened, or endangered species that are discovered in work sites covered by these permits. If CDFW determines, or the landowner finds there are threatened or endangered species on the work site the RCD or landowner shall notify the CA Department of Fish & Wildlife (CDFW), USFWS, US ACOE, and/or National Marine Fisheries Service (NMFS) as appropriate. The landowner shall immediately cease work at that location until CDFW deems that the concerns over special status species have been resolved.
- Vegetation with Bird Nests. Responsible parties shall not disturb trees, bushes or other vegetation that contain bird nests without prior consultation and approval from CDFW.
- Excavation at the Toe of the Levee. No excavation shall occur within 10 feet of the toe of the levee, on the waterborne side of the levee.
- No equipment in stream. No tracked or wheeled equipment shall be driving below the top of bank.
- Allow wildlife to leave unharmed. Responsible parties shall allow any wildlife encountered during the course of levee maintenance to leave the area unharmed.
- Prohibition Against Use of Plastic Netting in Erosion Control Measures. Permittee shall not use temporary or permanent erosion control devices containing plastic netting, including photo-or bio-degradable plastic netting.
- Invasive Species Management. The Rush Creek and Novato Creek watersheds in Marin County have been identified as contaminated with New Zealand mudsnail, a highly invasive species. The RCD and operators within the Rush Creek and Novato Creek watersheds shall implement cleaning/disinfection procedures on all equipment and gear that comes into contact with contaminated or potentially contaminated waterway, such as Rush Creek and Novato Creek. Cleaning/disinfection procedures can be found in the following reference document: *DiVittorio, J., M. Grodowitz, and J. Snow, 2012. Inspection and Cleaning Manual for Equipment and Vehicles to Prevent the Spread of Invasive Species. U.S. Department of the Interior, Bureau of Reclamation, Technical Memorandum No. 86-68220-07-05.* This document can be downloaded and or viewed on the DFG website at: <http://www.dfg.ca.gov/invasives/quaggamussel/>.
- Minimize Vegetation Disturbance. Disturbance or removal of vegetation in the natural channels shall not exceed the minimum necessary to complete maintenance activities. Precautions shall be taken to avoid other damage to vegetation by people or equipment. Branches and/or limbs overhanging the channel and impacting water flows shall be property pruned.

- Disposal and Removal of Materials. All removed vegetation and debris shall be moved outside of the ordinary high water mark prior to inundation by water. All removed vegetation and debris shall be disposed of according to State and local laws and ordinances.
- Clean-up. All construction debris, exclusion fencing, and associated materials shall be removed from the work site immediately upon completion of project.

#### Equipment and Vehicles

- Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.
- Stational Equipment Leaks. Stationary equipment such as motor, pumps, generators and welder, located within or adjacent to the stream shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.
- Clean up equipment. Clean up equipment such as extra boom, absorbent pads, skimmers, shall be onsite prior to the start of work within the stream zone.
- Equipment Storage. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, shall be located outside of the stream channel and banks.
- Stockpiled Materials. Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted.

#### Debris Materials and Waste

- No Dumping. Permittee and all contractors, subcontractors, and employees shall not dump any litter or construction debris within the stream, or where it may pass into the stream.
- Pick up Debris. Permittee shall pick up all debris and waste daily.
- Wash water. Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter a lake or flowing stream or placed in locations that may be subject to high storm flows.

#### Toxic and Hazardous Materials

- Toxic Materials. Any hazardous or toxic material that could be deleterious to aquatic life that could be washed into the stream or its tributaries shall be contained in water tight containers or removed from the project site.
- Hazardous Substances. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter the stream by Permittee or any party working under contract, or with the permission of the Permittee, shall be removed immediately.
- Hazardous Materials. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the project related activities shall be prevented from contaminating the soil and/or entering waters of the State.

#### Spill and Emergencies

- Spill Clean up. Permittee shall begin the cleanup of spills immediately. CDFW shall be notified immediately by the Permittee of any spills and shall be consulted regarding cleanup procedures. The permittee shall have all spill clean-up equipment on site during construction.
- Spill Containment. All activities performed in or near a stream shall have absorbent materials designated for spill containment and clean up activities on-site for use in an accidental spill. The

permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate the clean up activities. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.

Please note that the avoidance and minimizations measures listed here are for currently active permits and additional minimization measures may be included when remaining permits are obtained following the approval of this General Order.

### 3.2 Species Specific Avoidance and Minimization Measures

The following avoidance and minimization measures are specific to the following species:

#### 3.2.1 Widgeon grass and sago pondweed

Prior to dredging, landowners should identify whether widgeon grass (*Ruppia* spp.) and/or sago pondweed (*Stuckenia* spp.) are present in the areas to be dredged. To the extent practicable, landowners should avoid dredging in areas with these species. In instances where these species can't be avoided, landowners should notify the RCD and document the extent of widgeon grass and/or sago pondweed within and around the dredged area with GPS coordinates taken before dredging occurs. The extent of widgeon grass and sago pondweed should be documented again with GPS coordinates taken within 30 days after completion of dredging and annually during summer months (June through October) for a minimum of one year following dredging. Activities and GPS coordinates should be documented in the annual maintenance reports.

#### 3.2.2 Burrowing Owl

Burrowing Owl Habitat Assessment. If construction will occur between February 1<sup>st</sup> and August 31<sup>st</sup>, a designated biologist shall inspect all burrows within 250 feet of the project site that exhibit typical characteristics of owl activity no sooner than 15 days prior to any site preparation activities. If it is evident that the burrows are actively being used, Permittee shall not work within 250 feet of active burrows until no sign is present that the burrows are being used by adults or juvenile owls. Additional information on identification of burrowing owl habitat can be found here <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKewjxslWn7uH0AhVTbc0KHblpB3IQFnoECAgQAQ&url=https%3A%2F%2Fnm.dfg.ca.gov%2FfileHandler.ashx%3FDocumentID%3D83843&usg=AOvVaw0IRL4bg13OVli0jwC8jXwZ>

#### 3.2.3 California clapper rails

To avoid impacts to nesting California clapper rails, no dredging shall occur between February 1 and August 31, unless surveys by qualified biologist indicate that clapper rails are not nesting within 700 feet of the project area.

- Rail Surveys. If construction will occur between February 1<sup>st</sup> and August 31<sup>st</sup> within the work areas outlined with red crosshatch noted on individual project area maps (Appendix A), the site shall first be surveyed by a Designated Biologist provided by the RCD to determine if California clapper rails and California black rails are present within 700 feet of the project area. If the construction site is left unattended for more than two weeks during the breeding season, another survey will be completed to determine if the California clapper rail and California black rails have moved back into the area and are occupying active nests. If active nests or behavior indicative of nesting are encountered, those areas plus a 700-foot buffer will be avoided until the area had been vacated by California clapper rails and California black rail.

- If the Permittee, Landowner, contractors or agents kills or injures a mouse, black rail or California clapper rail, or finds any such animal dead or injured, project activities in the habitat area shall immediately cease and CDFW and Service shall be notified within 30 minutes of the discovery. Any dead or injured animal shall be turned over to the CDFW, the Service or its agent.

### 3.2.4 Salt Marsh Harvest Mouse (SMHM)

The following list avoidance measures specifically for the SMHM:

- RCD will provide landowners/responsible parties educational information on the SMHM as needed.
- If an entrapped mouse of any species is found by any crew member, the Landowner or Designated Biologist will be informed immediately. If mice are present where project activities may result in injury to them, project activities shall be suspended until the individuals have moved to a safe location on their own. CDFW will be immediately informed if any mice are found.
- If the RCD, Landowner, contractors or agents kills or injures a mouse, black rail or California clapper rail, or finds any such animal dead or injured, project activities in the habitat area shall immediately cease and CDFW and Service shall be notified within 30 minutes of the discovery. Any dead or injured animal shall be turned over to the CDFW, the Service or its agent.

#### Salt Marsh Harvest Mouse Avoidance Procedures

- The goal of CDFW and the Permittee is to avoid impacts to SMHM by excluding SMHM from the borrow sites. Avoidance can be accomplished by removing the SMHM habitat from the site to assure that no SMHM are present in the area. In order to meet the goal of avoiding SMHM, **one or more of the following procedures (measures a through e, below)** shall be used to exclude SMHM from the levee borrow site and to avoid the loss of individual SMHM. These procedures may be altered at any time by mutual agreement between CDFW and the Permittee based upon new species distribution information, discovery of new exclusion techniques, or further site specific analysis:

a. Vegetation Removal by Hand Tools.

Landowner shall first remove the pickleweed/salt marsh vegetation from borrow sites with powered and non-powered hand tools (i.e. shovel, trowel, hoe, rake, hedger, weed trimmers, push lawnmower, wheel barrow, hand cart, sled, etc) to cause SMHM to relocate from the borrow site. Vegetation removal shall occur only under the supervision of the Landowner or a Designated Agent who has attended the SMHM – Education



Pickleweed near levee

Program. The Landowner or Designated Agent shall stop work if a mouse of any species, California Clapper Rail, California Black Rail, or any other special status species are found during vegetation removal. If a mouse of any species is observed within the areas being cleared of vegetation, CDFW shall be notified. Unless otherwise approved by CDFW, the

mouse shall be allowed to leave on its own volition. Vegetation removal may begin when no mice are observed, or with CDFW approval. The following vegetation removal procedures shall be applied during all vegetation removal activities; the Landowner or a Designated Agent shall walk through and inspect vegetation prior to vegetation removal and search for signs of harvest mice or other sensitive wildlife and plants; immediately following vegetation inspection, personnel, under the supervision of the Landowner or a Designated Agent, will manually remove vegetation with powered and non-powered hand tools. This shall also start in the center of the borrow area and continue toward the two sides away from the open water areas to cause any SMHM to disperse towards areas of continuous plant cover outside the construction zone. The landowner shall remove all pickleweed/salt marsh vegetation within the designated borrow areas as shown in the Annual Notification and as directed by the Landowner or a Designated Agent; pickleweed/salt marsh vegetation shall be cut and removed so that bare ground is completely visible to the satisfaction of the Landowner or a Designated Agent. Cut stems may be left standing if the ground is still completely visible through them.

b. Vegetation Removal by Mechanized Equipment- During High Tide Inundation.

When borrow sites with salt marsh vegetation are submerged immediately before, during, and after a high tide event, vegetation may be removed from the borrow site with mechanized equipment (e.g. longreach excavator) during the time period when the marsh vegetation is submerged. CDFW recommends that vegetation be quickly removed from the surface of the borrow site during this time frame. Once an area is denude of vegetation, it may be used as a borrow site during low tide without additional exclusion methods. In order to provide protection to salmonid species which may utilize submerged tidal marsh habitat, Permittee shall work with the landowner to coordinate with National Marine Fisheries Service (NMFS) and CDFW to determine where this measure may be utilized by organizing a joint site visit or providing documentation of habitat conditions at specific borrow sites. NMFS and CDFW may provide additional guidance on how this measure will be implemented.

c. Limited Vegetative Cover and Habitat.

CDFW recognizes that in some instances salt marsh vegetation indicative of SMHM habitat may be sparse and of insufficient density to harbor SMHM. An example of when this condition is expected to occur is when salt marsh vegetation provides less than 20 percent coverage of the bare ground or when a previously excavated borrow put has not re-grown vegetative cover and can be reused, for example, by using a deeper excavation. When conditions similar to this are present in a borrow area and the Landowner elects to utilize this measures, the landowner will provide Permittee photo documentation of the onsite vegetative conditions that will be submitted to CDFW. CDFW will review the request within thirty (30) calendar days and determine if an onsite meeting is necessary. During the first year of this agreement (2013), CDFW shall provide an expedited review of these project sites; the Permittee shall provide CDFW the above referenced site documentation at least fourteen (14) days prior to beginning the proposed work, CDFW will have fourteen (14) days to meet and verify site conditions. The purpose of this meeting will be to allow CDFW staff to verify that insufficient habitat conditions exist at the site and document the area of insufficient habitat. CDFW will concur or deny the presence of insufficient habitat in writing and the reasoning behind the decision. CDFW's finding will remain valid for at least 60-calender days from the letters date and will not transfer to the following calendar year.

CDFW may increase the length of time this finding is valid based on site specific information. The landowner shall not proceed with work under this measure without written approval of CDFW provided to them by the Permittee.

d. Mutually Agreeable Alternatives.

If alternative SMHM exclusion measures are proposed by either CDFW or the Permittee during the term of this Agreement, the two parties may mutually agree to evaluate and implement the alternatives. Proposed alternatives shall be able to demonstrate that they are able to meet the goal of avoiding the loss of individual SMHM.

e. No Avoidance Measures Required

If the landowner acquires borrow material from the wetted channel or from areas with no vegetation present, no SMHM avoidance measures shall be required for the excavation and placement of that material.

## 4.0 Levee Maintenance

Responsible parties maintain their levees in order to provide flood protection.

### **Maintenance Triggers**

Levee Maintenance activities will be performed at the discretion of each responsible party. Each responsible party will visually observe their levees in order to determine if maintenance is warranted and report this annually to the RCD. The RCD will not provide consultation to responsible parties whether levee maintenance activities are warranted or not.

### **Description of Activities**

Levee maintenance includes mechanical dredging (from the channels and/or wetlands adjacent to the existing levees) using long-reach excavators or drag lines working from the top of existing levees. Dredge material will be excavated on the outboard side of the levee at the extreme reach of the available equipment to avoid damage to the levee toe. Dredged material will be placed on the levee crown and mechanically compressed.

### **Frequency and Timing**

Levee maintenance activities are scheduled to occur from June 1 to October 31, unless otherwise allowed under permitting conditions. To the extent practicable, landowners should avoid dredging the same location more than once every two years in wetted areas within the main-stem channels or areas that connect to main-stem channels. Based on historic program activities, approximately 1-3 different landowners conduct maintenance every year with some landowners conducting maintenance every 5+ years on different areas of their properties.

### **Contractor Details**

Levee maintenance activities are either performed solely by the responsible party themselves or undertaken by private contractors hired, managed, supervised and paid by the responsible party doing the work.

## **Emergency Work**

Emergency levee maintenance refers to levee maintenance activities performed to mitigate an emergency situation that do NOT qualify for coverage under the Army Corps Regional General Permit 5 (RGP 5) for Emergency Repair and Protection Activities because work will avoid Army Corps jurisdictional Waters of the US or work is deemed 404(f) exempt by the Army Corps. An emergency situation must meet the CEQA definition of an “emergency,” which is defined as, “a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigation loss of, or damage to, life, health, property, or essential public services. Emergency includes such occurrences as fire, flood, earthquake, or other soil or geologic movement, as well as such occurrences as riot, accident, or sabotage.” Emergency activities authorized under the General Waste Discharge Requirements and Water Quality Certification for Projects under the Petaluma River and Sonoma Creek Levee Maintenance Program- Sonoma County, Order # R2-2022-0017 and herein referred to as “this Order” are limited to repairs and maintenance needed to address a sudden and unexpected levee failure or impairment that could result in significant flood damage to surrounding land uses and habitat. Emergency activities involve the same actions described in section 1.5 Summary of Maintenance Activity of this manual, with the implementation of rainy season best management measures (BMPs) and avoidance and minimization measures (AMMs), if work is necessary outside of the required work windows.

Emergency levee maintenance that qualifies for coverage under the Army Corps RGP 5 shall apply for coverage under the Water Board's separate General Certification for RGP 5 Emergency Projects.

The RCD will work with the responsible parties to notify the Army Corps and the Water Board via email with a description of the emergency situation (with photographs, if possible), a description of how the situation meets the CEQA definition of an emergency, and a description of the emergency work proposed to mitigate said emergency. This notification shall also include a description of: 1) construction methodology; 2) nature of impacts to waters of the State/US, as well as the area and linear feet of disturbance; 3) habitat type to be disturbed; and 4) BMPs & AMMs that will be implemented to minimize impacts.

- Following review of the Notification, if the Army Corps determines the proposed emergency work is outside of their jurisdiction or 404(f) exempt and the Water Board determines that emergency work could impact waters of the State but qualifies for coverage under this Order, the emergency work may proceed following written or verbal authorization from Water Board staff.
- The RCD will ensure that a completed NOI with the correct impact quantities and project work information is compiled and signed by the responsible party, then emailed to the Water Board no later than 3 business days following the date emergency work was completed.
- Reporting of the completed emergency levee repair work and its impact quantities shall be included in the next upcoming Annual Report due to the Water Board each March. Impacts associated with emergency work covered by this Order shall be counted toward the overall program impact limits.

## **5.0 Program Management**

### **5.1 Annual work cycle**

The RCD will manage this program on an annual basis to include project planning, pre-project notification, project implementation and annual reporting.

#### Project Planning

The RCD requests proposed maintenance activities (for the current year) and information on any completed work (from previous year) from participating landowners/responsible parties by Feb 1<sup>st</sup> of each year. See Maintenance Report form in Project Forms, Appendix D.

Pre-project notification: The RCD reviews information provided by landowners to confirm proposed maintenance work is within program limitations and then submits proposed work information to appropriate agencies annually no later than March 15 (varies by agency). See Annual Maintenance Reporting Sheet in Project Forms, Appendix D.

Project Implementation: Responsible parties will notify the RCD staff before work is scheduled to occur to coordinate site visit. Majority of work to occur between June 1 – Oct 31 each year, unless otherwise allowed under permitting conditions.

Annual Reporting: Information on completed work will be collected from landowners at the same time next year's work is being proposed, due to the RCD Feb 1<sup>st</sup> each year and submitted to agencies no later than March 15 (varies by agency). See Notice of Intent and Annual Maintenance Reporting Sheet in Project Forms, Appendix D.

## **5.2 Management and Program Tracking**

Information on proposed and completed maintenance work are entered into the Annual Maintenance Reporting Sheet each year when information is received from the landowners. This spreadsheet contains quantitative data on completed and proposed work and other technical information to compile to submit to regulatory agencies for reporting purposes. Regulatory agencies will receive necessary information on maintenance activities based on the permit requirements.

To properly track the progress of maintenance activities with compliance with programmatic permit conditions, the following data will be collected and tracked for the program:

- GIS project location (proposed and/or completed), linear distance of levee repairs, levee area type, delineation map, and the source and volume of the fill material (US ACOE permit).
- Estimated acreage impact of dredging locations (Regional Water Board permit)
- Pre- and post project photos, as available.

Maintenance reports will be used to gather pre-project and post project information. These reports are the RCDs primary method for gaining information on project activities from responsible parties. Follow up correspondence and site visits will be conducted for those proposing maintenance for that particular year.

## **5.3 Five Year Program Review**

Every five (5) years, the RCD will work with relevant regulatory agencies to review the program and permit conditions during permit renewal and determine if permit conditions need to be updated.

## 6.0 Regulatory Compliance

This chapter describes the steps the RCD has taken to fulfill all California Environmental Quality Act (CEQA) and environmental permitting requirements.

### **6.1 CEQA Compliance**

The RCD is the lead agency for CEQA review of the program. In 2017, the SRCD filed a Notice of Exemption (SCH # 2017118215) based on the categorical exemption section 15304; minor alterations to land. A copy of the NOE is included in Appendix E.

### **6.2 Army Corps of Engineers (US ACOE)**

The SRCD holds a RGP (2004-249121N) on behalf of landowners that participate in this program. The most recent RGP expired in October 2017. SRCD initiated a renewal in spring 2017 and a public notice was posted in October 2017. A provisional permit was issued in 2019 awaiting coverage from the SFBRWQCB. A copy of the provisional permit is included in Appendix F.

### **6.3 Regional Water Quality Control Board**

The previous 401 the SRCD held on behalf of landowners for this work expired in October 2017. SRCD initiated a permit renewal with the Water Board in November 2017. We are currently working on developing a General Order for Levee Maintenance Activities in the Petaluma and Sonoma Creek Watersheds, that this manual will support.

### **6.4 California Department of Fish and Wildlife (CDFW)**

The SRCD holds a Routine Maintenance Agreement (1600-2012-0364-R3) for these activities that was granted an extension in June 2018 and will expire in December 2022. An extension or renewal will be initiated before this permit expires. A copy of the permit extension is included in Appendix F.

### **6.5 NOAA National Marine Fisheries Service**

NOAA NMFS has been contacted through the ACOE permit coordination and has not requested re-initiation of Section 7 consultation this current renewal of the RGP.

### **6.6 US Fish and Wildlife Service**

As previously stated the biological opinions from USFWS for this project are included in Appendix B.

### **6.7 San Francisco Bay Conservation and Development Commission (SF BCDC)**

The last permit from this agency expired in October 2018. SRCD initiated for an amendment (M1994-025-00) for a renewal which is currently awaiting coverage from the SFBRWQCB before it can be finalized.

### **6.8 State Lands Commission (SLC)**

A 5-year General Lease Dredging permit (6676.9) is currently active for this program and will expire in July 2023. A copy of the permit is included in Appendix F.

### **6.9 County of Sonoma (Permit Sonoma)**

When all permits are obtained a grading exemption will be requested from the County of Sonoma.

Table 2: Relevant Permit Information

<i>Permitting Agency</i>	<i>Permit Type/#</i>	<i>Current Permit Status</i>	<i>Permit Contact</i>
US ACOE	Regional General Permit (RGP) 2004-249121	Currently provisional awaiting coverage from SFBRWQCB.	Bryan Matsumoto <a href="mailto:Bryan.T.Matsumoto@usace.army.mil">Bryan.T.Matsumoto@usace.army.mil</a>
CDFW	Routine Maintenance Agreement 1600-2012-0364-R3	Extension in place, will expire Dec 2022.	James Hansen <a href="mailto:James.Hansen@Wildlife.ca.gov">James.Hansen@Wildlife.ca.gov</a>
NMFS	Refer to ACOE permit	Refer to ACOE permit	Andrew Trent NMFS <a href="mailto:andrew.trent@noaa.gov">andrew.trent@noaa.gov</a>
USFWS	Refer to ACOE permit	Refer to ACOE permit	Ryan Olah <a href="mailto:Ryan_Olah@fws.gov">Ryan_Olah@fws.gov</a>
SF BCDC	Amendment M1994-025-00	Currently awaiting coverage from SFBRWQCB.	Pascale Soumoy <a href="mailto:pascale.soumoy@bcdc.ca.gov">pascale.soumoy@bcdc.ca.gov</a>
SLC	Lease #6676.9	Active, expires July 2023	Mary Jo Columbus <a href="mailto:maryjo.Columbus@slc.ca.gov">maryjo.Columbus@slc.ca.gov</a>
Permit Sonoma	Grading Exemption	Will request Grading Exemption when all other permits are obtained.	Nathan Quarles <a href="mailto:Nathan.Quarles@sonoma-county.org">Nathan.Quarles@sonoma-county.org</a>

References:

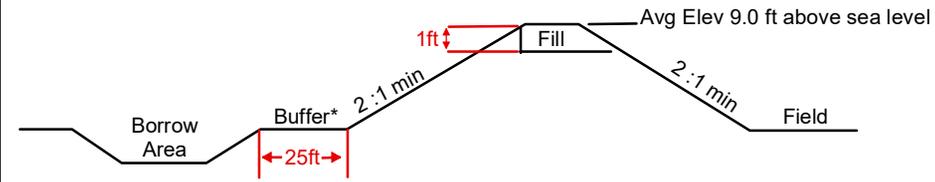
Sonoma Creek Watershed Enhancement Plan, Southern Sonoma RCD, 1997.

Draft Petaluma Watershed Enhancement Plan, Sonoma RCD, 2018

Sonoma Creek Baylands Strategy, San Francisco Bay Restoration Authority, Sonoma Land Trust, May 2020

## Appendix A: Individual Project Area Maps

Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

# Levee Maintenance Permit

**Permittee:**  
City of Santa Rosa-Twin House (12-A)

**Permit Holder:**  
Sonoma Resource Conservation District

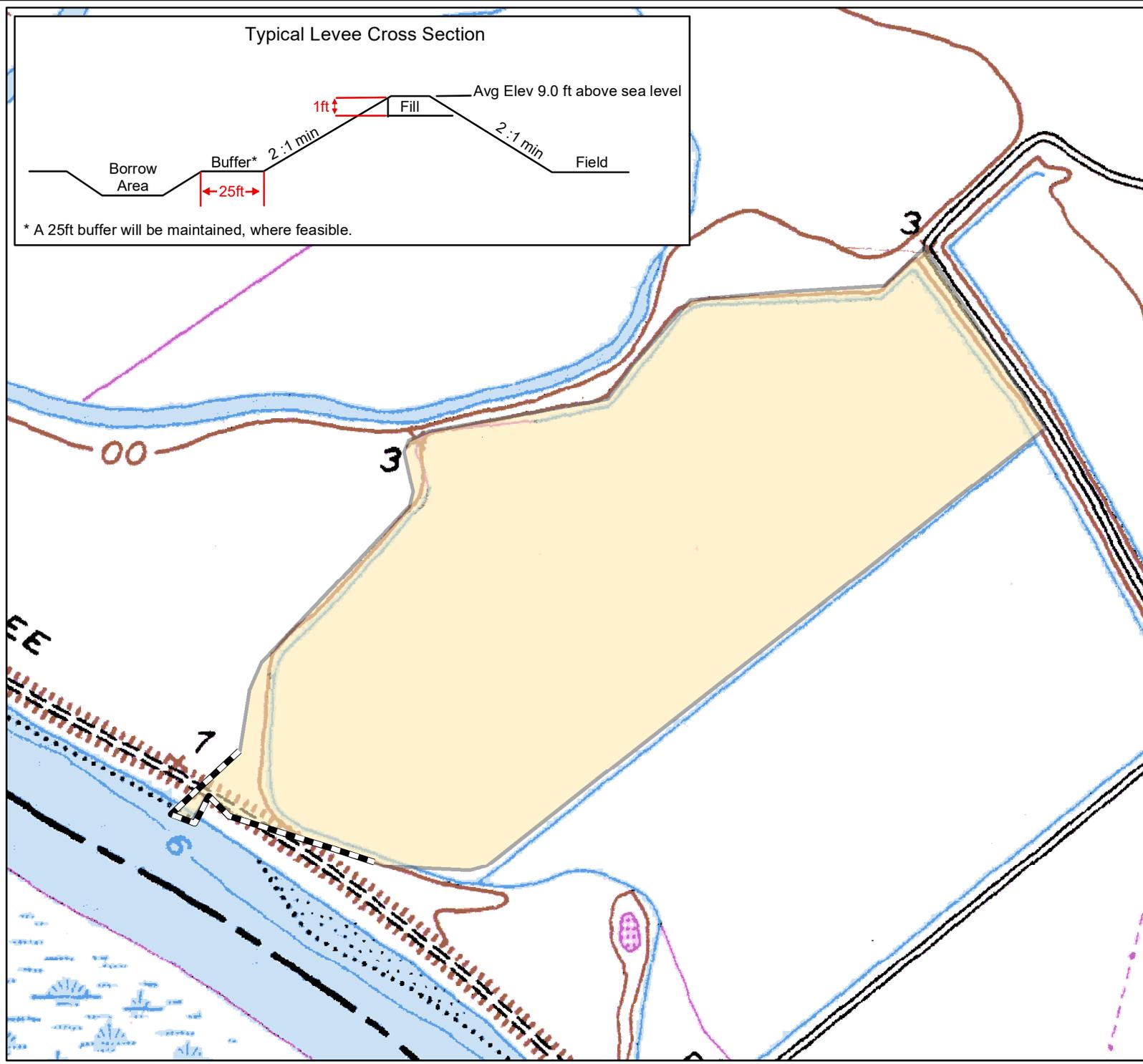
This map is for annual maintenance reporting to the permitting agencies.

-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022  
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River)

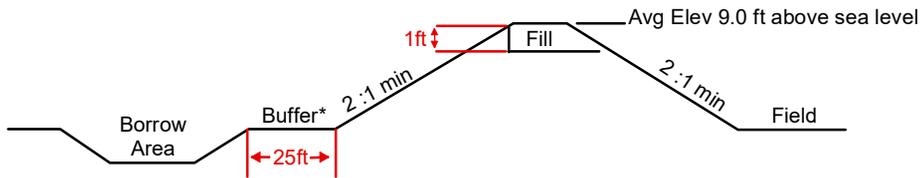


0    1,000    2,000    4,000 Feet

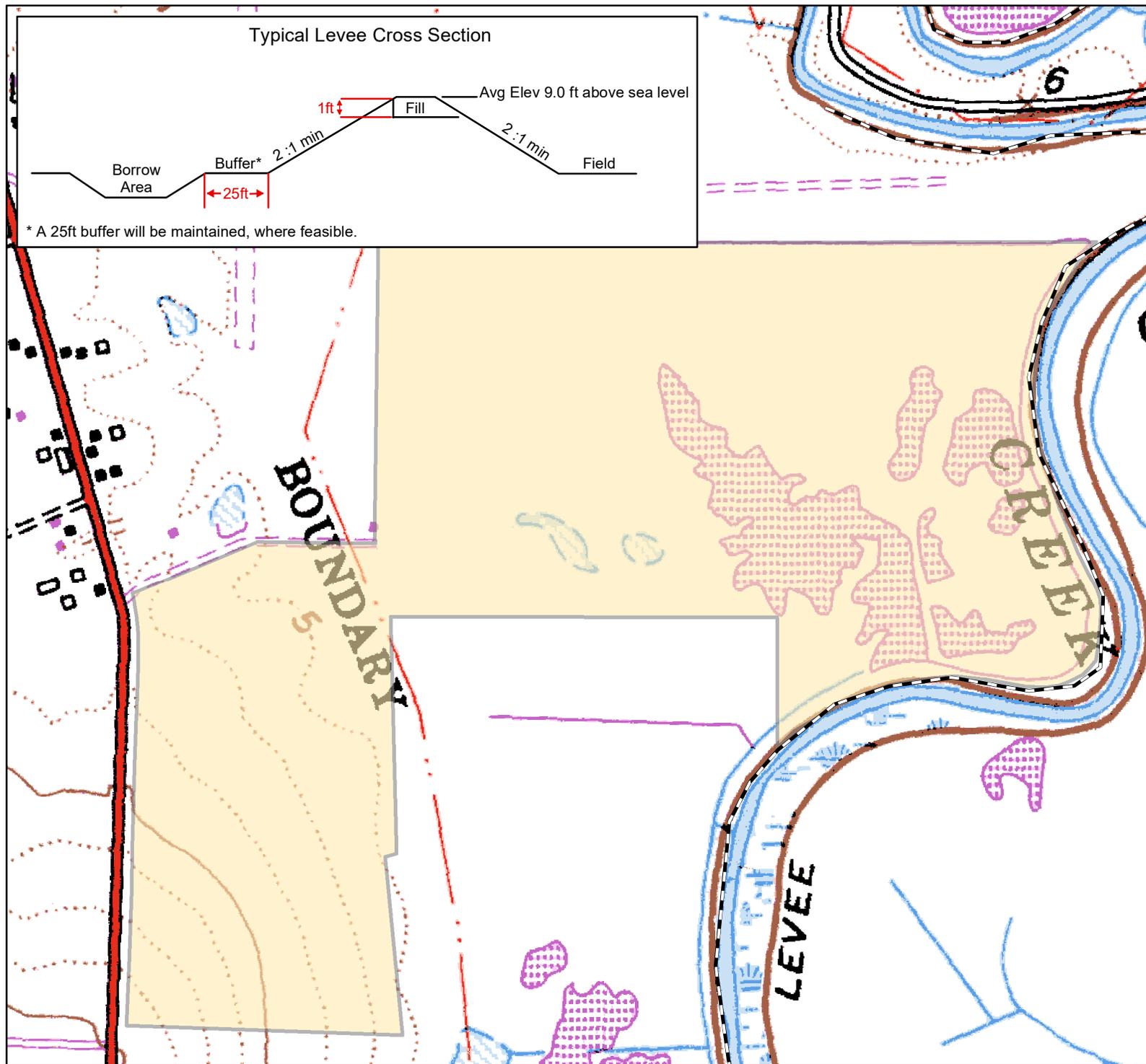




Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



0 750 1,500 3,000 Feet

# Levee Maintenance Permit (RGP-6)

Permittee:  
Cline (20-C)

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



# Levee Maintenance Permit (RGP-6)

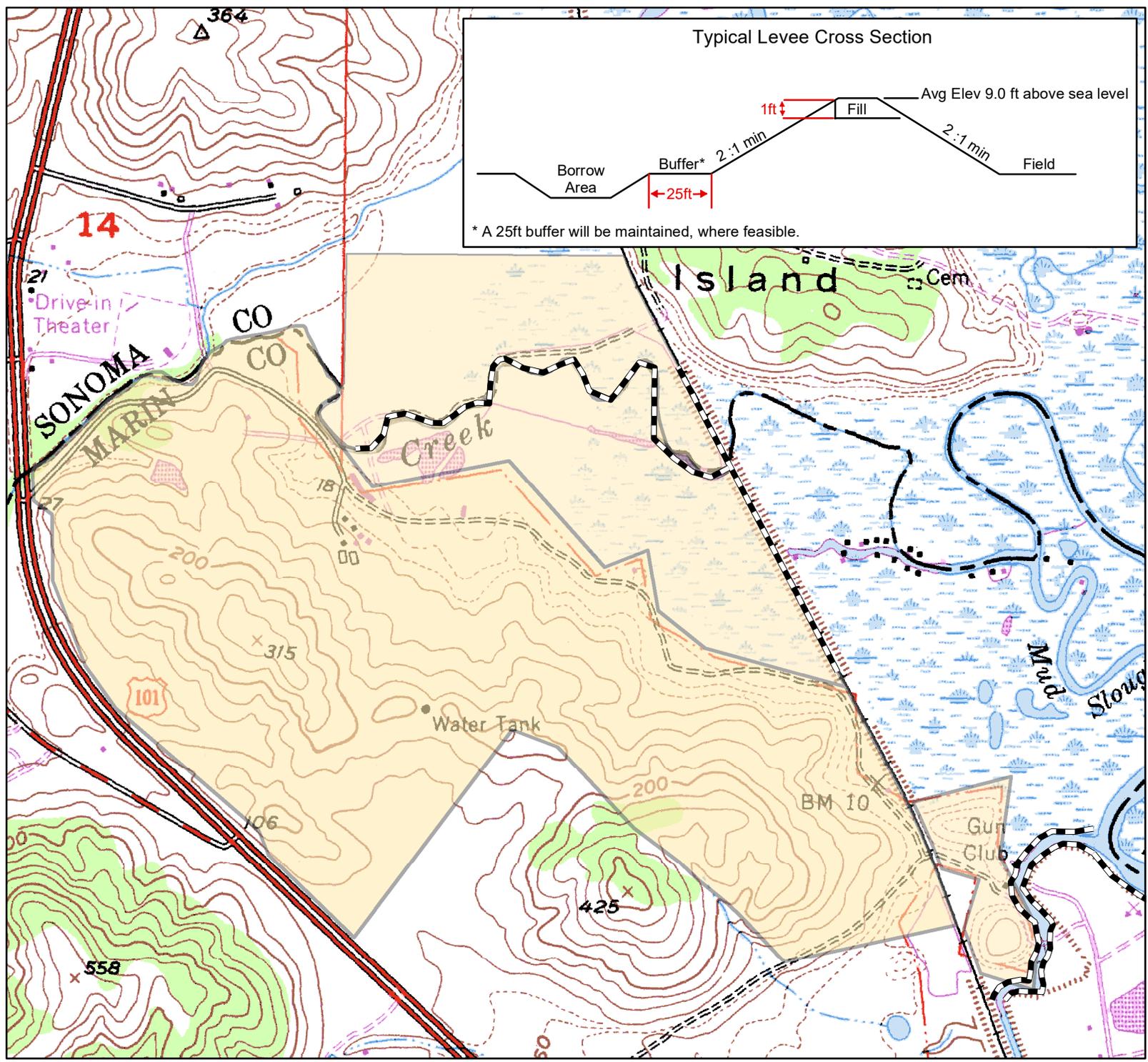
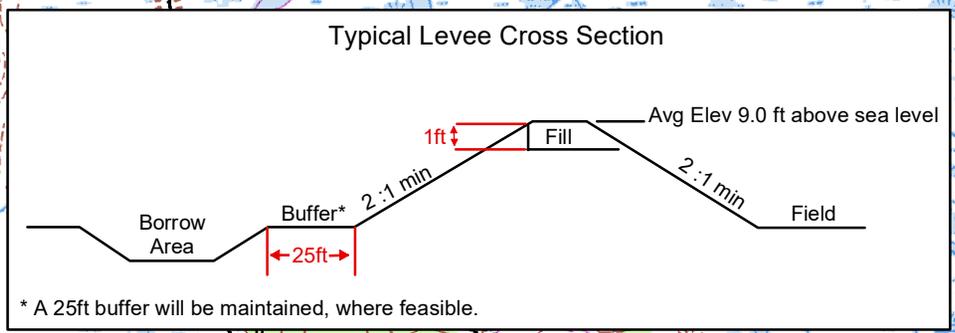
**Permittee:**  
Corda Ranch (13-C)

**Permit Holder:**  
Sonoma Resource Conservation District

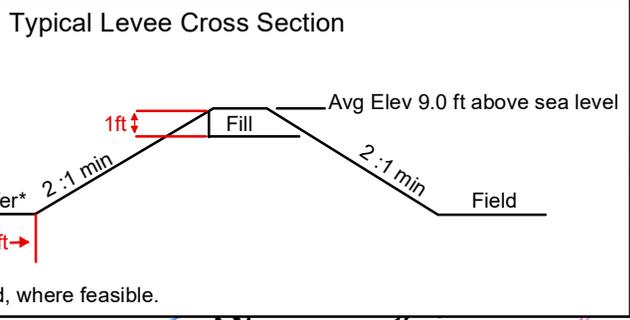
This map is for annual maintenance reporting to the permitting agencies.

-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022  
 Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet  
 Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River)



0 1,450 2,900 5,800 Feet



# Levee Maintenance Permit (RGP-6)

**Permittee:**  
City of Petaluma (4-R)

**Permit Holder:**  
Sonoma Resource Conservation District

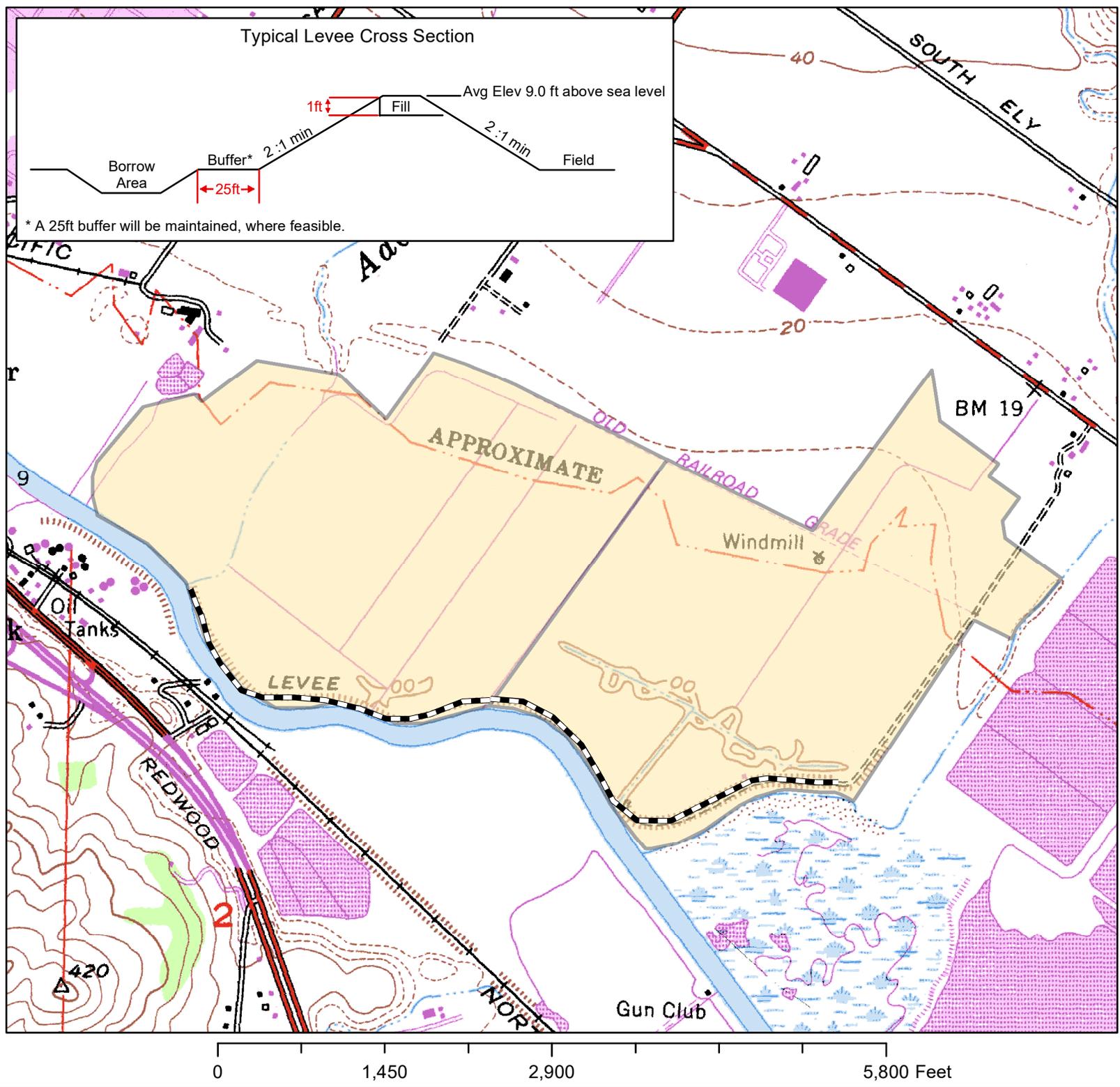
This map is for annual maintenance reporting to the permitting agencies.

-  **Clapper Rail- Seasonal Restrictions**  
(see permit conditions)
-  **Landowner Parcel**
-  **Levee Locations (approximate)**

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River)





# Levee Maintenance Permit (RGP-6)

Permittee:  
Faggioli (6-F)

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

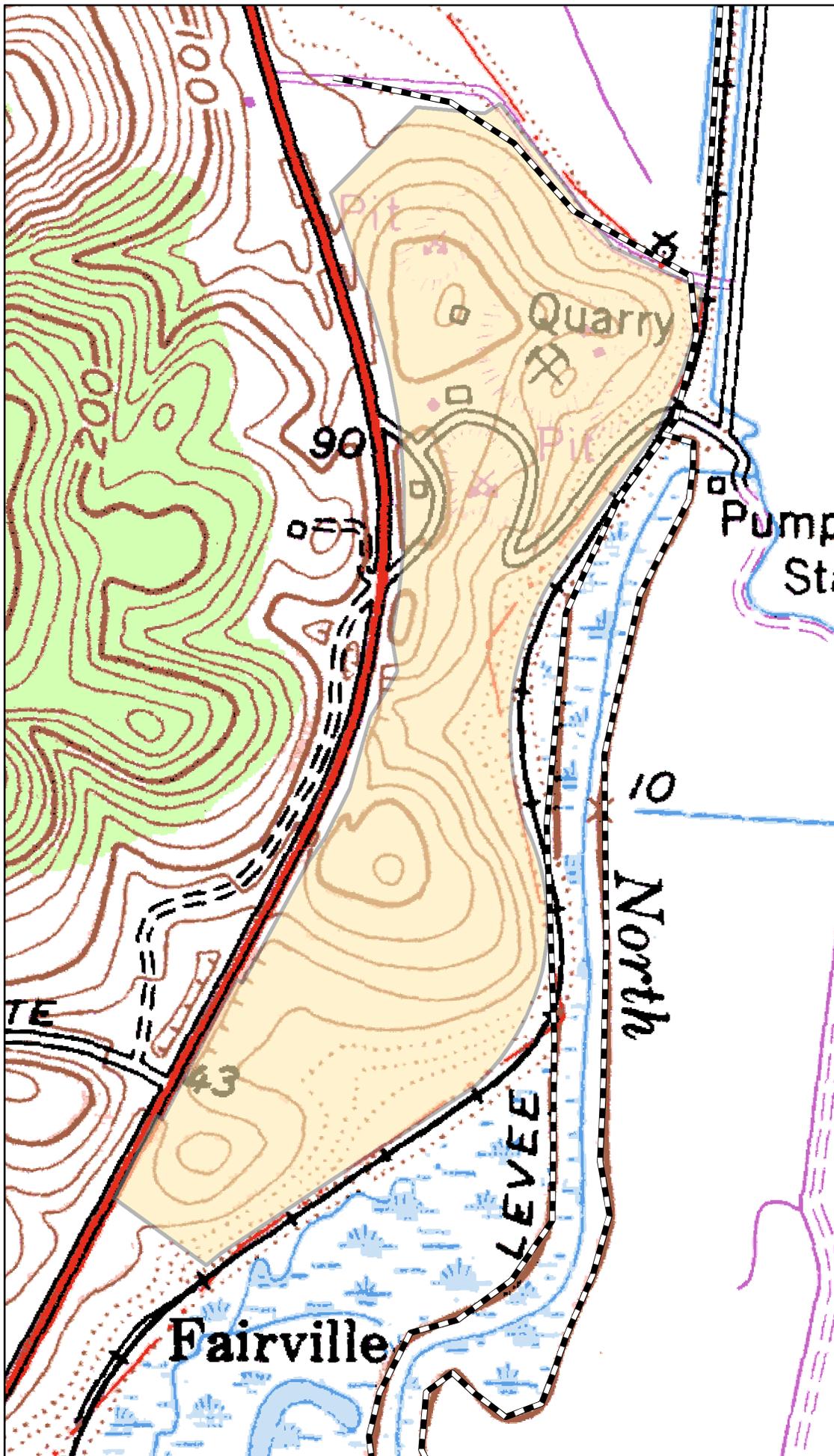
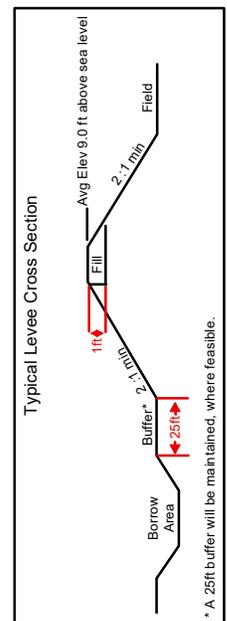
-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



0 650 1,300 2,600 Feet



# Levee Maintenance Permit (RGP-6)

**Permittee:**  
Herman (24-H)

**Permit Holder:**  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

 **Clapper Rail- Seasonal Restrictions**  
(see permit conditions)

 **Landowner Parcel**

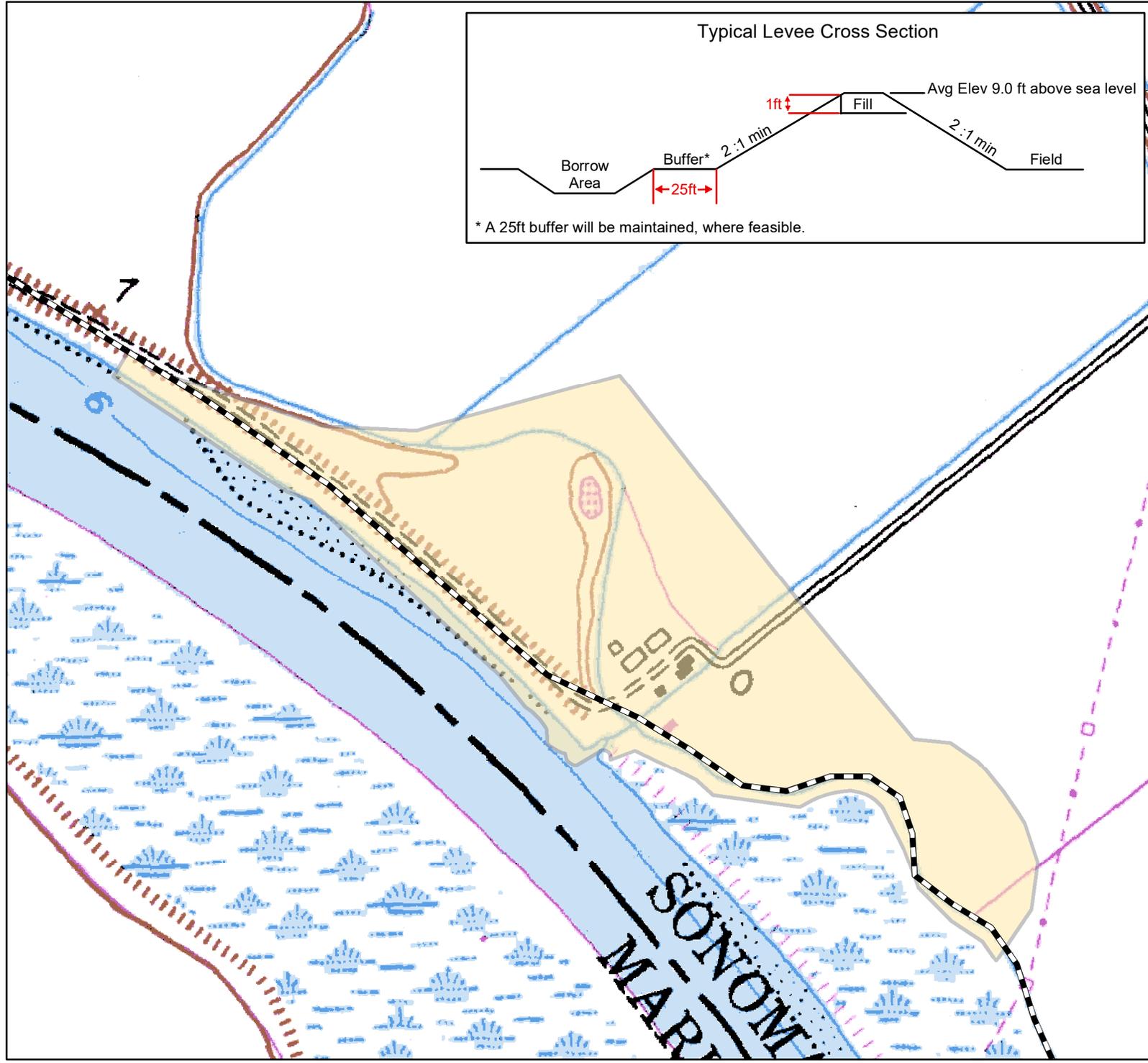
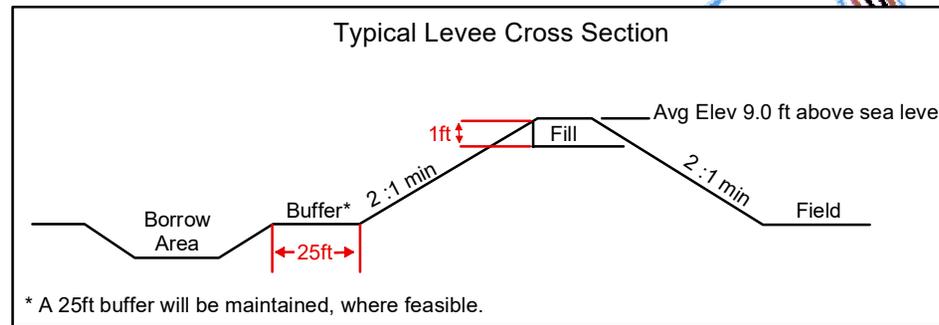
 **Levee Locations**  
(approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



0      750      1,500      3,000 Feet

# Levee Maintenance Permit (RGP-6)

**Permittee:**  
Jacobsen (15-J)

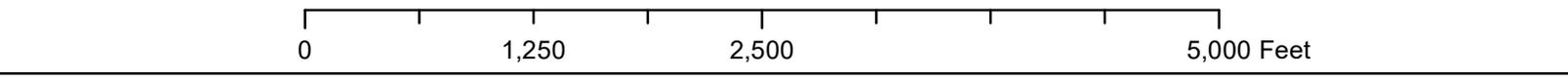
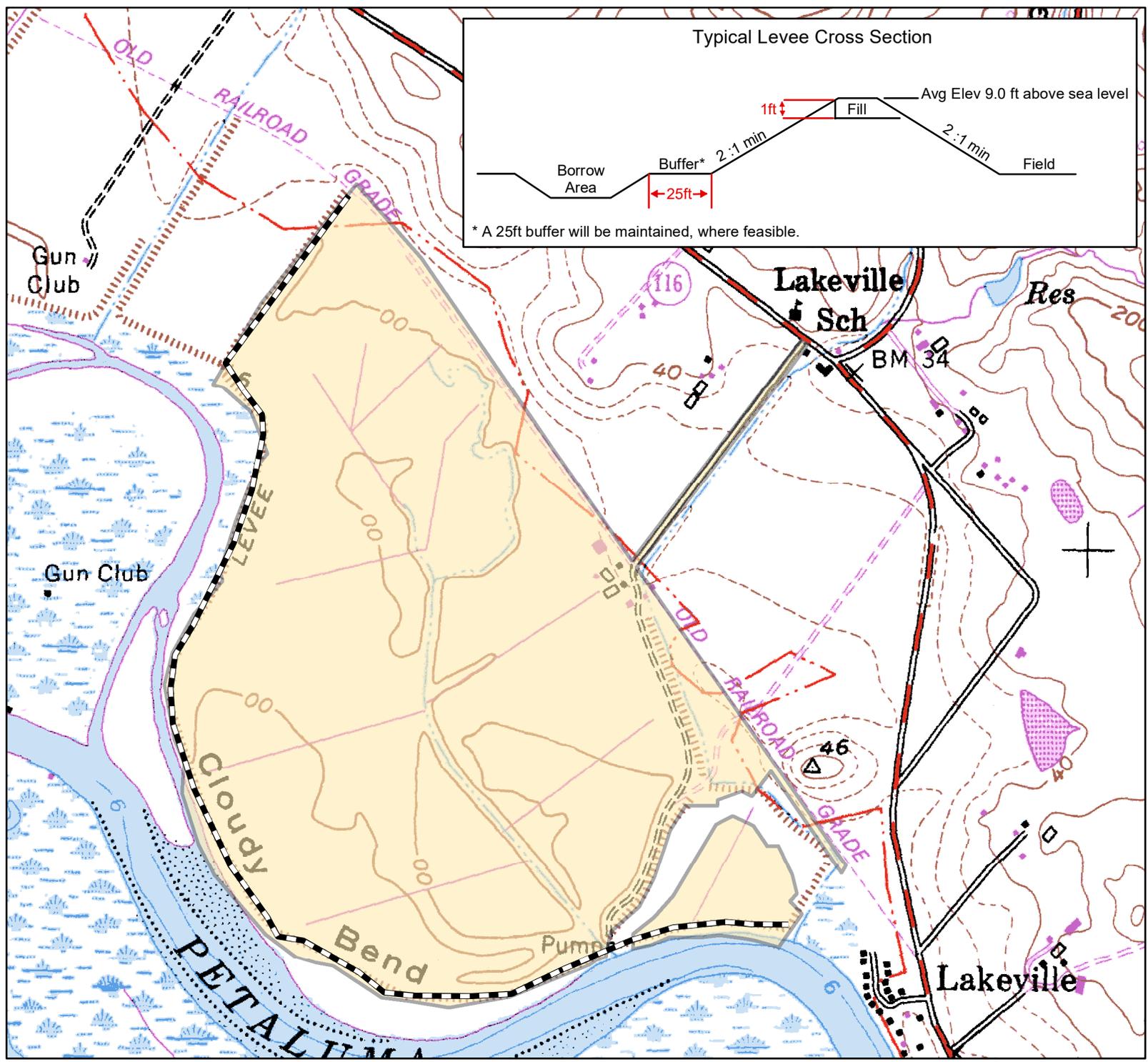
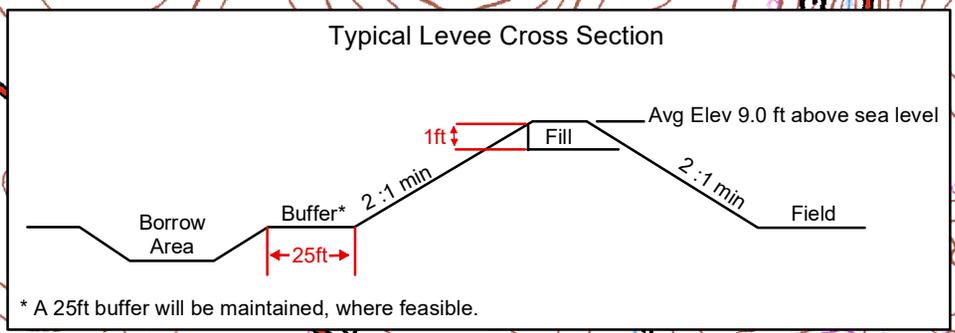
**Permit Holder:**  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

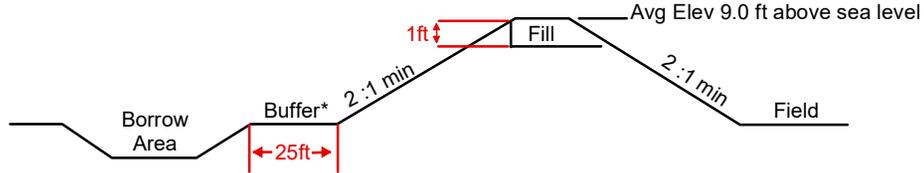
-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022  
 Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

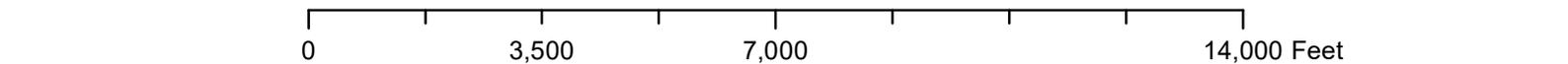
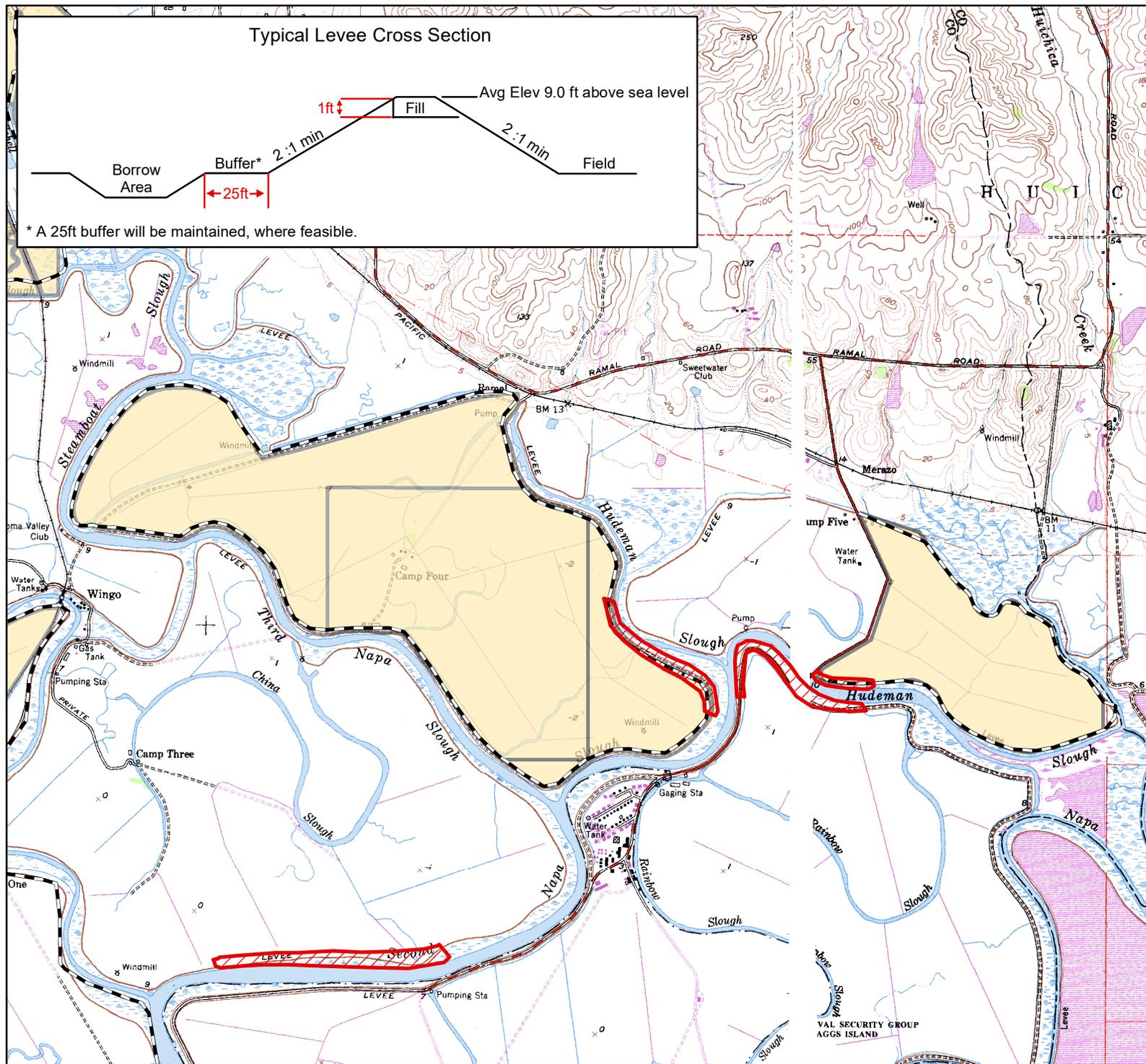
Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River)



### Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



# Levee Maintenance Permit

**Permittee:**  
J. Leveroni (21-L)

**Permit Holder:**  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

-  Landowner Parcel
-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Levee Maintenance Locations (approx.)

Oct 2021

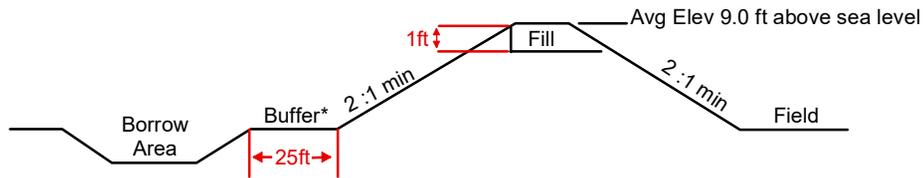
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point, Cuttings  
Wharf)

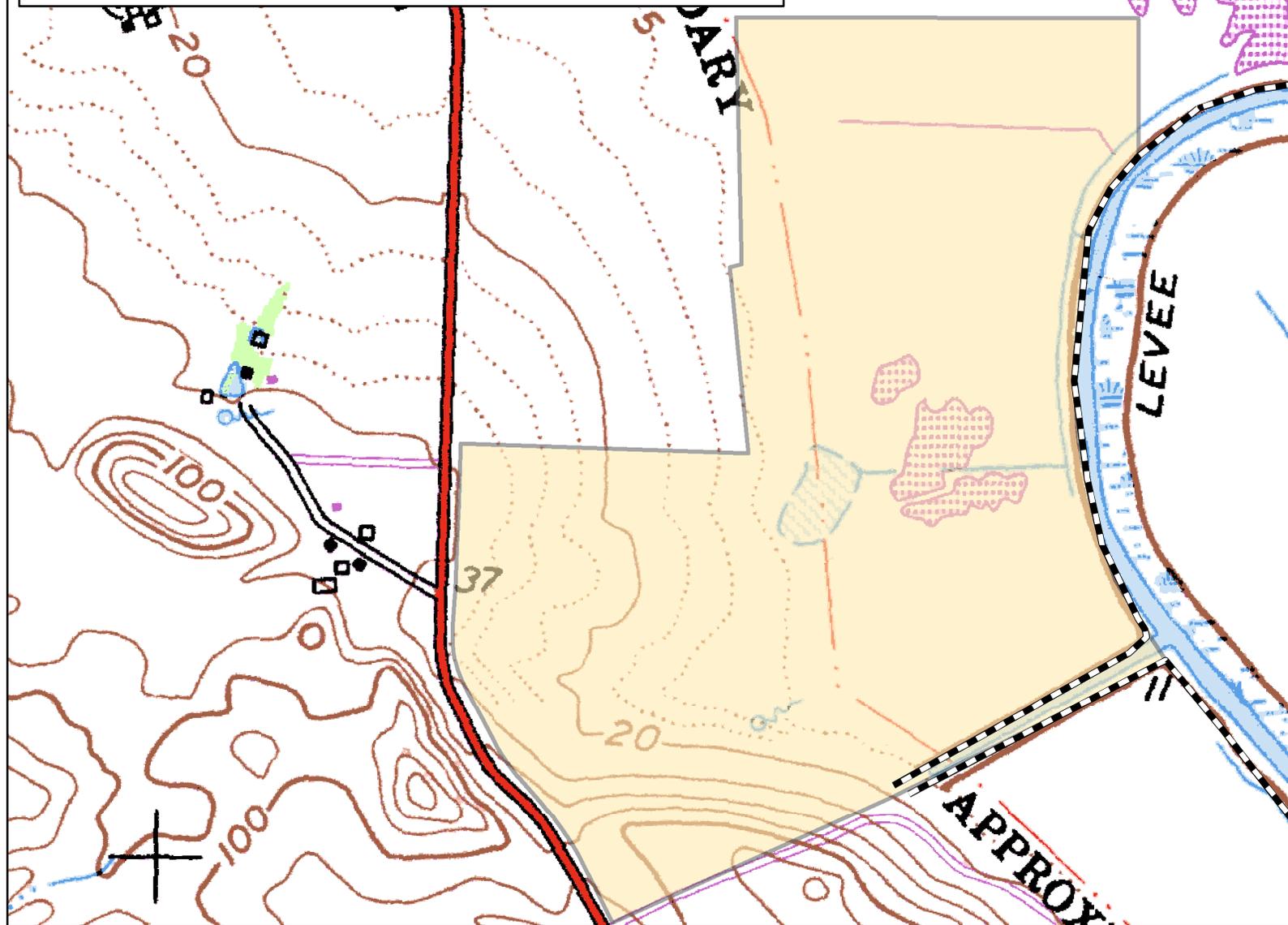


VAL SECURITY GROUP  
AGGS ISLAND

Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



0 800 1,600 3,200 Feet

# Levee Maintenance Permit (RGP-6)

Permittee:  
Viansa (31-M)

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

- Clapper Rail- Seasonal Restrictions (see permit conditions)
- Landowner Parcel
- Levee Locations (approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



# Levee Maintenance Permit (RGP-6)

Permittee:  
Mulas (17-M)

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

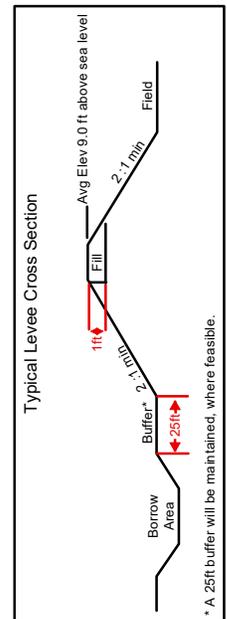
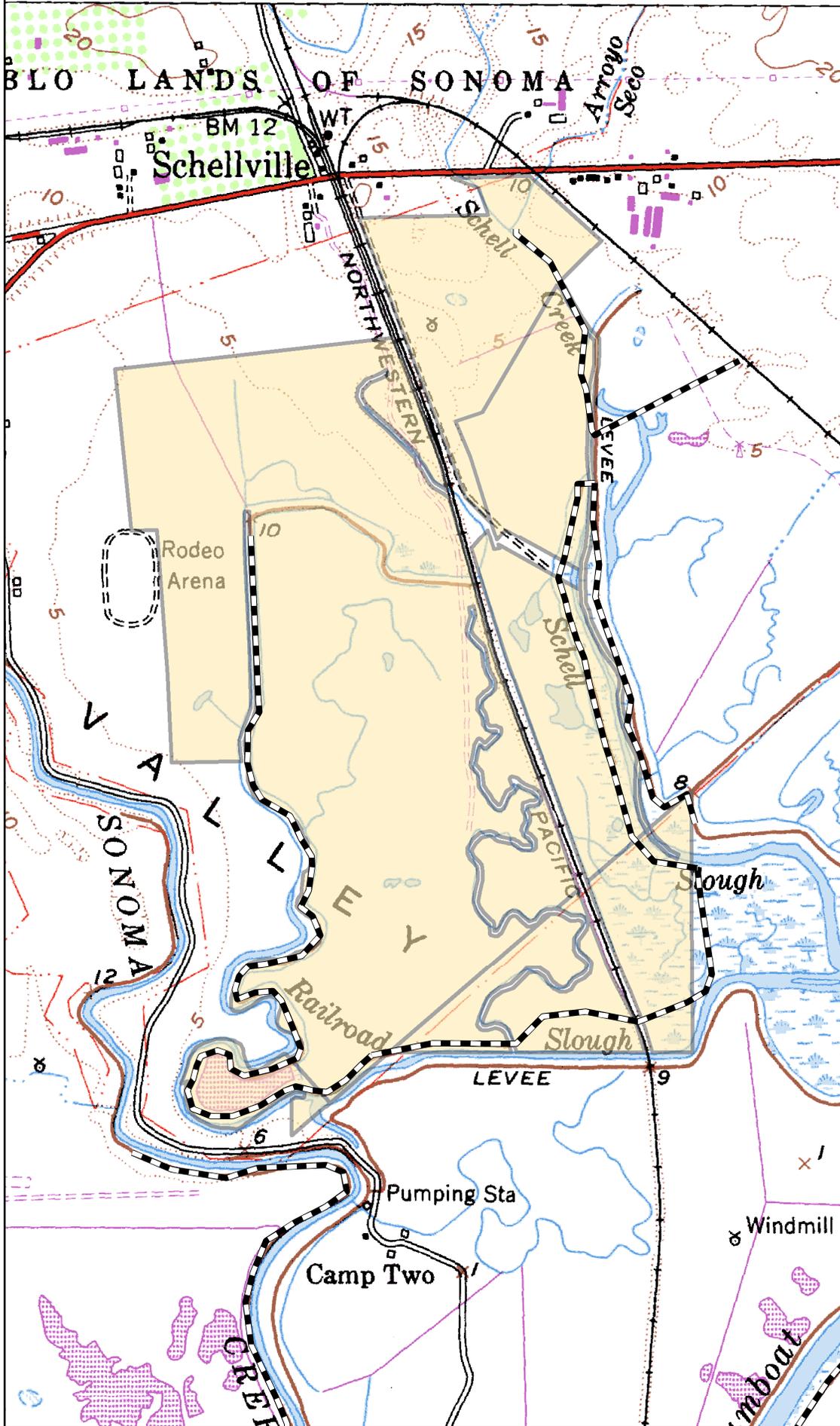
-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

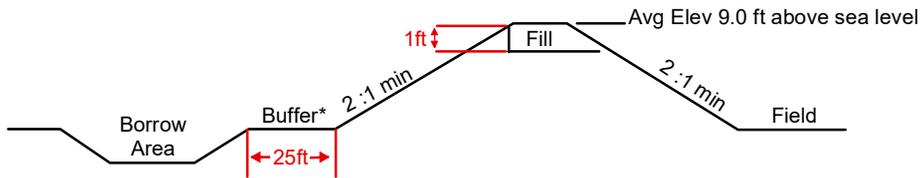


Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)

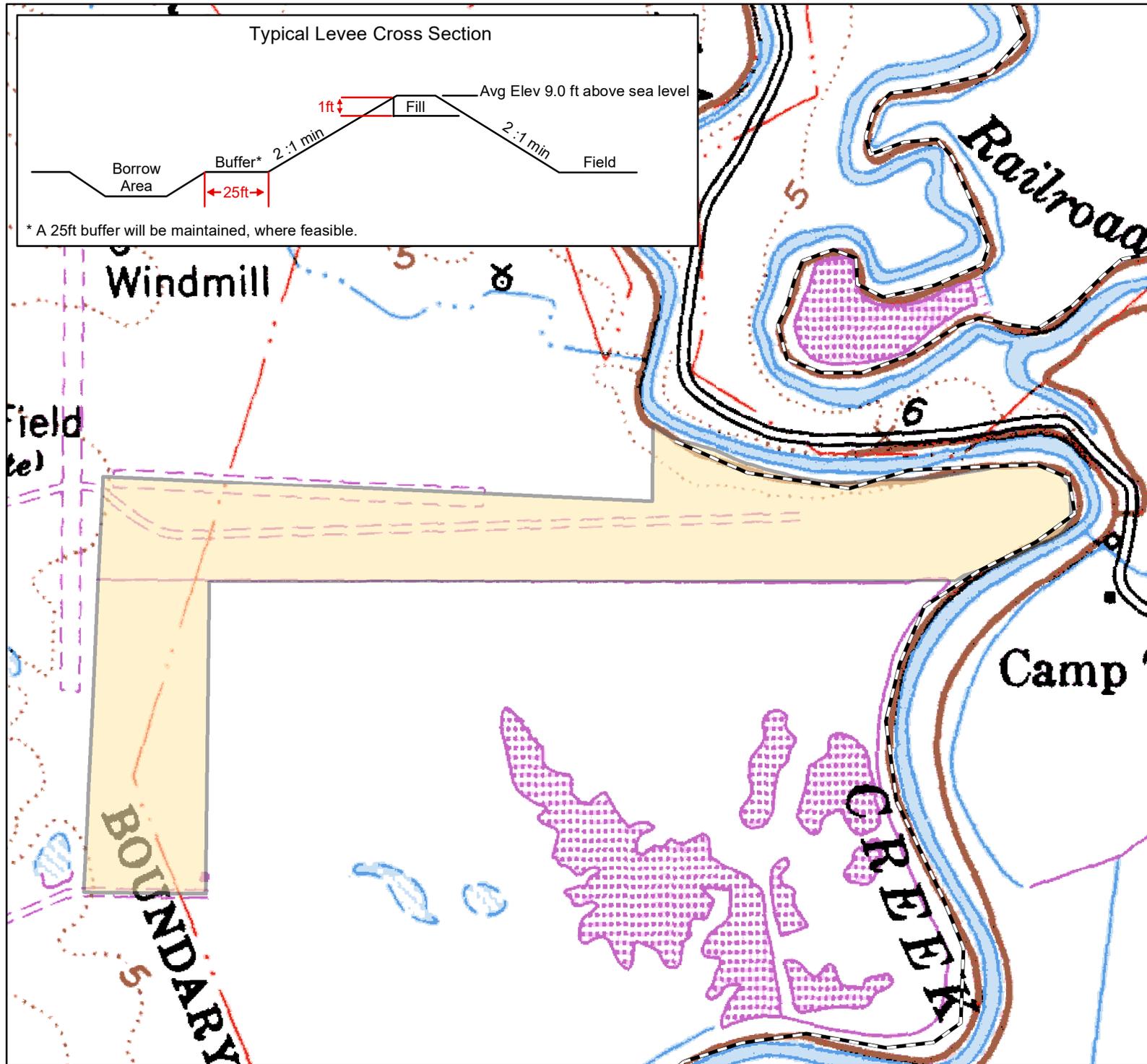


0 1,450 2,900 5,800 Feet

Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



# Levee Maintenance Permit (RGP-6)

Permittee:  
Prevost (32-P)

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



# Levee Maintenance Permit (RGP-6)

**Permittee:**  
Marin County Airport (18-R)

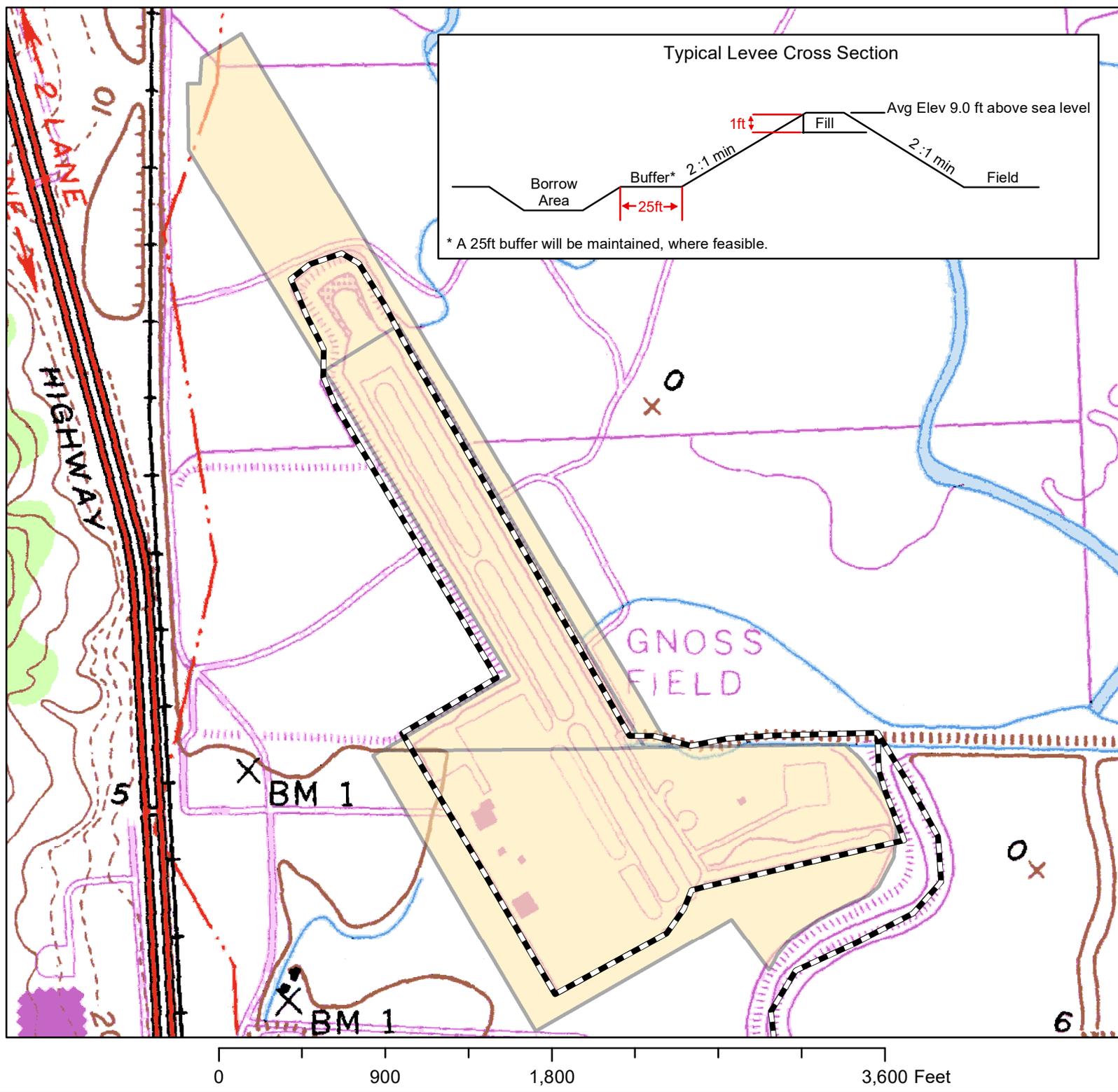
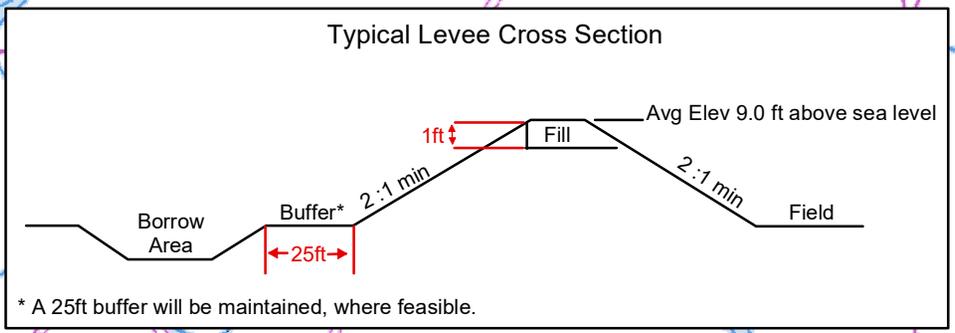
**Permit Holder:**  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022  
 Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River)



# Levee Maintenance Permit (RGP-6)

**Permittee:**  
Redwood Landfill (23-R)

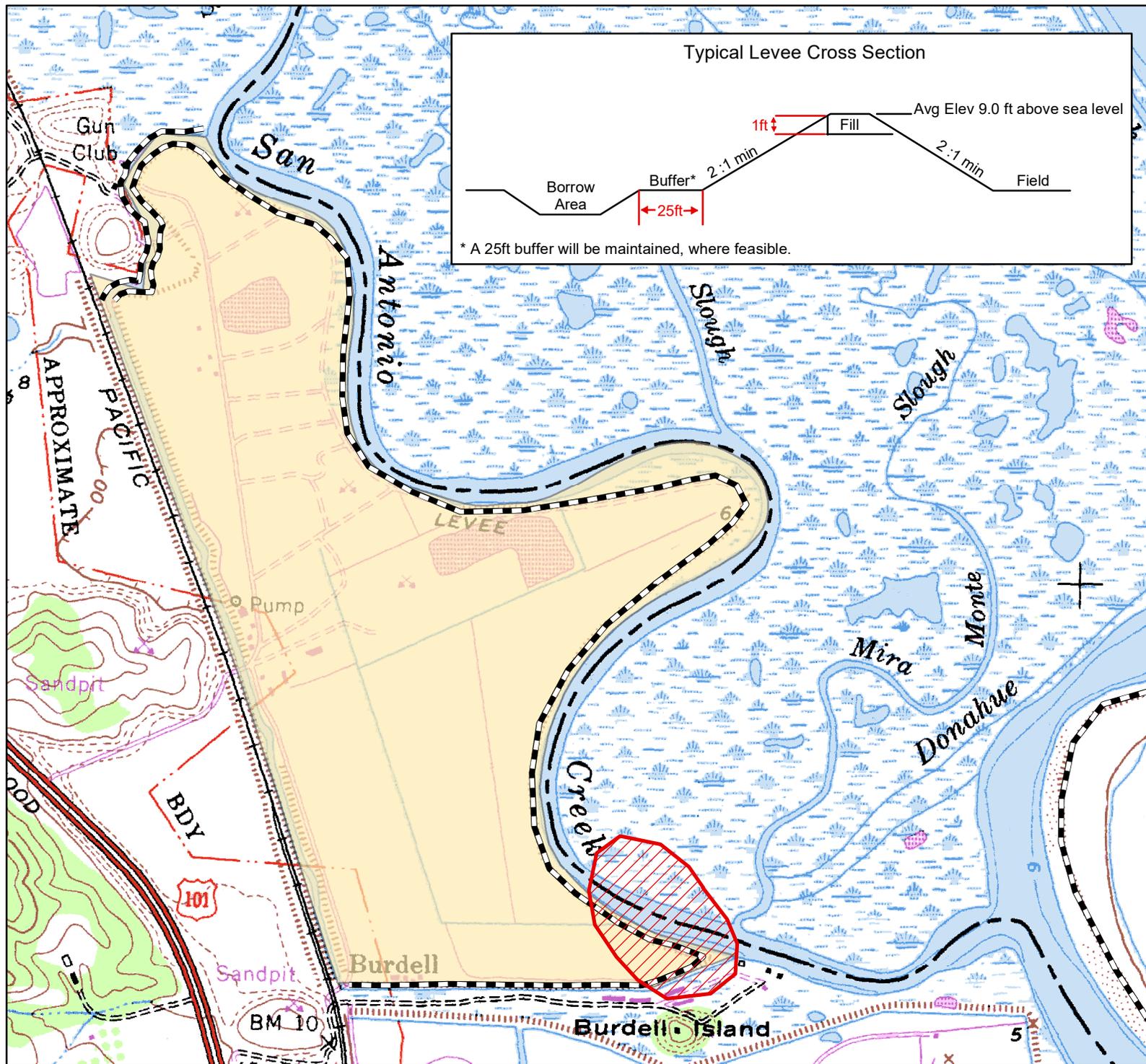
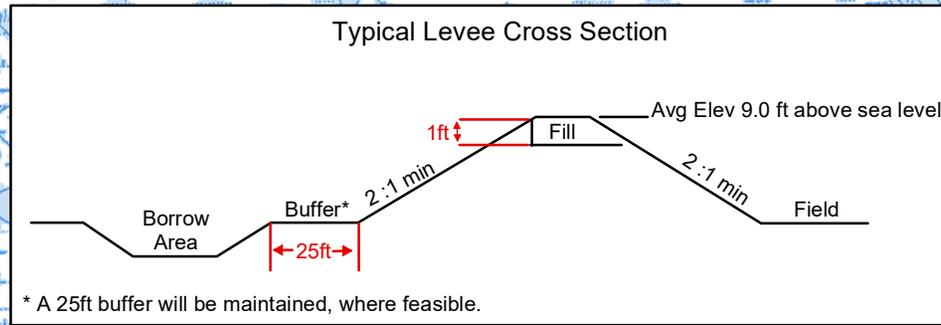
**Permit Holder:**  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022  
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



0      1,450      2,900      5,800 Feet



# Levee Maintenance Permit (RGP-6)

Permittee:  
Smith (3-S)

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

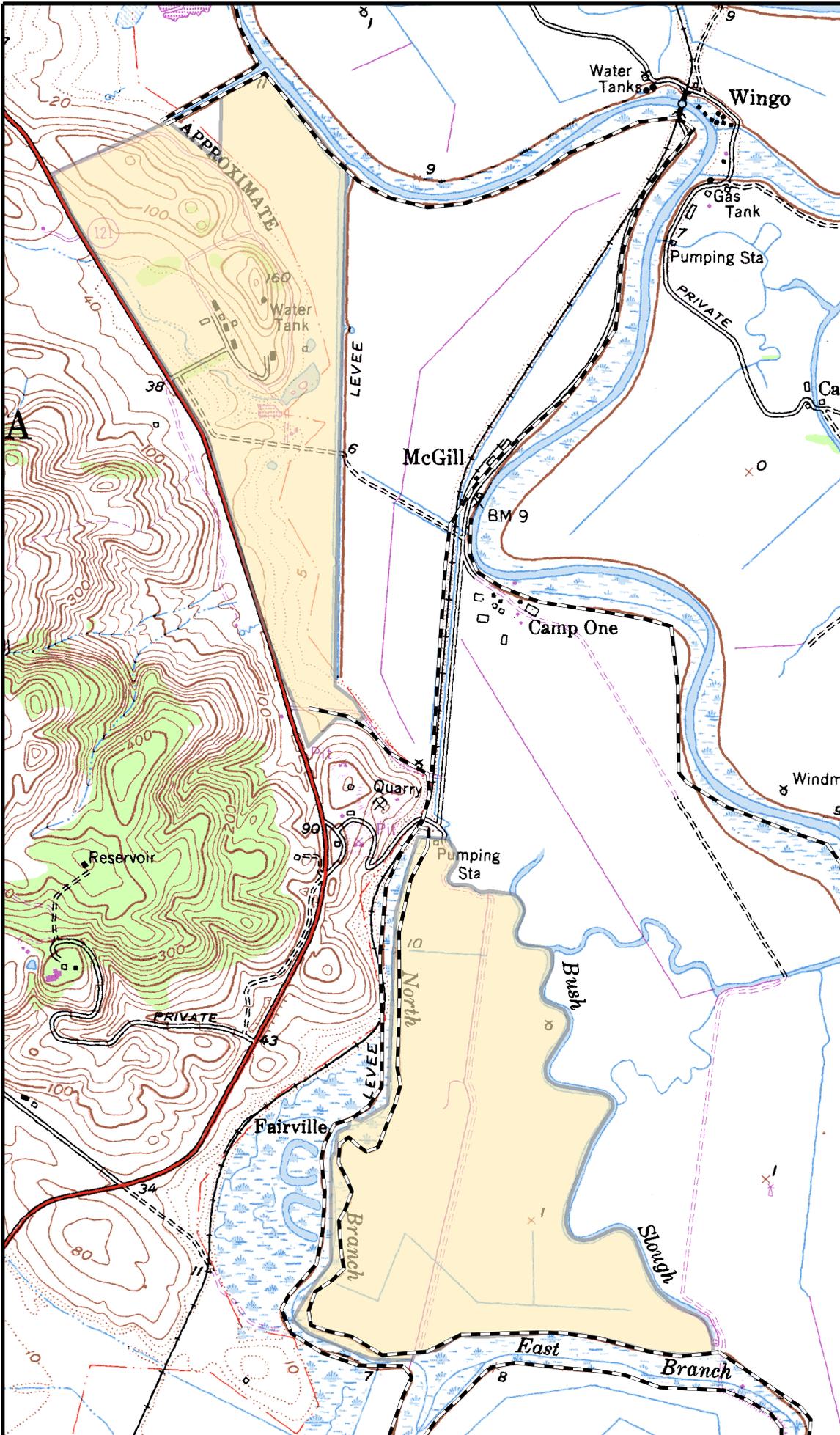
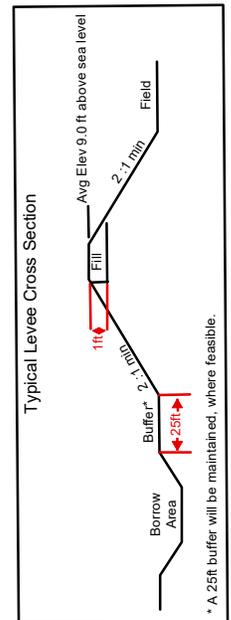
-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



0 1,950 3,900 7,800 Feet

# Levee Maintenance Permit (RGP-6)

Permittee:  
**Carnerous River Ranch (2-S)**

Permit Holder:  
**Sonoma Resource Conservation District**

This map is for annual maintenance reporting to the permitting agencies.

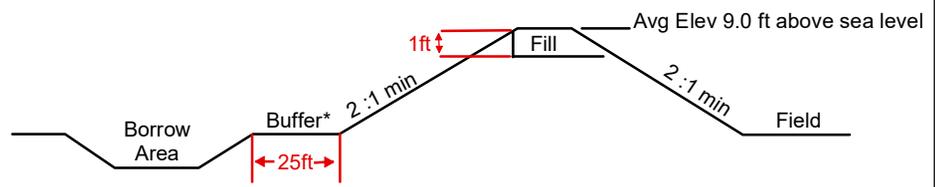
-  **Clapper Rail- Seasonal Restrictions**  
(see permit conditions)
-  **Landowner Parcel**
-  **Levee Locations (approximate)**

Feb 2022  
 Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

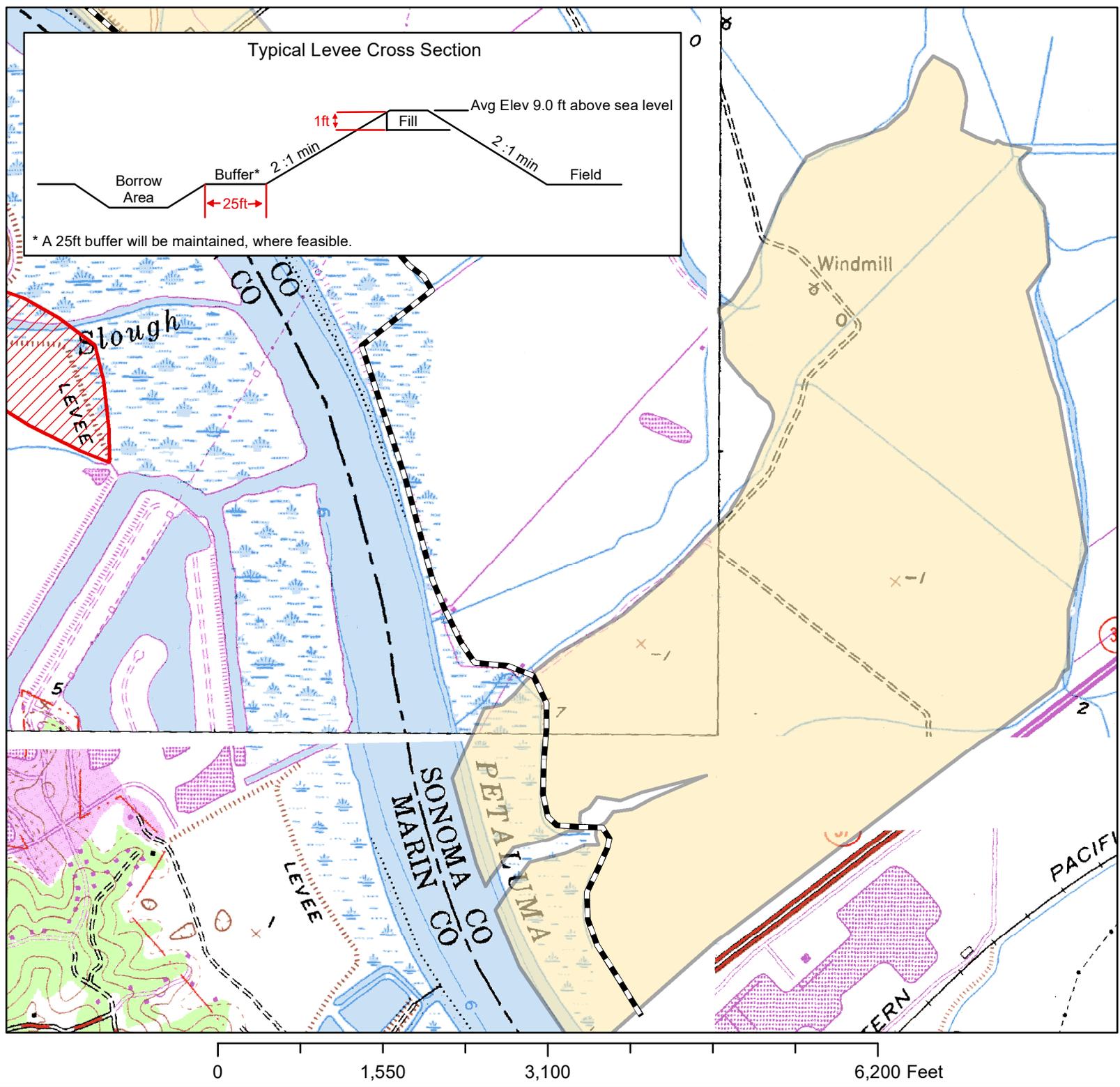
Base layer: USGS 7.5" Topographic  
 Quadrangle (Petaluma River, Sears  
 Point, Novato and Petaluma Point)



Typical Levee Cross Section

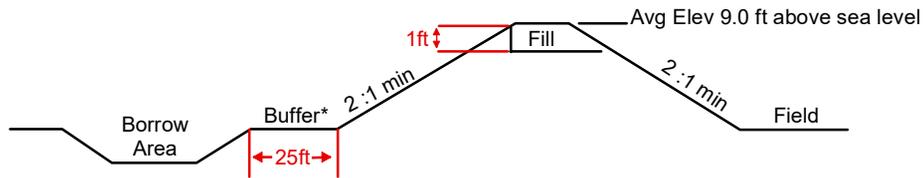


\* A 25ft buffer will be maintained, where feasible.





Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

# Levee Maintenance Permit (RGP-6)

**Permittee:**  
Tsang (9-T)

**Permit Holder:**  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

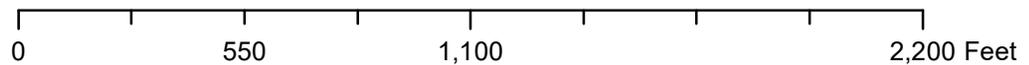
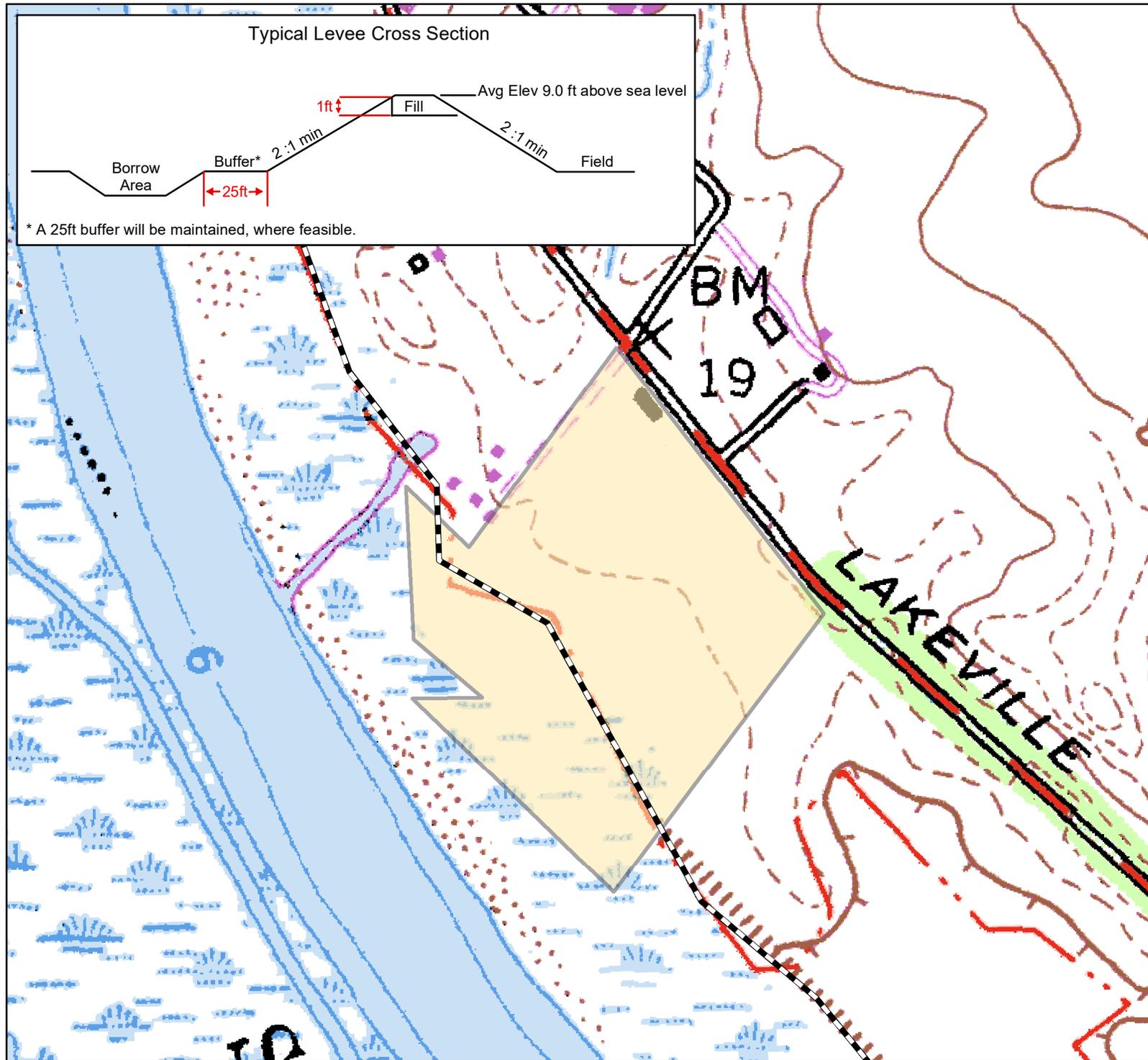
-  **Clapper Rail- Seasonal Restrictions**  
(see permit conditions)
-  **Landowner Parcel**
-  **Levee Locations**  
(approximate)

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



# Levee Maintenance Permit

**Permittee:**  
**Kenwood BPSC  
 Hunt Club, LLC  
 (26-Y)**

**Permit Holder:**  
**Sonoma Resource  
 Conservation District**

This map is for annual maintenance reporting to the permitting agencies.

-  **Clapper Rail- Seasonal Restrictions**  
(see permit conditions)
-  **Landowner Parcel**
-  **Levee Locations (approximate)**

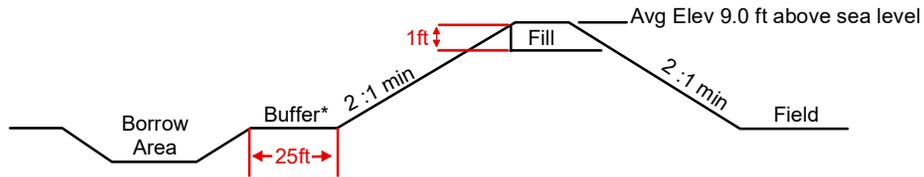
Feb 2022

Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

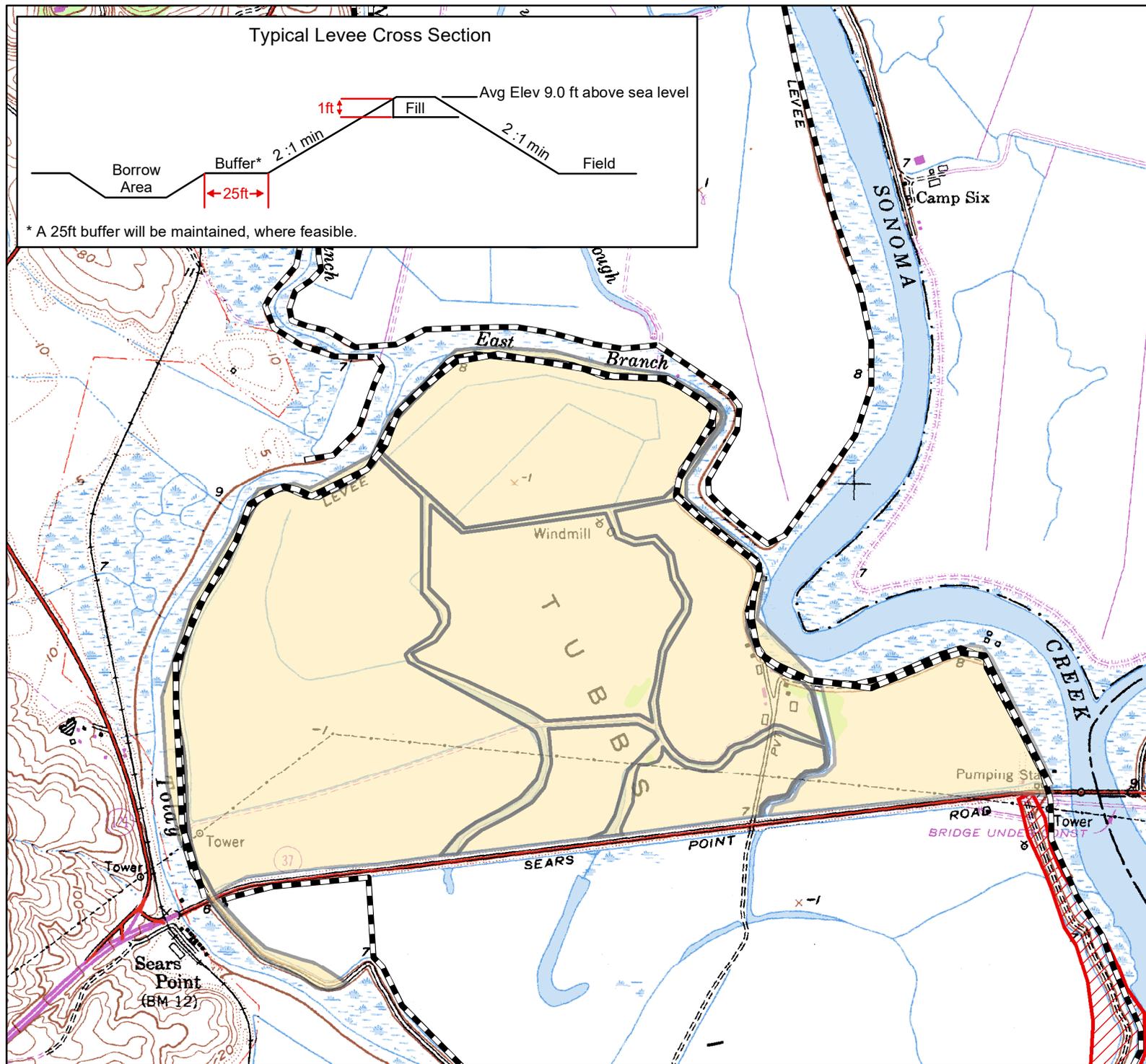
Base layer: USGS 7.5" Topographic  
 Quadrangle (Sears Point)



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



0 2,150 4,300 8,600 Feet

# Levee Maintenance Permit

**Permittee:**  
Mertens  
(28-M)

**Permit Holder:**  
Sonoma Resource  
Conservation District

This map is for annual maintenance reporting to the permitting agencies.

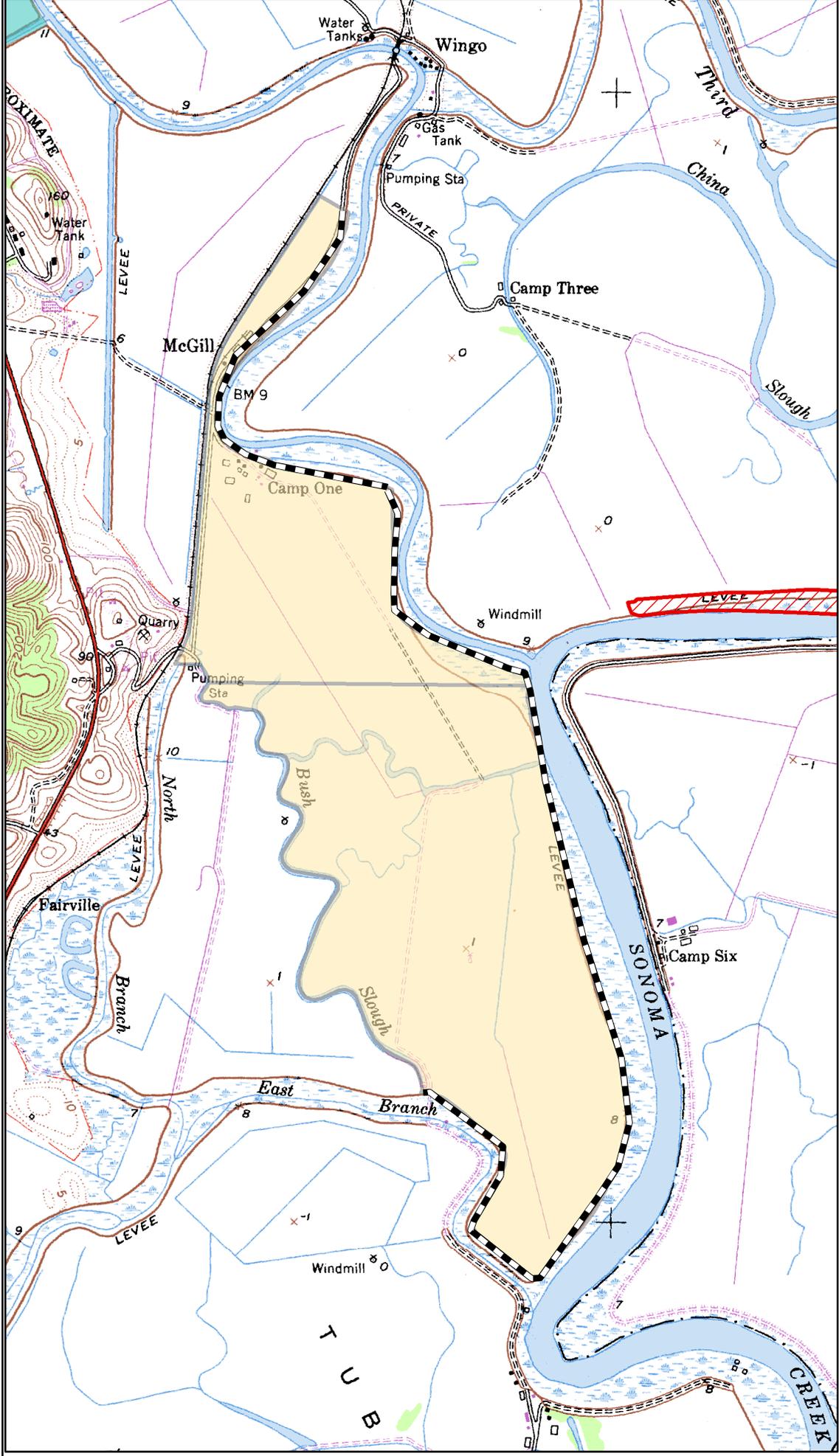
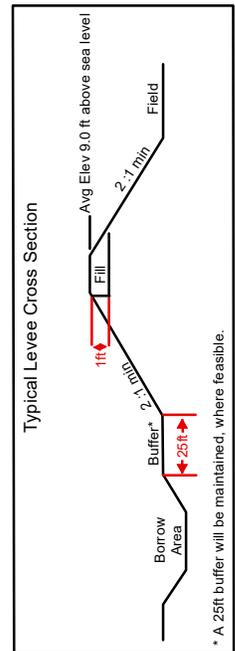
-  **Clapper Rail- Seasonal Restrictions**  
(see permit conditions)
-  **Landowner Parcel**
-  **Potential Levee to be maintained**

Feb 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



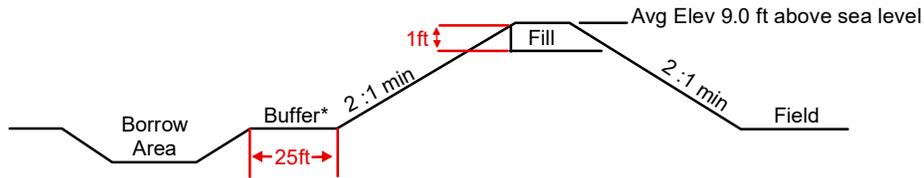
Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point)



0 2,375 4,750 9,500 Feet



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

# Levee Maintenance Permit (RGP-6)

Permittee:  
California Department of Fish & Wildlife

Marin County Parcels:  
1-Wb and 1-Wd

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions

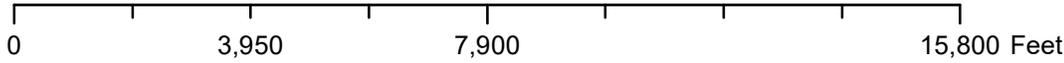
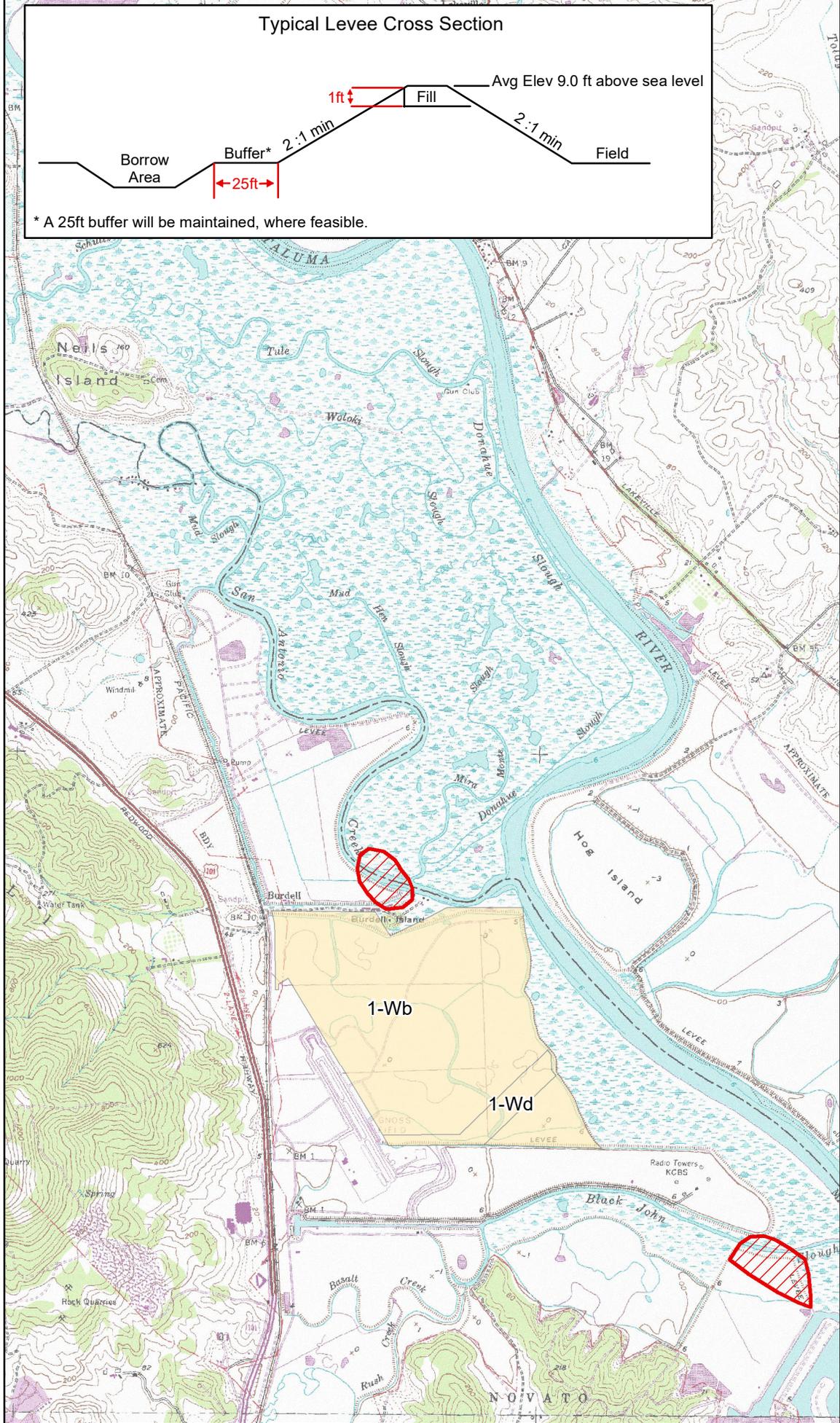
-  (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Updated July 2022

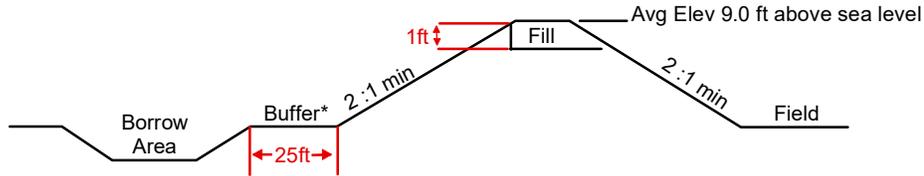
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point)



### Typical Levee Cross Section



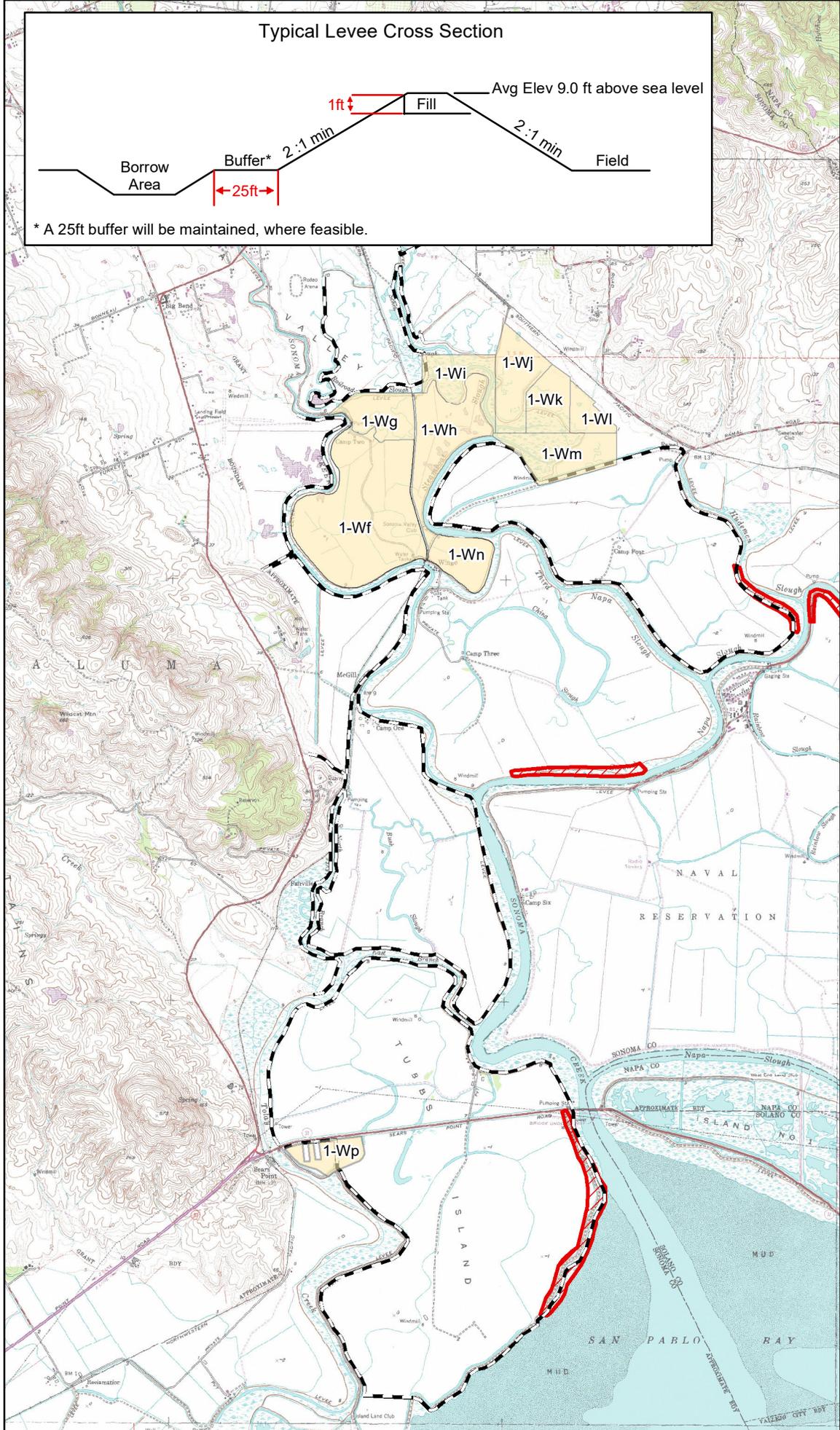
\* A 25ft buffer will be maintained, where feasible.

# Levee Maintenance Permit (RGP-6)

Permittee:  
California Department of Fish & Wildlife

Sonoma County  
Parcels:  
(1-Wf thru 1-Wn  
and 1-Wq)

Permit Holder:  
Sonoma Resource Conservation District



This map is for annual maintenance reporting to the permitting agencies.

#### Clapper Rail- Seasonal Restrictions

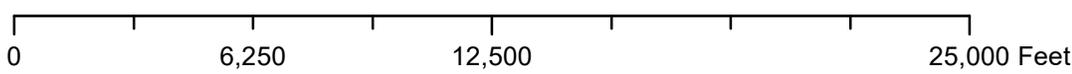
-  (see permit conditions)
-  Landowner Parcel
-  Levee Locations (approximate)

Updated July 2022

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point)



## Appendix B: Supporting Documents



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Sacramento Field Office  
2800 Cottage Way, Room E-1803  
Sacramento, California 95825

**In Reply Refer To:**

1-1-94-F-41

September 9, 1994

Lt. Colonel Michael J. Walsh  
U.S. Army Corps of Engineers  
Regulatory Branch (Attn: Bob Smith)  
211 Main Street  
San Francisco, California 94105-1905

Subject: Endangered Species Formal Consultation on the Proposed Levee Maintenance Activities and Dredging in the Sonoma Creek, Petaluma River, and San Antonio Creek Drainages, Marin and Sonoma Counties, California (PN 19989N46, PN 19990N54, and PN 19991N39)

Dear Lt. Colonel Walsh:

This responds to your request for formal consultation on issuance of a permit to the Southern Sonoma County Resource Conservation District (SSCRCD) to maintain levees through dredging of material from waterways in the Sonoma Creek, Petaluma River, and San Antonio Creek drainages in Marin and Sonoma Counties. Your request for formal consultation and conferencing, dated June 3, 1994, was received by the U.S. Fish and Wildlife Service (Service) on June 6, 1994.

This biological opinion addresses the effects of levee maintenance and dredging on the endangered California clapper rail (*Rallus longirostris obsoletus*), endangered salt marsh harvest mouse (*Reithrodontomys raviventris halicoetes*), and proposed threatened Sacramento splittail (*Pogonichthys macrolepidotus*).

This biological opinion is based on (1) U.S. Army Corps of Engineers (Corps) Public Notices 19989N46, 19990N54, and 19991N39, dated February 14, 1994; (2) information in Service files; and (3) additional communications between the Corps, the SSCRCD, and the Service.

Biological Opinion

It is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the endangered California clapper rail, endangered salt marsh harvest mouse, or proposed threatened Sacramento splittail. Critical habitat for these species has not been designated or proposed; therefore, none will be adversely modified or destroyed.

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### Description of the Proposed Action

Participating members of the SSCRCDC propose to dredge material from the channels and/or wetlands adjacent to existing levees on their property to obtain material for levee maintenance. These levees lie adjacent to Sonoma Creek, Tolay Creek, the north and east branch of Tolay Creek, Napa Slough, Second Napa Slough, Third Napa Slough, Hudeman Slough, Steamboat Slough, Schell Slough, Railroad Slough, Rainbow Slough, and San Pablo Bay in the Sonoma Creek drainage; and San Antonio Creek, Petaluma River, and San Pablo Bay in the Petaluma River drainage.

Material would be dredged using a dragline from the water side of the levee and placed directly on top of the levee. The borrow areas are typically 25 feet out from the base of the levee and 15 feet wide, although the width varies. Borrow areas are excavated about 3 feet in depth.

In the Petaluma River drainage, most of the levees along the east bank of the river and some along San Antonio Creek support emergent vegetation 25 feet or less in width. Along these stretches, material for levee repair would be dredged directly from the river or creek bed. Along the remaining levees, material would be dredged from borrow areas in adjacent sloughs (Mud, Mud Hen, Black John, and Basalt Creek) with emergent tidal vegetation. According to the Public Notice (19989N46, 19991N39), the borrow areas along most of these levees are well defined, but for some, particularly along Black John Slough, the borrow areas are less visible because of regrowth of emergent vegetation.

In the Sonoma Creek drainage, many of the levees along Sonoma Creek above Second Napa Slough, along Lower Tolay Creek, and portions of remaining sloughs support emergent vegetation 25 feet or less in width. Material in these areas would be dredged directly out of the slough or creek bed. Along other levees, material would be dredged from borrow areas in adjacent marsh. According to the Public Notice (19990N54), the borrow areas along upper Tolay Creek, the north and east branches of Tolay Creek, the south side of Tubbs Island (San Pablo Bay), the south side of Steamboat Slough, upper Hudeman Slough, Second Napa Slough, and Napa Slough east of the Gonzales property, are less visible because of regrowth of emergent vegetation.

The permit application includes 242,000 linear feet of levee in the Sonoma Creek drainage and 83,500 linear feet (excludes Redwood Sanitary Landfill proper) in the Petaluma River drainage. The Corps Regional Permit for this activity, however, would authorize the dredging of up to 4 cubic yards of material per foot of levee, not to exceed 10,000 cubic yards per property owner per year (approximately 2,500 feet of levee/property owner/year). The Regional Permit would be in effect for 5 years.

### Species Account/Environmental Baseline

#### California Clapper Rail

Please refer to U.S. Fish and Wildlife Service (1984) for biological information on the California clapper rail. Additional information is taken

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from a previous biological opinion prepared by the Service, dated August 31, 1990, on Department of the Army permit application no. 15283E49, however, certain sections on the distribution, abundance, and status of the rail contained in that opinion are updated below to reflect current information.

Of the 193,800 acres of tidal marsh that bordered San Francisco Bay in 1850, about 30,100 acres currently remain (Dedrick, 1993). This represents an 84 percent reduction from historical conditions. In the north Bay alone, 59,000 acres of tidal marsh occurred historically. Only 13,670 acres or 23 percent remain today. A number of factors influencing remaining tidal marshes limit habitat values for clapper rails. In the north Bay as well as other portions of the Bay, habitat suitability of many marshes for clapper rails is limited or precluded by small size, fragmentation, and lack of tidal channel systems and other microhabitat features. Much of the tidal marsh habitat in the project area is comprised of narrow strips adjacent to levees. Although much is unsuitable for nesting, these narrow strips of marsh may also provide movement corridors for rails dispersing from existing nesting areas. In addition, marshes in the upstream portions of the Sonoma Creek drainage are comprised of primarily freshwater vegetation which is unsuitable for the clapper rail. In other portions of the Bay, marsh erosion and conversion to freshwater habitat are eliminating or limiting available habitat for clapper rails. These limitations render much of the remaining tidal marsh acreage in San Francisco Bay unsuitable or of low value for the species.

Throughout the Bay, the remaining California clapper rail population is besieged by a suite of mammalian and avian predators. At least twelve native and three non-native predator species are known to prey on various life stages of the rail in the south Bay (Albertson et al., in prep.). Albertson et al. (in prep.) reported nest predation as high as 64 percent in some south Bay marshes. Red fox, Norway rats, and various raptors are the most common predators of clapper rails in the south Bay. These predators also may commonly prey on clapper rails in the north Bay. No studies, however, have been done in the north Bay on the effects of predators on clapper rails. Red fox, however, have been sighted at several locations in the north Bay in recent years.

Mercury accumulation in eggs is perhaps the most significant contaminant affecting clapper rails in San Francisco Bay, with the south Bay containing the highest mercury levels. Mercury is extremely embryo toxic and has a long biological half-life. The Service collected data from 1991 and 1992 on mercury concentrations in rail eggs in the southern portion of the estuary and found that the current accumulation of mercury in rail eggs occurs at potentially harmful levels. The percentage of non-viable eggs ranged from 25 to 38 percent (mean = 29 percent). No similar studies of contaminants and their effects on clapper rails have been done in the north Bay.

Gill (1979) estimated the total California clapper rail population in San Francisco Bay in the mid-1970's at 4,200 to 6,000 birds. Surveys conducted by the California Department of Fish and Game and the Service estimated that the clapper rail population approximated 1,500 birds in the mid-1980's (Harvey 1988). In 1988, the total San Francisco Bay clapper rail population was estimated to be 700 individuals with 200-300 rails in the north Bay and Suisun

ORIGINAL

Marsh (Foerster 1989). The total rail population reached an estimated all-time historical low of about 500 birds in 1991 with the greatest recorded declines occurring in the south Bay (USFWS unpubl. data; E. Harding-Smith, pers. comm., 1993). In response to predator management, the south Bay rail population has since rebounded and is now estimated to be approximately 600 individuals (USFWS unpubl. data). A preliminary estimate of the north Bay and Suisun Marsh population is 195-422 pairs (Evens and Collins 1992).

In the Petaluma River drainage, Evens and Collins (1992) estimated 19 pairs of clapper rails. Clapper rails were found primarily at the mouth of Petaluma River, in Petaluma Marsh, and in nearby large blocks of tidal salt marsh habitat. In the Sonoma Creek drainage, Evens and Collins (1992) estimated 13 pairs of rails with Second Napa Slough, Hudeman Slough, and the mouth of Sonoma Creek being the primary locations of breeding pairs.

In a north Bay marsh, Evens and Page (1983) concluded that the clapper rail breeding season, including pair bonding and nest construction, may begin as early as February. Field observations in south Bay marshes suggest that pair formation also may occur in February in some areas (J. Takekawa, pers. comm., 1993). Similar observations have been made in Suisun Marsh (B. Grewell, pers. comm., 1993). The end of the breeding season is typically defined as the end of August, which corresponds with the time when eggs laid during reneating attempts have hatched and young are mobile. Young may fledge as late as mid-September (J. Takekawa, pers. comm., 1993).

Upland cover for escape during flood tides is essential for the species (Evens and Page 1983). In the project area, upland refugial cover is confined to the slopes of the levees.

#### Salt Marsh Harvest Mouse

Please refer to U.S. Fish and Wildlife Service (1984) for a summary of the status, distribution, and habitat requirements of the salt marsh harvest mouse. The information included in the Service's August 31, 1990, biological opinion on Department of Army permit application no. 15283E49 is still current and, therefore, thereby incorporated by reference.

Preferred habitat of the salt marsh harvest mouse in the project area is tidal salt marsh dominated by pickleweed. Salt marsh harvest mice share similar habitat with the California clapper rail, and therefore have experienced similar historic loss of habitat, particularly in the north Bay.

No comprehensive salt marsh harvest mouse surveys have been conducted in either the Petaluma River or Sonoma Creek drainage basins. The most recent trapping studies in the project area occurred in the late 1970's and early 1980's in preferred habitat in Sonoma Creek, Tolay Creek, at the mouth of Petaluma River, and just south of the Highway 101 bridge over Petaluma River. Mice are presumed to inhabit other similar habitat in the drainage basins.

JAN 1991

also found in the diet. Predators include striped bass and other piscivores. Splittail are sometimes used as bait for striped bass. Although this occurs, it is not a common practice.

Splittail can tolerate salinities as high as 10-18 ppt (Moyle 1976, Moyle and Yoshiyama 1992). Splittail are found throughout the Delta, Suisun Bay and Suisun and Napa marshes. They migrate upstream from brackish areas to spawn in freshwater. Because they require flooded vegetation for spawning and rearing, splittail are frequently found in areas subject to flooding.

The 1983-1992 decline in splittail abundance is concurrent with hydrologic changes to the Sacramento-San Joaquin Estuary. These changes include increases in water diversions during the spawning period of January through July and dams that limit upstream migration. Diversions, entrainment due to CVP/SWP pumping, dams and reduced outflow, coupled with severe drought years, introduced aquatic species, and loss of wetlands and shallow-water habitat (California Department of Fish and Game 1992) appear to have reduced the species' capacity to reverse its decline.

The existing environmental baseline for the Sacramento splittail includes Central Valley Project (CVP) and State Water Project (SWP) operations modified by D-1485, the February 12, 1993, winter-run chinook salmon biological opinion, and the Service's February 4, 1994, delta smelt biological opinion.

The Sacramento splittail is adapted to living in rivers of the Central Valley where salinity varies spatially and temporally according to tidal cycles and the amount of freshwater inflow. Despite this tremendously variable environment, historical conditions probably offered relatively consistent spring flows that provided the Sacramento splittail with desired spawning and rearing grounds. Since the 1850's, however, the amount and extent of suitable habitat for the Sacramento splittail has declined dramatically. The advent in 1853, of hydraulic mining in the Sacramento and San Joaquin Rivers, led to increased siltation and alteration of the circulation patterns of the estuary (Nichols et al. 1986, Monroe and Kelly 1992). The reclamation of Merritt Island for agricultural purposes, in the same year, marked the beginning of the present-day cumulative loss of 94 percent of the Estuary's tidal marshes (Nichols et al. 1986, Monroe and Kelly 1992).

In addition to this degradation and loss of habitat, the Sacramento splittail has been increasingly subject to entrainment, upstream or reverse flows of waters in the Delta and San Joaquin River, and constriction of desired flooded vegetative habitat. These adverse conditions are primarily a result of the steadily increasing proportion of water diverted from the Delta by the Federal and State water projects (Monroe and Kelly 1992). Water delivery through the CVP began in 1940. The SWP began delivering water in 1968. However, the proportion of freshwater being diverted has increased since 1983, and has remained at extremely high levels ever since (Moyle et al. 1992). The high proportion of fresh water exported has exacerbated the already harsh environmental conditions experienced by the Sacramento splittail during the last six drought years.

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## Sacramento Splittail

Please refer to the proposed rule to list the Sacramento splittail as a threatened species (59-FR 862) for a more detailed account of the biology of the species. The Sacramento splittail (*Pogonichthys macrolepidotus*) is a large cyprinid that can reach greater than 12 inches in length (Moyle 1976). Adults are characterized by an elongated body, distinct nuchal hump, and a small blunt head with barbels usually present at the corners of the slightly subterminal mouth. This species can be distinguished from other minnows in the Central Valley of California by the enlarged dorsal lobe of the caudal fin. Splittail are dull, silvery-gold on the sides and olive-grey dorsally. During the spawning season, the pectoral, pelvic and caudal fins are tinged with an orange-red color. Males develop small white nuptial tubercles on the head.

Splittail are endemic to California's Central Valley where they were once widely distributed (Moyle 1976). Historically, splittail were found as far north as Redding on the Sacramento River and as far south as the site of Friant Dam on the San Joaquin River (Rutter 1908). Rutter (1908) also found splittail as far upstream as the Oroville Dam site on the Feather River and Folsom Dam site on the American River. Anglers in Sacramento reported catches of 50 or more splittail per day prior to damming of these rivers (Caywood 1974).

In recent times, dams and diversions have increasingly prevented upstream access to large rivers and the species is restricted to a small portion of its former range (Moyle and Yoshiyama 1992). Splittail enter the lower reaches of the Feather (Jones and Stokes 1993) and American Rivers (Charles Hanson, State Water Contractors, in litt., 1993) on occasion, but the species now largely is confined to the Delta, Suisun Bay, Suisun Marsh, and Napa Marsh.

Splittail are long lived, frequently reaching five to seven years of age. Females are highly fecund and each produces over 100,000 eggs. Populations fluctuate annually depending on spawning success. Spawning success is highly correlated with fresh water outflow and the availability of shallow-water habitat with submerged vegetation (Daniels and Moyle 1983). Splittail usually reach sexual maturity by the end of their second year. There is some variability in the reproductive period since older fish reproduce before younger individuals (Caywood 1974). Splittail migrate upstream to spawn, similar to delta and longfin smelt. The onset of spawning is associated with rising temperature and peaks from the months of March through May, although there are records of spawning from late January to early July (Wang 1986). Spawning occurs over flooded vegetation in tidal freshwater and euryhaline habitats of estuarine marshes and sloughs and slow-moving reaches of large rivers. Larvae remain in shallow, weedy areas close to spawning sites and move into deeper water as they mature (Wang 1986).

Splittail are benthic foragers that feed on opossum shrimp, although detrital material makes up a large percentage of their stomach contents (Daniels and Moyle 1983). Earthworms, clams, insect larvae, and other invertebrates are

ORIGINAL

There are over 1,800 screened and unscreened diversions within the delta; most of which adversely impact the Sacramento splittail. Entrainment caused by these diversions is likely the greatest source of mortality to Sacramento splittail. No fish screens can protect all Sacramento splittail from being entrained or impinged, and larval Sacramento splittail are particularly susceptible to entrainment, even with the best screening.

During the Sacramento splittail critical rearing interval from March 1 to May 31, adequate outflows of sufficient magnitude and duration are beneficial to provide the conditions necessary for spawning. For Sacramento splittail, these flows also provide transport away from the influence of the CVP/SWP pumps, and provides the necessary rearing habitat areas.

### Effects of the Action

#### Disturbance to Clapper Rail Breeding Territories

Proposed levee maintenance activities could disrupt clapper rail breeding where territories lie adjacent to levees to be maintained. The degree of this disturbance likely would depend upon the proximity of individual rails and nests and the timing within the breeding season, and could result in increased competitive interactions, territory boundary shifts, or territory abandonment.

During a recent telemetry study of clapper rails in south San Francisco Bay, researchers observed an individual rail leaving an established territory in the Laumeister Marsh during the breeding season when apparently disturbed by a PG&E work crew in April 1992. The rail disturbed in Laumeister Marsh left a small, well-defined territory and subsequently moved throughout a large 37-acre area within the marsh and was unable to establish a new territory within the breeding period (USFWS, unpub. data). As a result of this territorial abandonment, the opportunity for successful reproduction during the breeding season was eliminated (J. Takekawa, pers. comm., 1993). Data from this telemetered rail suggest that increased human activity and associated noise within a rail's established territory can significantly alter the normal behavioral patterns of rails during the breeding season, possibly resulting in extensive movements, lack of reproductive success, or territory abandonment.

Levee maintenance activities conducted during the breeding season could cause rails to shift or abandon their territories. The ability of rails to reestablish new breeding territories could be severely hampered by limited habitat available in the vicinity to establish a new territory and the fact that rails tenaciously defend established breeding territories from intrusions by other rails. Furthermore, suitable tidal marsh habitat along remaining portions of the Sonoma Creek and Petaluma River drainages also is limited and disturbed rails could be forced to move considerable distances across marginal habitat in search of suitable unoccupied habitat. Such movement by a pair of rails from its established territory could significantly increase the risk of predation and mortality. Survival of displaced rails likely would be less than survival of rails that remain in established territories. In a telemetry study of light-footed clapper rails in southern California, Zembal and Massey (1988) found that three out of six telemetered rails that moved extensively were preyed upon within a relatively short period of time. By comparison,

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seven other rails that remained sedentary within established territories were not preyed upon during the telemetry period. Loss of one female rail also would constitute the loss of potential progeny to the north Bay population into the future.

#### Loss of Marsh Habitat

In the Petaluma and Sonoma Creek drainages there are 14 and 16 property owners, respectively, potentially needing to do levee repair in any given year. Because the permit would restrict the amount of dredging per land owner per year to 10,000 cubic yards, a maximum of 140,000 cubic yards/year or 3.2 acres/year in the Petaluma River drainage and 160,000 cubic yards/year or 3.7 acres/year in the Sonoma Creek drainage could be dredged. According to calculations in the Public Notice, which are based on SSCRCDC previous work from 1978 to 1990 under a separate permit and SSCRCDC data, the total average borrow area dredged per year was estimated to be 210,000 square feet or 4.8 acres. The SSCRCDC believes that only 1/3 to 1/2 of property owners that apply in any given year to repair levee segments actually do the work in that year.

Although the SSCRCDC has applied for a five year permit which allows limited dredging by each property owner, this dredging activity is likely to continue into the future. Past levee maintenance activities have resulted in primarily permanent and some temporary loss of tidal salt marsh habitat as evidenced by the permanency of the majority of borrow ditches in both the Petaluma and Sonoma Creek drainages. This activity has resulted in a permanent and temporary loss of nesting habitat and cover for the clapper rail and habitat for the salt marsh harvest mouse.

The Service has calculated the acreage of tidal salt marsh habitat that has in the past or in the future will be affected by dredging operations in the Petaluma River drainage. The area affected was calculated by multiplying the linear feet of levees of each property in the application by a borrow area 15 feet in width. Subtracted from this calculation were levee areas not lying adjacent to salt marsh habitat and levee segments that have tidal marsh vegetation less than 25 feet wide adjacent to the levee. In these latter areas, it was assumed that the dredge reaches into the slough for material and does not disturb tidal marsh vegetation. For the purposes of this calculation, we also assumed that vegetation lying between the borrow area and the crest of the levee would not be impacted by the dredging operation. The total area of wetland impact was calculated to be 15 acres in the Petaluma River drainage and 56 acres in the Sonoma Creek drainage.

Excavation of borrow ditches, however, could benefit clapper rails and salt marsh harvest mice in several ways. Creation of borrow ditches might increase tidal circulation in the marsh where the ditches are connected to tidal sloughs. Increased tidal circulation in the marsh could increase overall marsh productivity, thereby indirectly benefiting the clapper rail and salt marsh harvest mouse. The number of ditches connected to tidal sloughs in the project area, however, has not been quantified and, therefore, the extent of this potential benefit to the rail and mouse is unknown. These borrow ditches also may provide travel lanes or foraging areas for clapper rails, although no studies have been done to estimate the extent of their use by clapper rails.

Where borrow ditches have revegetated, plant species diversity could increase marsh productivity by providing alternate nesting habitat.

#### Interruption of Access by Salt Marsh Harvest Mice to Refugial Habitat

Temporary and permanent creation of 15-foot wide borrow ditches between the levee slope and the tidal salt marsh interrupt access to high tide refugial habitat for the salt marsh harvest mouse. During high tide events at the locations of borrow ditches, salt marsh harvest mice would be forced to leave vegetative cover and cross a 15-foot wide expanse of water to reach upland cover on the levee slope. Exposure of salt marsh harvest mice to predation would be significantly increased.

#### Disturbance to Refugial Habitat for Clapper Rails

Noise associated with levee maintenance particularly if these activities occur during high tides could reduce availability of high tide refugial habitat that lies along the outboard levee face. The level of impact would be exacerbated if levee maintenance activities occur during a winter high tide series, which typically occurs from November through February each year. High tide series during these months also can be augmented substantially with changes in local weather patterns, including the presence of low pressure systems, heavy precipitation, and extraordinary tidal heights associated with storm surges (J. Takekawa, pers. comm., 1993). Although no studies have been done of the availability or extent use of refugial cover in the project area, it is likely that during high tide series, suitable refugial habitat becomes limited and any available vegetative cover becomes critical to the survival of clapper rails in the project area.

Rail mortality could occur if rails are displaced by levee maintenance activities during a high tide and are preyed upon while attempting to seek alternative refugial habitat along the levee or within the adjacent marsh. DeGroot (1927) noted that rails were extremely vulnerable to predation by raptors during high tide events when they were forced to seek refuge in exposed locations. Foerster et al. (1990) observed red foxes and raccoons foraging in one south Bay marsh during extreme winter high tides. Additional observations of red foxes foraging in south Bay marshes during high tides have been made by Refuge staff (E. Harding-Smith, pers. comm., 1993). Furthermore, of 7 rails lost to raptor predation during a telemetry study, all were lost during tidal cycles of 5.5 NGVD or higher (USFWS, unpub. data). Although lacking comparative data, Evens and Page (1986) suspected that avian predator success on black rails to be much lower during tidal events below winter high tides, and suggested initiation of a study on avian and possibly mammalian predatory behavior to determine if these predators keyed into high tide events and thus increased their foraging activities.

#### Loss of Subtidal Habitat

The dredging and/or excavation of bottom material from tidal sloughs or borrows for the purposes of providing material for levee maintenance has the potential to effect Sacramento splittail directly and indirectly. First, because Sacramento splittail are known to utilize flooded vegetation in

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shallow slow moving sloughs and back water channel habitat for spawning, they, or the eggs they may have laid, may be directly taken as a result of the dredging and/or excavation of existing substrate if such activity disrupts or removes any existing emergent vegetation. The placement of dredged materials on the tops of levees could further effect emergent vegetation if measures, such as temporary fences or walls, are not constructed to prevent such material from falling back into the water. Eggs laid that are not directly taken by the dredging activities could remain unfertilized as adults are "chased" from the nesting sites by the proposed dredging activities. Eggs could also become covered with silt stirred up from the dredging operations and suffocated. Further, because the dredging activities will subsequently change the water depth and circulation in these areas, Sacramento splittail may be forced to seek alternative, less desirable, spawning sites.

Dredging operations resulting in the creation of standing pools that are not tidally influenced at low tide could result in the stranding of Sacramento splittail and other species. Stranding could make these species more susceptible to predation by predatory fish that are also stranded in the pool or piscivorous birds in and around the area. Therefore, any pools created during dredging must be provided with escape channels to allow free movement of any stranded species. These escape channels must also be accessible at low tides.

#### Summary

- 1) Disturbances from levee maintenance work during the breeding season from February through August creates the likelihood for rails to abandon up to an estimated 8 breeding territories within adjacent tidal marshes. The Service assumes this could result in the loss of reproductive success during the breeding season, and/or possible mortality of displaced individual birds. Any combination of the above would result in a net reduction in the long-term reproductive contribution to the population.
- 2) Long term levee maintenance work would result in the permanent and temporary loss of about 15 acres of tidal salt marsh in the Petaluma River Drainage and 56 acres of tidal salt marsh in the Sonoma Creek drainage which provides cover for both the salt marsh harvest mouse and clapper rail, and possibly nesting habitat for the clapper rail.
- 3) Levee maintenance work which creates permanent borrow ditches interrupts access for the salt marsh harvest mouse to the levee slope during high tide events, thereby increasing the risk of predation.
- 4) Levee maintenance work conducted during high tide events would reduce availability of high tide refugial habitat for clapper rails in the project area, thereby increasing the risk of predation.
- 5) Levee maintenance work conducted within areas of emergent vegetation may disrupt the normal behavioral patterns of Sacramento splittail including, but not limited to, breeding, feeding, and sheltering, and may also mobilize sediments containing contaminants.

Based on our analyses above, the increased probability of adverse effects to a low number of individuals, including progeny, and temporary loss of a small area of habitat from the proposed project, would not appreciably reduce the likelihood of survival and recovery of the endangered salt marsh harvest mouse and California clapper rail or the proposed Sacramento splittail in the wild.

#### Cumulative Effects

Cumulative effects are those impacts of future non-Federal actions affecting listed species that are reasonably certain to occur in the action area. Future Federal actions are subject to the consultation requirements under section 7 of the Act and, therefore, are not considered cumulative to the proposed action.

Cumulative effects on the clapper rail include ongoing habitat conversion from salt to brackish conditions by fresh water effluent from the San Jose/Santa Clara Water Pollution Control Plant. The San Francisco Bay Regional Water Quality Control Board routinely renews discharge permits that allow marsh conversion to continue. Although the most recent permit renewal contained a mitigation measure to replace about 275 acres of former salt marsh that has converted to largely unsuitable brackish marsh conditions, it has yet to be implemented. Other cumulative effects include chemical contamination from point and non-point discharges that may adversely affect survival rates and reproductive success.

One of the most serious cumulative effects on the salt marsh harvest mouse has been the degradation of diked wetlands, typically by the elimination of wetland vegetation through grazing, discing, grubbing, and plowing, and/or the elimination of appropriate hydrologic conditions by installing drains, ditches, and pumps. The extensive conversion of south Bay salt marshes to brackish and freshwater habitat also has appreciably reduced available tidal habitat for the species. Approval of urban developments without maintaining adequate upland habitat adjacent to wetlands also represents a major cumulative effect by likely increasing mortality rates and lowering harvest mouse carrying capacity in affected areas.

Cumulative effects on the Sacramento splittail include any continuing or future diversions of water that may entrain adult or larval fish or that may decrease outflows incrementally. Water diversions through intakes serving numerous small, private agricultural lands and duck clubs in the Delta, upstream of the Delta, and in Suisun Bay contribute to these cumulative effects. These diversions also include municipal and industrial uses, and provide cooling water for power plants. State or local levee maintenance and channel dredging activities also disturb spawning or rearing habitat. Sacramento splittail adults seek flooded vegetation in shallow, tidally-influenced sloughs and channel edges for spawning. To assure egg hatching and larval viability, spawning areas also must provide suitable water quality (i.e., low concentrations of pollutants) and substrates for egg attachment (e.g., submerged tree roots and branches and emergent vegetation). Suitable water quality must be provided by addressing point sources of contaminants so that maturation is not impaired by pollutant concentrations. Levee

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maintenance and channel dredging disturbs spawning and rearing habitat, and re-suspends contaminants into these waters.

Cumulative effects also include point and non-point source chemical contaminant discharges. These contaminants include selenium and numerous pesticides and herbicides associated with discharges related to agricultural and urban activities. Implicated as potential sources of mortality in Sacramento splittail, these contaminants may adversely affect splittail reproductive success and survival rates.

Cumulative effects, operating together with those of the proposed action, are not likely to appreciably reduce the likelihood of survival and recovery of the salt marsh harvest mouse, California clapper rail, or Sacramento splittail.

#### Incidental Take

Sections 4(d) and 9 of the Act, as amended, prohibit taking (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Under the terms of 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement. The measures described below are nondiscretionary, and must be undertaken by the agency so that they become binding conditions of any authorization granted to the applicant for the exemption under 7(o)(2) to apply.

The Federal agency has a continuing duty to regulate the activity that is covered by this incidental take statement. If the agency fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the authorization, the protective coverage of 7(o)(2) may lapse.

For the California clapper rail, we anticipate that harassment and/or harm of up to 8 pairs of rails would result from the proposed action. Reduced availability of refugial habitat would subject rails to increased risk of predation. Territorial abandonment by rails could result in harassment and/or harm of individual rails and breeding failure. Levee maintenance activities over the long term would directly impact about 71 acres of rail cover and possibly nesting habitat.

The Service anticipates that an unquantifiable number of harvest mice may be killed during levee maintenance activities over the long term. This area of impact is estimated to be 71 acres in the two drainages combined. An additional unquantifiable number of harvest mice not directly impacted by

levee maintenance activities may be exposed to higher levels of predation because of the loss of continuous habitat adjacent to the levees. The harvest mouse population, however, is expected to rebound in those areas where the borrow ditches revegetate.

The Service anticipates that an unquantifiable number of Sacramento splittail may be taken as a result of the proposed maintenance activities. Project implementation would reduce the availability of approximately 13.5 acres of spawning and rearing habitat for Sacramento splittail. In this area contaminants would also be mobilized and could also adversely affect Sacramento splittail over an unknown period of time as these substances bio-accumulate.

The Service establishes the following reasonable and prudent measures to minimize the impact of incidental take. The measures described below are nondiscretionary, and must be implemented by the Department of the Army.

- 1) The potential for harassment, harm (including habitat modification), or mortality to California clapper rails shall be minimized.
- 2) Impacts to California clapper rail and salt marsh harvest mouse resulting from habitat modification shall be minimized.
- 3) Harm and harassment to Sacramento splittail resulting from the proposed dredging operations shall be minimized.

To be exempt from the prohibitions of Section 9 of the Act, the following terms and conditions, which implement the reasonable and prudent measures described above, must be complied with, and included as special conditions in any permit granted by the Department of the Army for this project.

The following terms and conditions implement reasonable and prudent measure #1:

- (a) To avoid possible disruption of clapper rail breeding activities, (levee maintenance work) in the Petaluma River and Sonoma Creek drainages shall not occur during the period from February 1 through August 31 within any given year on the levee segments shown in the enclosed maps (cross-hatched areas) of the drainage basins. These areas are: in the Petaluma River drainage - 2,500 linear feet of levee (California Department of Fish and Game) adjacent to Black John Slough; and for the Sonoma Creek drainage - (1) 4,000 linear feet of levee (Kiser Brothers) that lies adjacent to Second Napa Slough; (2) 2,900 linear feet of levee and 800 linear feet of levee (J. Leveroni), both adjacent to Hudeman Slough; (3) 3,400 linear feet of levee (W. Haire) adjacent to Hudeman and Second Napa Sloughs; and (4) 8,000 linear feet of levee (N. Yanni) at the mouth of Sonoma Creek. All levee segments lie adjacent to established clapper rail breeding territories. Future surveying for rails in either drainage may result in expansion or contraction of seasonal restrictions to protect nesting rails. The Service shall provide the Corps with any revision to rail seasonal restrictions during annual review of work proposed under the permit.

*addition to  
action material  
for*

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- (b) (Levee maintenance) adjacent to the above clapper rail nesting areas shall not occur during high winter tide events to avoid disturbance of clapper rails using refugial habitat within these areas.

The following term and condition implements reasonable and prudent measure #2:

- (a) The applicant shall prepare and implement a detailed tidal salt marsh habitat restoration plan which compensates for the permanent and temporary loss of 71 acres of salt marsh harvest mouse and clapper rail habitat associated with the proposed action. The enclosed maps identify several areas within the Petaluma River and Sonoma Creek drainages that could be suitable restoration sites (outlined areas). These are: in the Petaluma River drainage - (1) a 98-acre piece of agricultural land owned by the Redwood Sanitary landfill, (2) a 48-acre portion of agricultural land owned by A. Anolik on the Petaluma River, and (3) a 20-acre portion of agricultural land owned by M. Kullberg on the Petaluma River; and in the Sonoma Creek drainage - (1) a 16-acre piece of agricultural land owned by D. Reinecker, which was formerly the bed of the North Branch of Tolay Creek, and 62 acres of native vegetation upstream of the 16-acre parcel on Tolay Creek that could be enhanced; and (2) a 74-acre portion of agricultural land owned by G. Kiser near Wingo. The restoration plan shall be submitted to the Service and Corps for review and approval within one year of permit issuance and implemented within two years of permit issuance. The plan shall include habitat enhancement, monitoring for compliance and effectiveness, and management in perpetuity of the habitat for salt marsh harvest mouse and California clapper rail. Upon completion of appropriate salt marsh mitigation, no consultation for future regional permits will be required on the effects of the temporary and permanent loss of tidal salt marsh habitat on the salt marsh harvest mouse and California clapper rail provided there are no changes in the scope and extent of levee maintenance work which is currently proposed.

The following terms and conditions implement reasonable and prudent measure #3:

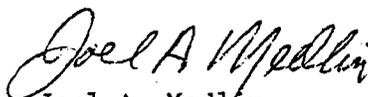
- (a) To minimize take of Sacramento splittail, no dredging shall be conducted between January 1 and July 31. Because Sacramento splittail utilize the proposed areas for spawning and rearing during this time, habitat during this season must remain undisturbed.
- (b) To minimize the impacts to the normal behavioral patterns of Sacramento splittail including, but not limited to, breeding, feeding, and sheltering, dredging shall occur away from the edge waters so that the shorelines are minimally disturbed. Dredging shall not disturb any emergent vegetation or create pools that are not tidally influenced at low tide. Furthermore, no dredged materials shall be placed on any existing emergent vegetation during levee repairs or fall into the water where emergent vegetation exists.

If, while maintaining levees in the project areas, the amount or extent of incidental take of the California clapper rail, salt marsh harvest mouse or Sacramento splittail, as described above, is exceeded, the causative action shall cease and consultation shall be reinitiated immediately.

The Service shall be notified within twenty-four (24) hours of the finding of any injured or dead California clapper rail or their eggs, or salt marsh harvest mouse, or any unanticipated damage to clapper rail or salt marsh harvest mouse habitat associated with levee maintenance. Notification must include the date, time, and precise location of the specimen/incident, and any other pertinent information. The Service contact person is Karen Miller (916/978-4866). Any dead or injured specimens shall be repositied with the Service's Division of Law Enforcement, 2800 Cottage Way, Sacramento, California 95825-1846 (916/978-4860).

This concludes formal consultation on the proposed work described above. Reinitiation of formal consultation is required if (1) the amount or extent of incidental take is exceeded, as previously described; (2) new information reveals effects of the actions that may affect listed species or critical habitat in a manner that was not considered in this opinion; (3) if the project is substantially modified in a manner that causes an effect to listed species that was not considered in this opinion; and/or (4) if a new species is listed or critical habitat is designated that may be affected by the action. If you have any questions regarding this opinion, please contact Karen Miller (mouse/rail) or Matt Vandenberg (splittail) of my staff at (916) 978-4866.

Sincerely,

  
Joel A. Medlin  
Field Supervisor

Enclosures

cc: RD (ARD-ES), FWS, Portland, OR  
FS (ES), FWS, Wetlands Branch, Sacramento, CA  
DHC, Washington, D.C.  
CDFG, Region III, Yountville, CA  
CDFG, Environmental Services, Sacramento, CA

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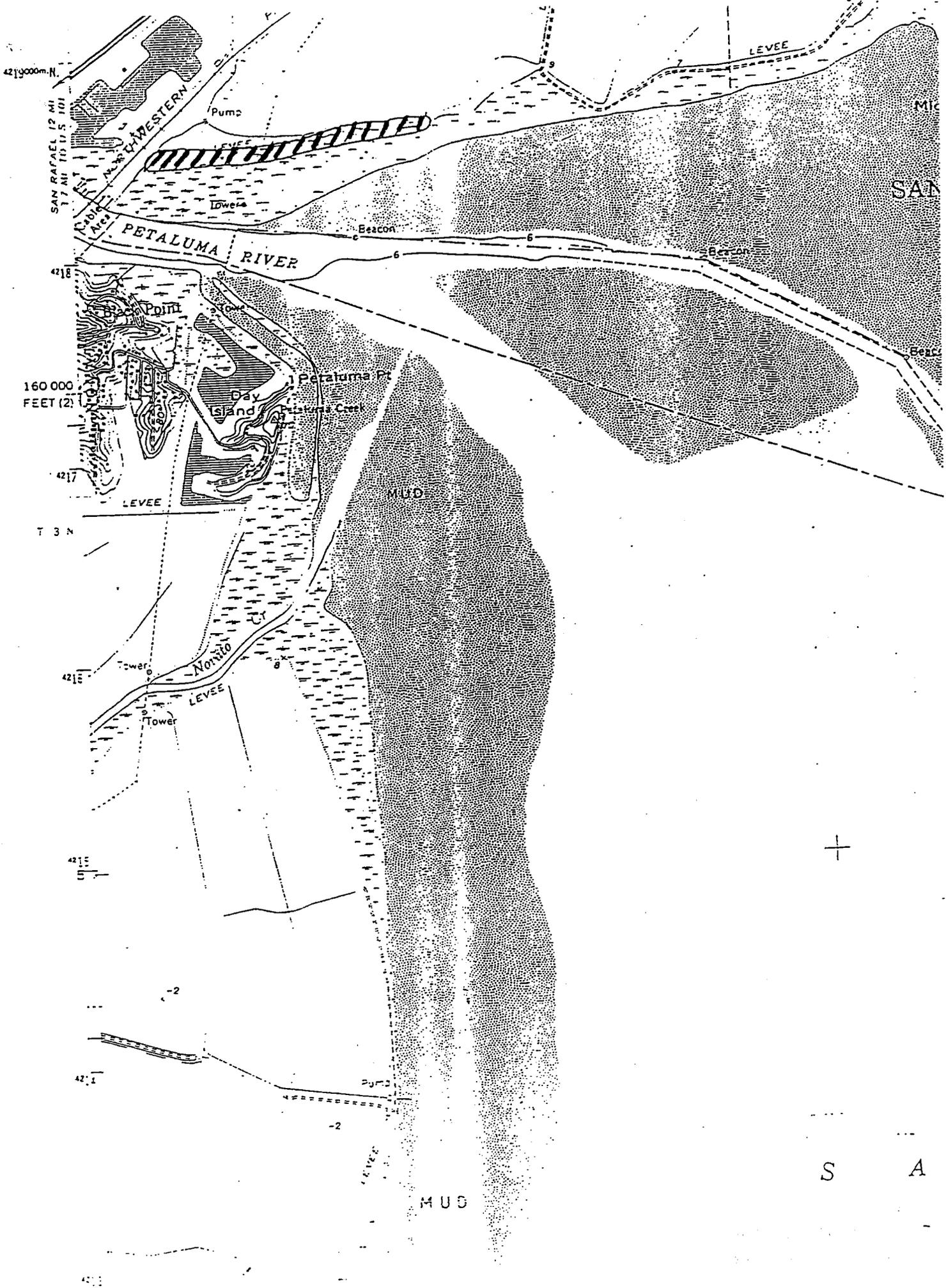
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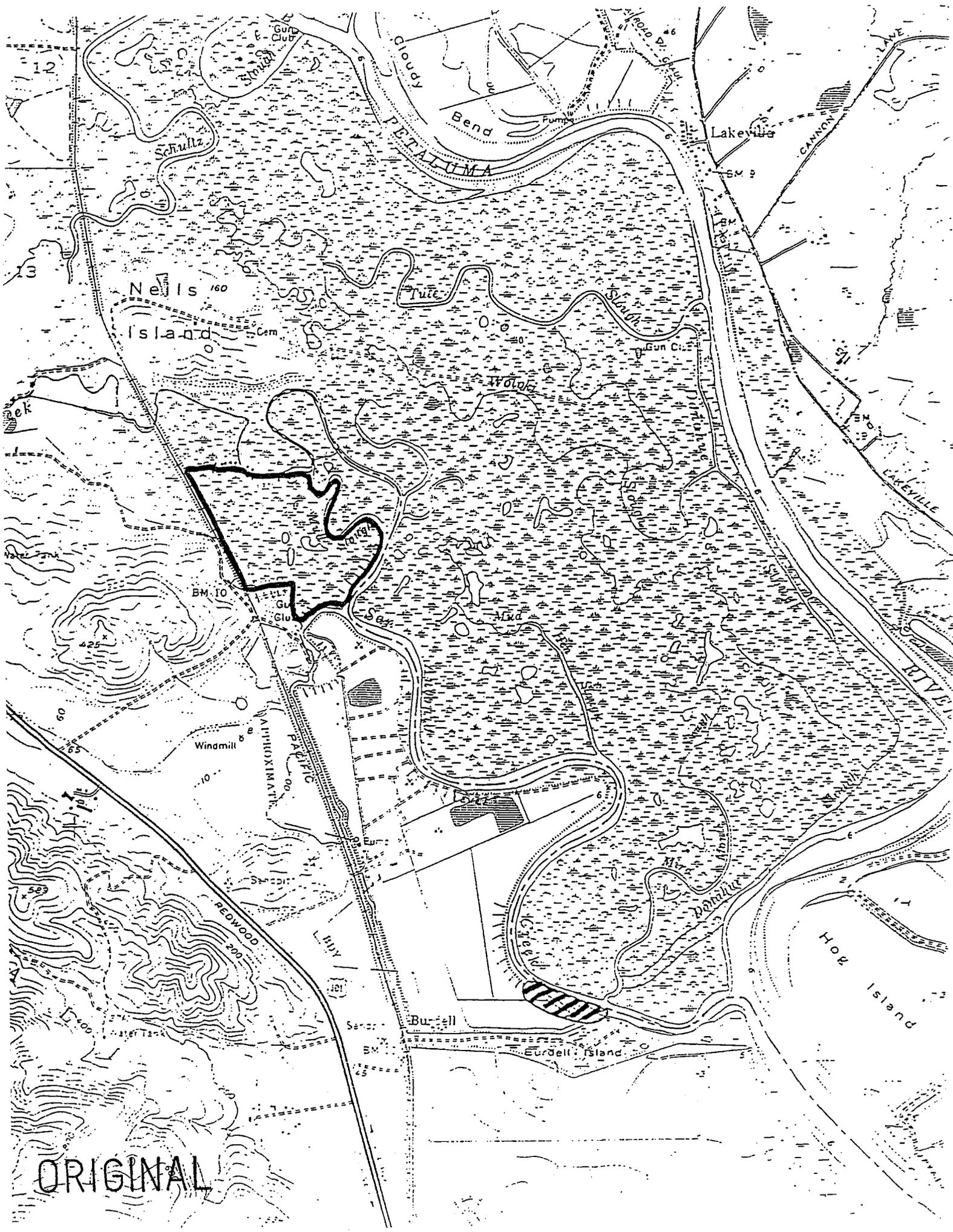
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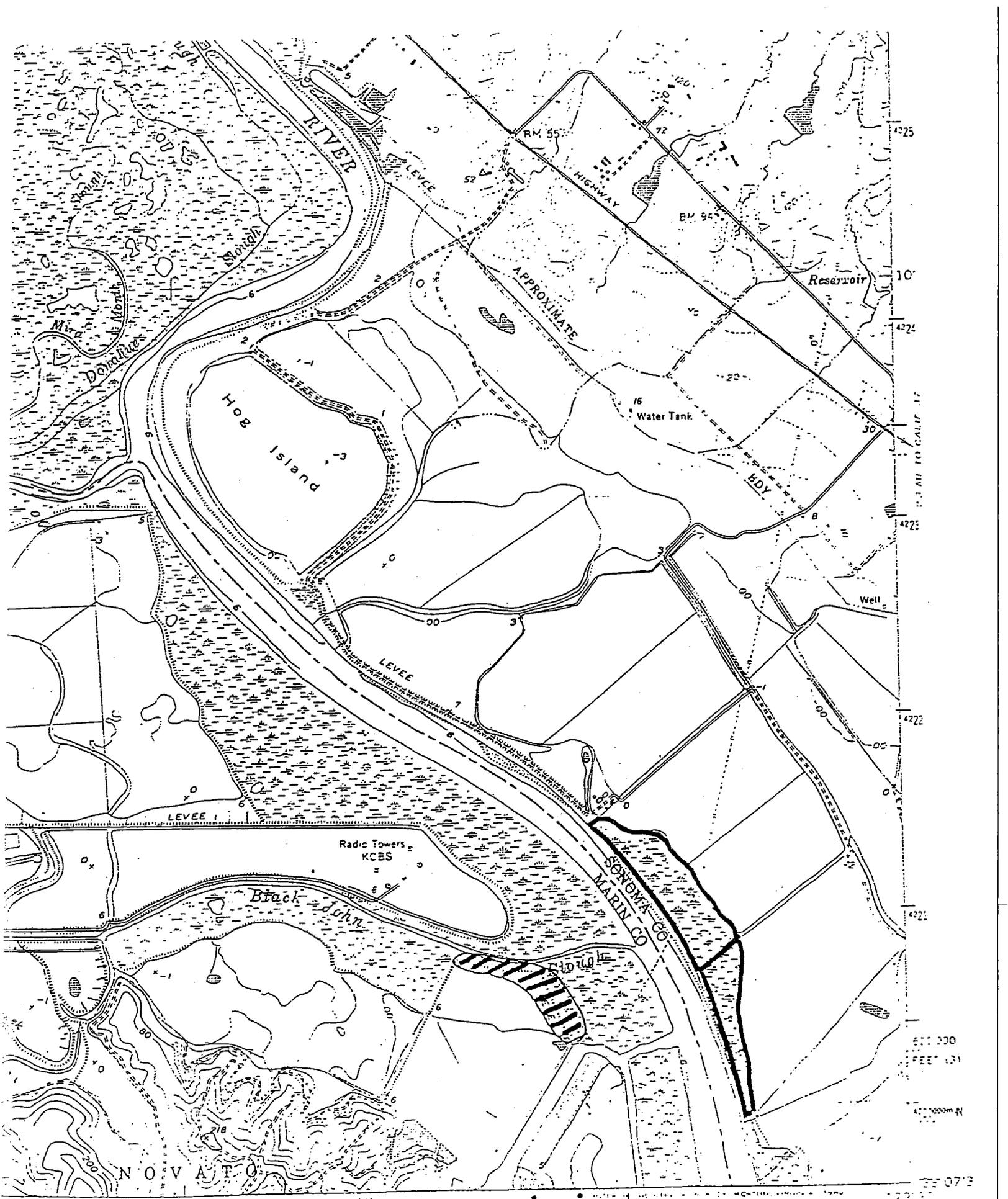
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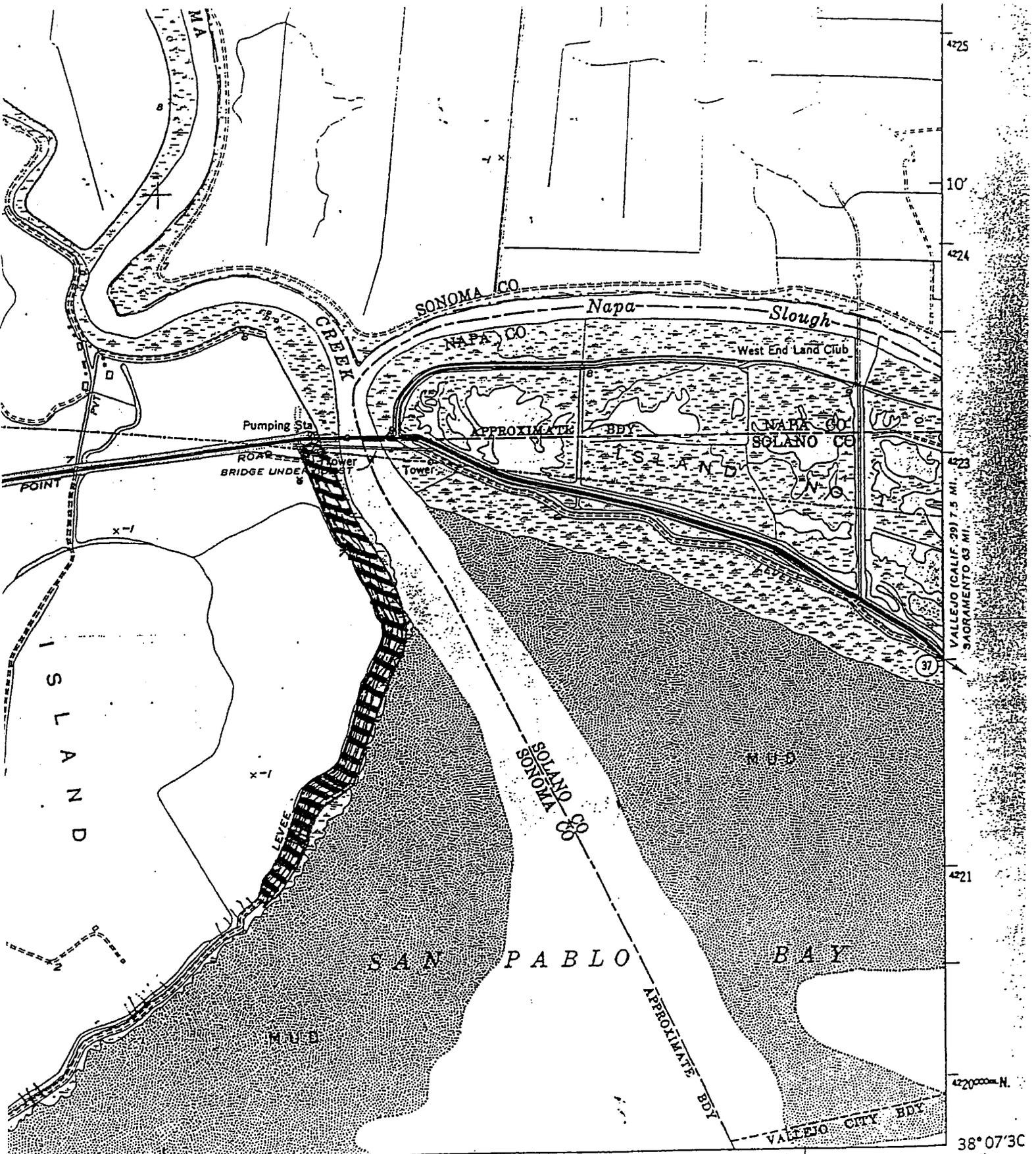
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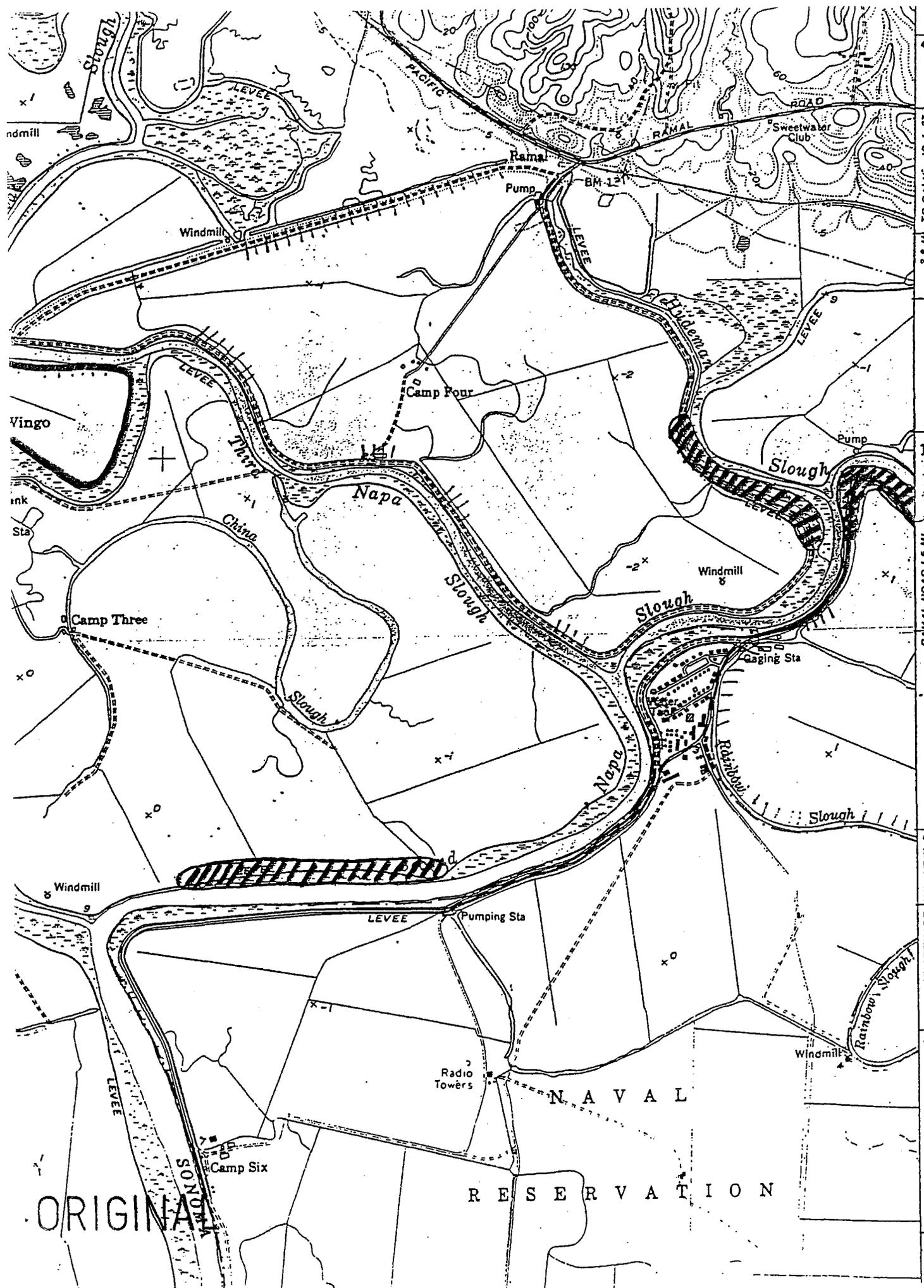
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Medium-duty		Unimproved dirt	
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RESERVE VALTION

NAVAL

Camp Six

SONOMA

Radio Towers

Pumping Sta

LEVEE

LEVEE

Windmill

Windmill

Rainbow Slough

Camp Three

Camp

Camp

Camp

Camp

Camp

Camp

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Wingo

4226

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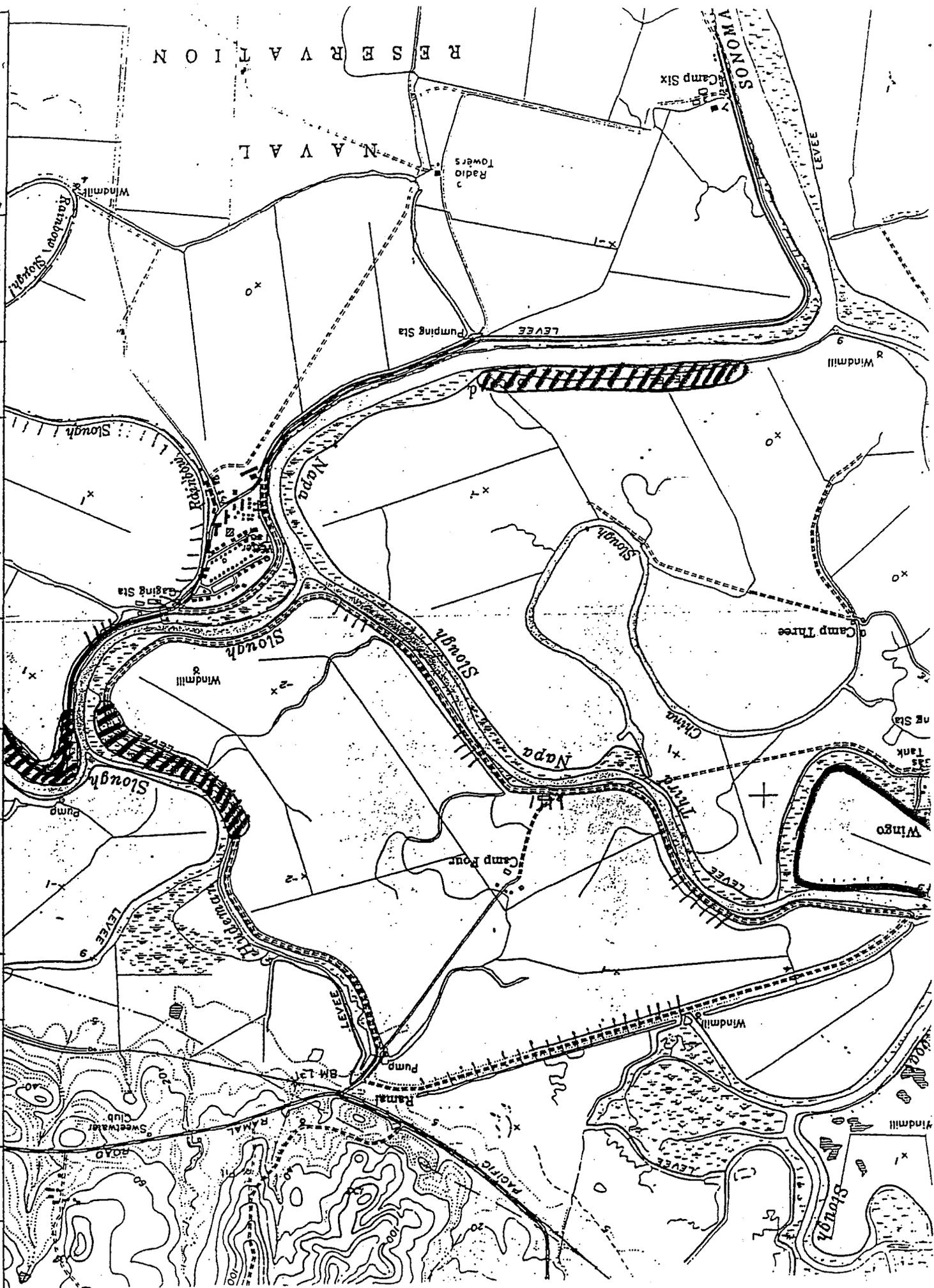
1230

3.8 MI. TO CALIF. 12 & 37  
NAPA 9.8 MI.

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Personal Communications

Mr. Jules Evens, Avocet Research Associates, Point Reyes Station, California

Ms. Brenda Grewell, California Department of Water Resources, Sacramento, California

Ms Elaine Harding-Smith, U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge, Newark, California

Ms. Jean Takekawa, U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge, Newark, California

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## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Sacramento Field Office  
2800 Cottage Way, Room E-1803  
Sacramento, California 95825-1846

In Reply Refer To:  
1-1-95-I-337

January 12, 1995

Lt. Colonel Michael J. Walsh  
U.S. Army Corps of Engineers  
Regulatory Branch (B. Smith)  
211 Main Street  
San Francisco, California 94105-1905

Subject: Clarification of the "Terms and Conditions" contained within the Biological Opinion for the Proposed Levee Maintenance Activities and Dredging in Sonoma Creek, Petaluma River, and San Antonio Creek Drainages, Marin and Sonoma Counties, California (Reference Number 1-1-94-F-41)

Dear Lt. Colonel Walsh:

This follows up the January 9, 1995, meeting between Carl Wilcox and Jim Swanson of the California Department of Fish and Game, Grant Davis, a representative from Congresswoman Woolsey's office, Paul Sheffer and Maxine Durney, representing the Sonoma Resource Conservation District, Mike Monroe of the U.S. Environmental Protection Agency and Jim Browning, Ruth Pratt and Matt Vandenberg of my office. The meeting was held to discuss proposed mitigation sites and levee maintenance activities pertaining to the Sacramento splittail (*Pogonichthys macrolepidotus*). The subject of this letter is to provide revised "Terms and Conditions" to the biological opinion issued on September 9, 1994, based on the information below.

The January 9th meeting provided information on the effects of dredging for levee maintenance on the Sacramento splittail that was not considered at the time the biological opinion was prepared. Specifically, information showed that the burrows created during the dredging process would benefit the Sacramento splittail by providing slough areas in the wetlands similar to those that existed historically. The creation of the "sloughs", containing access openings at both ends (i.e., not dead-end sloughs), would allow tidal action to better flood the high marsh plains, thus providing additional spawning habitat for the splittail. Further, because both ends of the created sloughs will be connected to the existing water bodies, splittail will be provided with suitable access to these new areas and adequate escapement during low tides.

Therefore, the following amended "terms and conditions" are provided to implement the original "reasonable and prudent measures" stated in the September 9, 1994, biological opinion on the South Sonoma County Resource Conservation District's proposed levee maintenance activities and dredging in

Lt. Colonel Michael J. Walsh

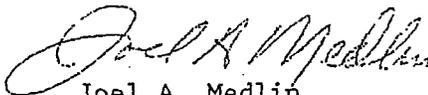
2

Sonoma Creek, Petaluma River, and San Antonio Creek Drainages, Marin and Sonoma Counties, California:

- (a) To minimize take of Sacramento splittail, no dredging shall be conducted between February 28 (29) and June 1. Moreover, if the proposed dredging sites are submerged as a result of unimpaired run-off due to natural storm events, no dredging shall be conducted until the water on the proposed dredge sites has subsided. Because Sacramento splittail utilize flooded areas for spawning and rearing during these time periods, the surrounding habitat areas must remain undisturbed.
- (b) To minimize the impact to the normal behavioral patterns of the Sacramento splittail including, but not limited to, breeding, feeding and sheltering, created sloughs shall be "opened" at both ends to allow for tidal action and free movement into and out of the areas. Further, under no circumstances shall the created sloughs contain pools that may entrap the species and not allow escapement of fish during low tides.

If you have any questions regarding these changes, please contact Matthew Vandenberg of this office at 916-979-2725 for further discussion.

Sincerely,



Joel A. Medlin  
Field Supervisor

cc: ARD-ES, Portland, OR  
DFG, Attn: Carl Wilcox and Jim Swanson, Yountville, CA  
Congresswoman Woolsey's Office, Attn: Grant Davis, San Rafael, CA  
Sonoma RCD, Attn: Paul Sheffer, Petaluma, CA  
FWS-SFO, Wetlands, Sacramento, CA



# United States Department of the Interior

## Fish and Wildlife Service

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846

IN REPLY REFER TO:  
1-1-00-I-763

February 1, 2000

Mr. Calvin C. Fong  
Chief, Regulatory Branch  
U.S. Army Corps of Engineers  
San Francisco District  
333 Market Street  
San Francisco, California 94105-2197

Subject: Response to Request for an Amendment to Biological Opinion for the  
Tolay Creek Restoration Plan (Service File Number 1-1-97-F-134),  
Sonoma County, California

Dear Mr. Fong:

This is in response to your request for an amendment to a biological opinion dated October 17, 1997. Your request was dated December 30, 1999, and received in this office on January 5, 2000. On September 9, 1994, the U.S. Fish and Wildlife Service (Service) issued a biological opinion (Service File No. 1-1-94-F-41) to the U.S. Army Corps of Engineers (Corps) on the effects of levee maintenance activities and dredging in Sonoma Creek, Petaluma River, and San Antonio Creek drainages, on California clapper rail (*Rallus longirostris obsoletus*) (clapper rail) and salt marsh harvest mouse (*Reithrodontomys raviventris*) (harvest mouse). The Service's biological opinion required the Corps and the permit applicant to prepare and implement a detailed tidal salt marsh habitat restoration plan to compensate for the temporary loss of 71 acres of clapper rail and harvest mouse habitat associated with the project. The Tolay Creek Restoration Plan (Restoration Plan) identified a 53 acre oat-hay field (parcel) immediately south of highway 37 and on the east side of Tolay Creek and proposed to restore 47 acres to tidal marsh as compensation for the proposed project. On October 17, 1997, the Service issued a biological opinion on the Restoration Plan (Service File No. 1-1-97-F-134), which stated that compliance with the Service's September 9, 1994, biological opinion "must be addressed as a formal amendment to that biological opinion". The Corps' letter dated December 30, 1999, requested an amendment to the Service's September 9, 1994, biological opinion stating "that the habitat restored at the [p]roposed CDFG pond is sufficient to relieve the Southern Sonoma Resource Conservation District of its mitigation requirement".

Acquisition of the parcel, breaching the levee to restore tidal action, and its transfer to California Department of Fish and Game satisfies the acreage requirement of the term and condition (a)

ORIGINAL

under reasonable and prudent measure number two of the September 9, 1994, biological opinion. In order to be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the remaining terms and conditions described in the September 9, 1994, biological opinion, which implement the reasonable and prudent measures described in the opinion and outline required reporting and monitoring requirements. Completing the remaining terms and conditions, including implementation of the May 14, 1998, Restoration Plan, is nondiscretionary. Therefore, the Corps shall assure that the following monitoring, as fully described in the Restoration Plan, will occur:

- (1) Monthly bird surveys will be conducted;
- (2) Annual California clapper rail and black rail surveys will be conducted;
- (3) Salt marsh harvest mouse populations will be monitored every two to three years once pickleweed habitat begins to develop;
- (4) Vegetative change and marsh development will be monitored annually from three photo points in the parcel;
- (5) Channel morphology will be monitored annually;
- (6) Elevation of parcel substrate will be monitored every five years;
- (7) Site hydrology will be monitored using staff gauges.

If you have any questions regarding this letter, please contact Carmen Thomas or Ken Sanchez at (916) 414-6625.

Sincerely,



Karen J. Miller  
Chief, Endangered Species Division

cc: Louise Vicencio, San Pablo Bay NWR, Mare Island, CA

ORIGINAL

## Appendix C: Rainy Season Protective Measures

## Appendix C: Rainy Season Protective Measures

For the entire project area, if the proposed repair site contains no identified channel and the site is not subject to daily tidal influence, maintenance may be performed at any time (throughout the year). This may include the silted in areas that were previously borrowed and currently not subject to tidal influence. If this is accurate to the proposed maintenance and maintenance is proposed *outside* of the approved work windows, then the following will be required:

Requirements:

If levee maintenance activities are proposed outside of the approved work windows, the responsible party shall submit a written request for a work period variance to the RCD for every week construction must continue past the original work window. Variances may be requested for up to one week at a time, and work shall not continue until a variance has been approved by RCD staff. The variance request should address the potential effects of noise, increased stream flows, rain delays, increased erosion control measures, limited access due to saturated soil conditions, and limited growth of erosion control grasses due to cool weather. The RCD shall require additional measures as a condition for granting a variance if impacts to aquatic resources and water quality can be further avoided or minimized. At a minimum, the variance request shall:

- Describe the extent of work already completed;
- Detail the activities that remain to be completed;
- Provide a National Weather Service forecast covering the time needed, up to one week, to complete a phase or activity;
- Detail the time required to complete each of the remaining activities;
- Provide photographs of both the completed and proposed or in-process work sites; and
- Include an assessment of additional aquatic habitat and water quality impacts as a result of the work extension and describe the measures to be implemented to avoid and minimize those potential impacts.

Levee maintenance activities shall be restricted to dry weather to the extent practicable and no work activities shall be performed in tidally connected main channels or secondary channels outside of the approved work windows.

The responsible party shall monitor forecast precipitation. When 1/4-inch or more of precipitation is forecasted to occur, the responsible party shall stop work and implement the **Rain Event Action Plan** before precipitation commences. A Rain Event Action Plan shall include a list of additional BMPs that will be implemented if caught in a storm during work and once construction is completed. These should be any BMPs that may be needed in the winter to keep the site stable through storm events, accounting for increased stream flows and increased runoff erosion potential. Examples of these BMPs could include making sure freshly graded areas have been compacted, implementing erosion control materials such as wattles or spreading straw to help prevent sediment discharging into waterways.

No Project activity may be started if its associated water quality control measures cannot be completed prior to the onset of precipitation, or continued if its associated water quality control measures have not been fully implemented. After any storm event, the responsible party shall inspect all sites currently under construction and all sites scheduled to begin construction within the next 72 hours for erosion and sediment problems and take corrective action as needed. The 72-hour weather forecasts from the

National Weather Service shall be consulted and work shall not resume until runoff ceases and there is less than a 30 percent forecast for precipitation for the following 24-hour period. Weather forecasts shall be submitted to the Water Board upon request and documentation verifying compliance with these procedures shall be included as an attachment to the next upcoming Annual Report due to the Water Board each March.

## Appendix D: Project Forms



Insert

Notice of Intent Form

here

## Appendix E: CEQA Documents



Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

From: (Public Agency): Sonoma RCD
1221 Farmers Lane Suite F
Santa Rosa, CA 95405

County Clerk
County of: Sonoma
2300 County Center Drive
Santa Rosa, CA 95403

(Address)

Project Title: Levee Maintenance Project in the Sonoma Creek and Petaluma River Watersheds

Project Applicant: Sonoma Resource Conservation District (SRCD)

Project Location - Specific:

The Project area is located within the Petaluma River drainage basin in Sonoma and Marin Counties and the Sonoma Creek drainage basin, Sonoma County, California.

Project Location - City: Petaluma, Sonoma Project Location - County: Sonoma and Marin

Description of Nature, Purpose and Beneficiaries of Project:

The overall project purpose is to maintain and stabilize existing levees which are damaged from winter storms or are in need of periodic maintenance. The levees are necessary to protect properties and infrastructure from flooding. The SRCD is the sponsoring agency to oversee work performed by 25 participating landowners.

Name of Public Agency Approving Project: Sonoma Resource Conservation District

Name of Person or Agency Carrying Out Project:

Exempt Status: (check one):

- Ministerial (Sec. 21080(b)(1); 15268);
Declared Emergency (Sec. 21080(b)(3); 15269(a));
Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
[X] Categorical Exemption. State type and section number: Minor Alterations to Land 15304
Statutory Exemptions. State code number:

Reasons why project is exempt:

This project is maintenance dredging of existing levees which is considered a minor alteration to the condition of the land, water and/or vegetation and does not involve removal of any trees per 15304.

Lead Agency Contact Person: Kari Wester Area Code/Telephone/Extension: 707-569-1448

If filed by applicant:

- 1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: Valerie Title: Executive Director Date: 10/30/17

[X] Signed by Lead Agency [ ] Signed by Applicant

Governor's Office of Planning & Research

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPP: NOV 13 2017

This notice was posted on 11/03/2017 and will remain posted for a period of thirty days through 12/04/2017

Doc No.49-11032017-309

William F. Rousseau, County Clerk
BY: Carrie Anderson, Deputy Clerk

STATE CLEARINGHOUSE

## Appendix F: Existing Permits



**DEPARTMENT OF THE ARMY**  
**SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS**  
**450 GOLDEN GATE AVENUE**  
**SAN FRANCISCO, CALIFORNIA 94102**

**DEPARTMENT OF THE ARMY PERMIT**  
**REGIONAL GENERAL PERMIT 6**

**PERMITTEE:** Sonoma Resource Conservation District (SRCD)

**PERMIT NO.:** 2004-249121

**ISSUING OFFICE:** San Francisco District

**NOTE:** The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate District or Division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below:

**PROJECT DESCRIPTION:** This permit authorizes 25 participating SRCD landowners/members to dredge material, up to 4 cubic yards (cy) of material within jurisdictional waters and wetlands per foot of levee, not to exceed 10,000 cy or 2,500 linear feet per parcel, per year, from the channels and/or wetlands adjacent to the existing levees on their property for the purpose of obtaining material to maintain the levees. Mechanical dredging will be completed using long-reach excavators or drag lines working from the top of existing levees, and dredged material will be excavated on the outboard side of the levee at the extreme reach of the available equipment to avoid damage to the levee toe. Dredged material will be placed on the levee crown and mechanically compressed.

All work shall be completed in accordance with the plans and drawings titled "USACE File #2004-249121, Regional General Permit 6, Marin and Sonoma Counties," dated February 28, 2019, in 26 sheets, provided as enclosure 1.

**PROJECT LOCATION:** The project areas are located along levees within the Petaluma River, and Sonoma Creek watersheds in Marin County and Sonoma County, California.

**PERMIT CONDITIONS:**

**GENERAL CONDITIONS:**

1. The time limit for completing the work authorized ends on April 2, 2024. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.
6. You must comply with the conditions specified in the concurrence from the San Francisco Bay Conservation and Development Commission that your project will comply with California's Coastal Zone Management Act as special conditions to this permit.
7. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
8. You understand and agree that, if future operations by the United States require the removal, relocation or other alteration of the structure or work authorized herein, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, you will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

#### **SPECIAL CONDITIONS:**

1. All areas requiring dredging for levee maintenance shall have a delineation map showing the extent and location of USACE jurisdiction prior to any dredging occurring at the specific location.
2. SRCD will provide notification to the Federated Indians of Graton Rancheria (FIGR) (POC: Buffy McQuillen, THPO, 707.318.0485, bmcquillen@gratonrancheria.com) of all pre-work planned and post work conducted. SRCD will provide archeological presence/absence summary reports from the Northwestern Information Center at SSU for sites proposing levee maintenance. SRCD will further consult with FIGR for next steps if summary reports indicate potential for archeological artifacts in work areas proposed.
3. For work proposed in the upcoming calendar year, you shall ensure that landowner(s) submit information to you by February 1 regarding the project location, linear distance of levee repairs, levee area type, delineation map, and the source and volume of fill material. You shall review each project submittal to confirm the propose action is consistent with all measures and work window restrictions. Upon confirmation, you shall provide approval to the landowner(s) to proceed with the proposed repair.
4. For completed levee repairs, you shall ensure that each landowner submits a report to you no later than February 1 of the following calendar year. Each post-project report shall provide the information contained in the pre-project submittal to confirm the actual extent of work performed and materials used.
5. You shall submit annual reporting of work performed in the previous year under this RGP to USACE and the National Marine Fisheries Service by March 15 of each calendar year. The annual report will summarize all completed levee repairs conducted during the previous year.
6. This Corps permit does not authorize you to take a threatened or endangered species. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit or a Biological Opinion (BO) under ESA Section 7 with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service (FWS) BO dated September 9, 1994, and subsequent amendments dated January 12, 1995 and January 1, 2000, respectively, contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take authorized by the attached BO, whose terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and

conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take and it would also constitute non-compliance with this Corps permit. FWS is the appropriate authority to determine compliance with the terms and conditions of the BO and with the ESA.

7. From Highway 37 upstream to Highway 121 (including Lakeville Highway), participating landowners may dredge material from the main channels of the Petaluma River, Sonoma Creek, San Antonio Creek, Napa Slough, Second Napa Slough, Third Napa Slough and Hudeman Slough from June 1 to October 31.
8. From Highway 37 upstream to Highway 121 (including Lakeville Highway), participating landowners may dredge material from non-main channels (i.e. secondary channel, sloughs, or creeks) that are subject to daily tidal influence from June 1 to November 30. These areas include areas such as Steamboat Slough, Railroad Slough, and Tolay Creek, as well as unnamed borrow areas that are subject to daily tidal influence.
9. For the entire RGP6 project area, if the proposed repair site contains no identified channel and the site is not subject to daily tidal influence, maintenance may be performed at any time. This may include the silted in areas that were previously borrowed and currently not subject to daily tidal influence. SRCD shall submit a site and project description of these repairs locations to USACE and NMFS Santa Rosa Office prior to implementation.
10. Along the shoreline of Sonoma Creek, Tubbs Island, and San Pablo Bay from Highway 37 downstream to the mouth of Sonoma Creek, and extending to the southwestern extent of the levees along the shoreline of San Pablo Bay, dredging must be restricted to periods of low tide.
11. To avoid impacts to nesting California clapper rails, no dredging shall occur between February 1 and August 31, unless surveys by a qualified biologist indicate that clapper rails are not nesting within 500 feet of the project area.
12. No excavation shall occur within 10 feet of the toe of the levee, on the waterborne side of the levee.
13. No dredging authorized by the permit may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area.
14. No discharge of dredged material may consist of unsuitable material (e.g. trash, debris, etc.) and material discharged must be free from toxic pollutants in toxic amounts.
15. To the extent practicable, landowners should avoid dredging at the same location more than once every two years in wetted areas within main-stem channels or areas that connect to main-stem channels.
16. Total dredging volumes shall not exceed 150,000 cy in any given year of RGP6 implementation.
17. Prior to dredging, landowners should identify whether widgeon grass (*Ruppia* spp.) and/or sago pondweed (*Stuckenia* spp.) are present in the areas to be dredged. To the extent practicable, landowners should avoid dredging in areas with these species. In instances where these species can't be avoided, landowners should notify the RCD and document the extent of widgeon grass and/or sago pondweed within and around the dredged area with GPS coordinates taken before dredging occurs. The extent of widgeon grass and sago pondweed should be documented again with GPS coordinates taken within 30 days after completion of dredging and annually during summer months (June through October) for a minimum of one year following dredging. Activities and GPS coordinates should be documented in the annual maintenance reports.

#### **FURTHER INFORMATION:**

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
  - (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 403).
  - (X) Section 404 of the Clean Water Act (33 U.S.C. Section 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. Section 1413).

2. Limits of this authorization:
  - a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.
  - b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:
  - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
  - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
  - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
  - d. Design or construction deficiencies associated with the permitted work.
  - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
  - a. You fail to comply with the terms and conditions of this permit.
  - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate. (See Item 4 above.)
  - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 C.F.R. § 325.7 or enforcement procedures such as those contained in 33 C.F.R. §§ 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 C.F.R. § 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

\_\_\_\_\_  
(PERMITTEE)

\_\_\_\_\_  
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

\_\_\_\_\_  
Travis J. Rayfield  
Lieutenant Colonel, U.S. Army  
District Commander and Engineer

\_\_\_\_\_  
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFEREE)

\_\_\_\_\_  
(DATE)

# Levee Maintenance Vicinity Map

Permit Holder:  
Sonoma Resource Conservation District

-  CA Clapper Rail Habitat
-  Main Channels
-  Major Roads
-  Levee Parcels (shaded by landowner)
-  Levee Locations (approximate)

## Maintenance Windows

Main Channels:  
Jun 1-Oct 31

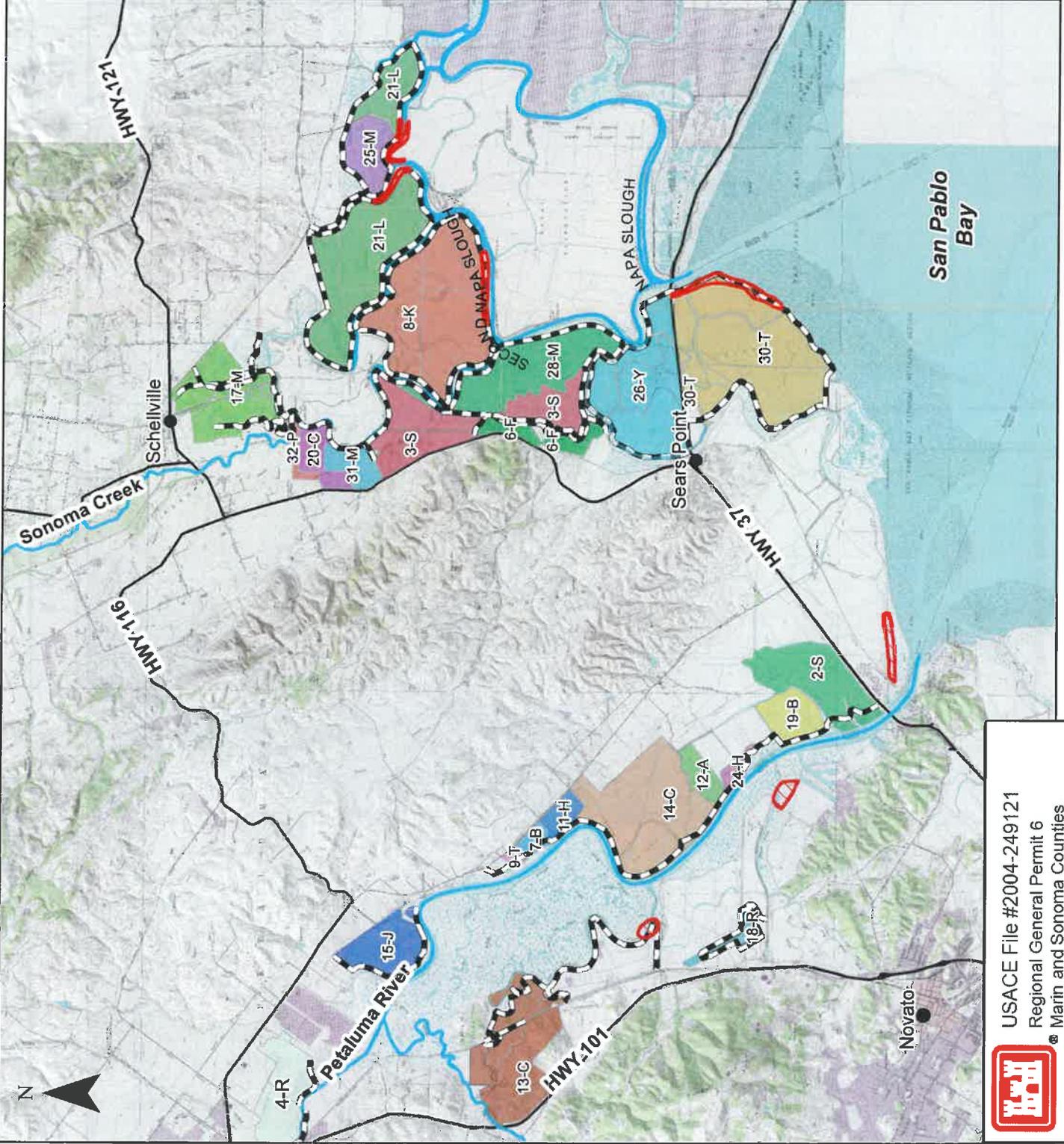
Non-Main Channels:  
Jun 1-Nov 30

Areas pre-approved by permitting agencies: TBD work windows

Areas South of HWY 37:  
No work between Feb 28 (29)-Jun 1 otherwise year-round at low tide

Clapper Rail Habitat:  
No work between Feb 1-Aug 31

Map Updated August 7, 2017



USACE File #2004-249121  
Regional General Permit 6  
Marin and Sonoma Counties

February 28, 2019 26 sheets total



U.S. Army Corps of Engineers  
San Francisco District  
Resource Conservation District

# Levee Maintenance Permit (RGP-6)

Permittee:  
2-S

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

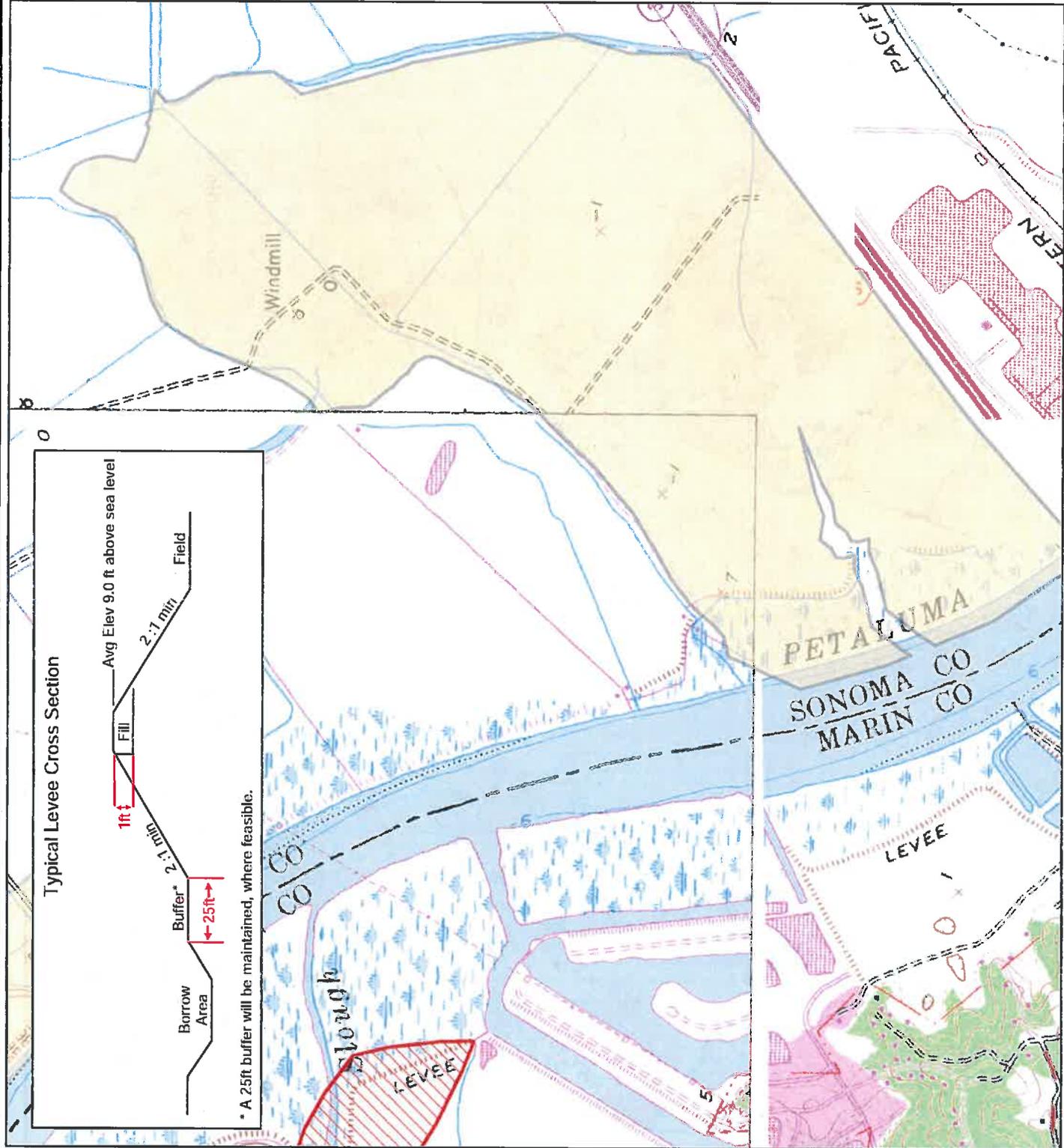
-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel

April 2017

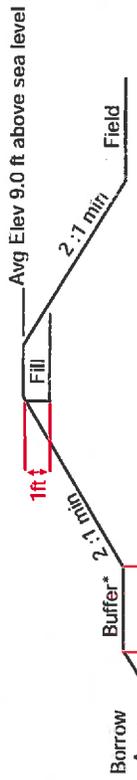
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Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



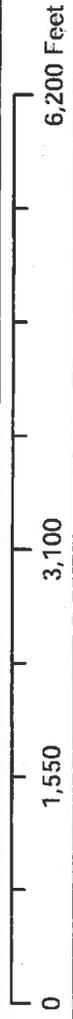
Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River, Sears Point, Novato and Petaluma Point)

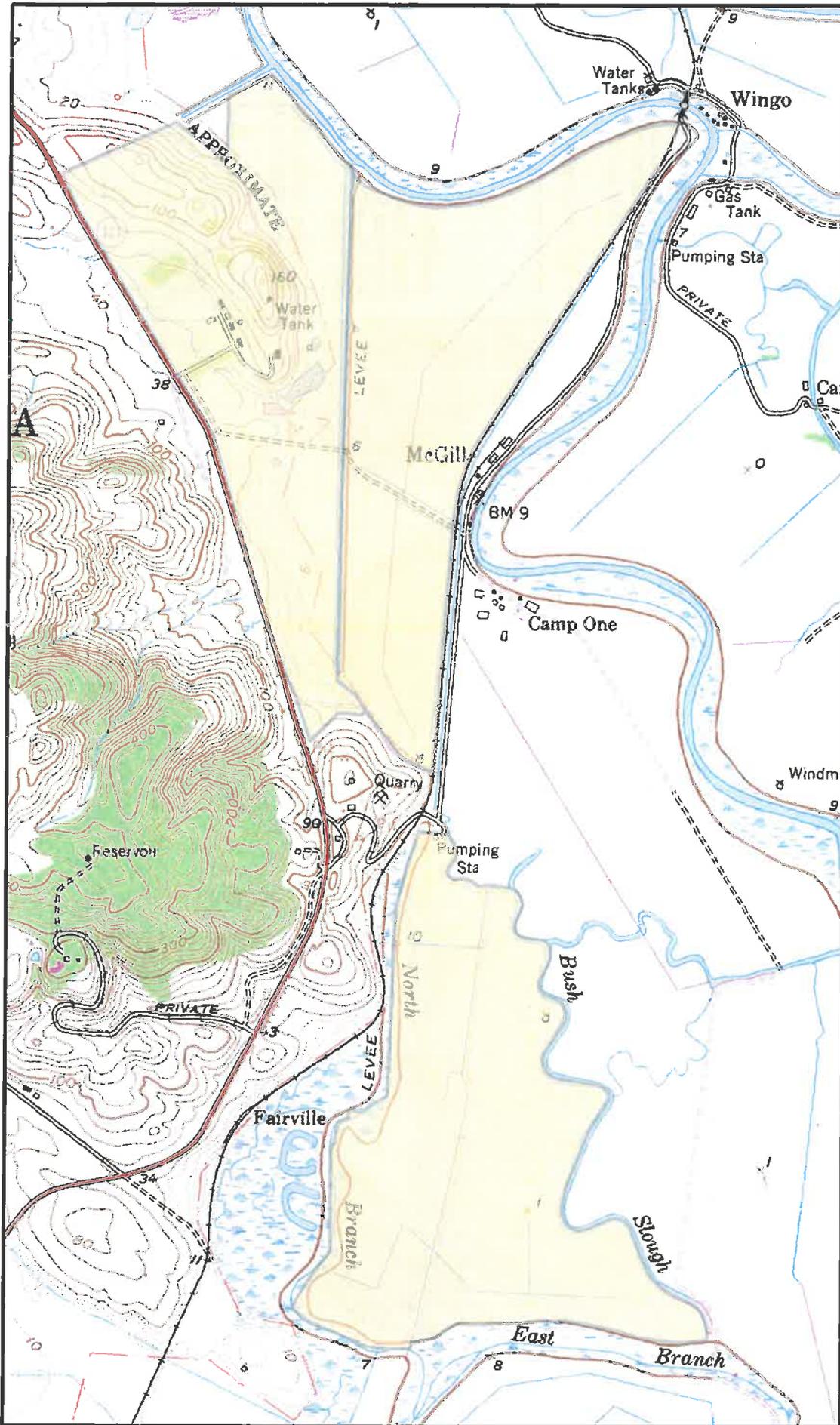


Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.





# Levee Maintenance Permit (RGP-6)

Permittee:  
3-S

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions

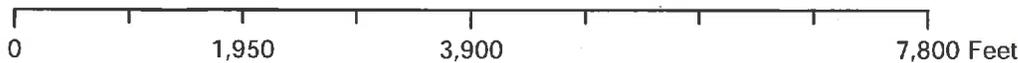
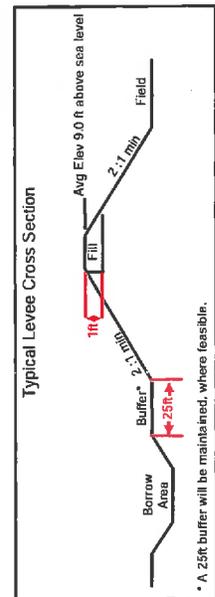
-  (see permit conditions)
-  Landowner Parcel

April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



# Levee Maintenance Permit (RGP-6)

Permittee:  
4-R

Permit Holder:  
Sonoma Resource Conservation District

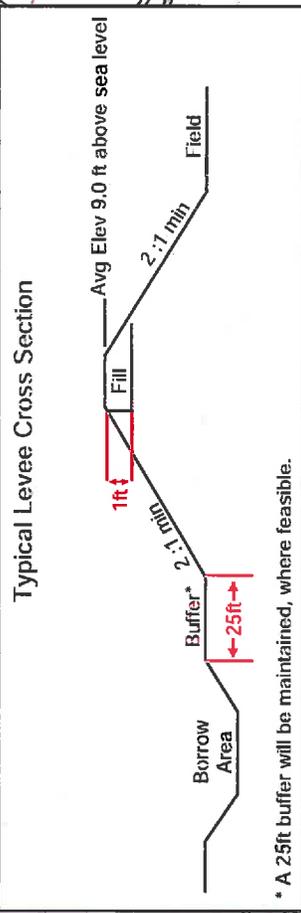
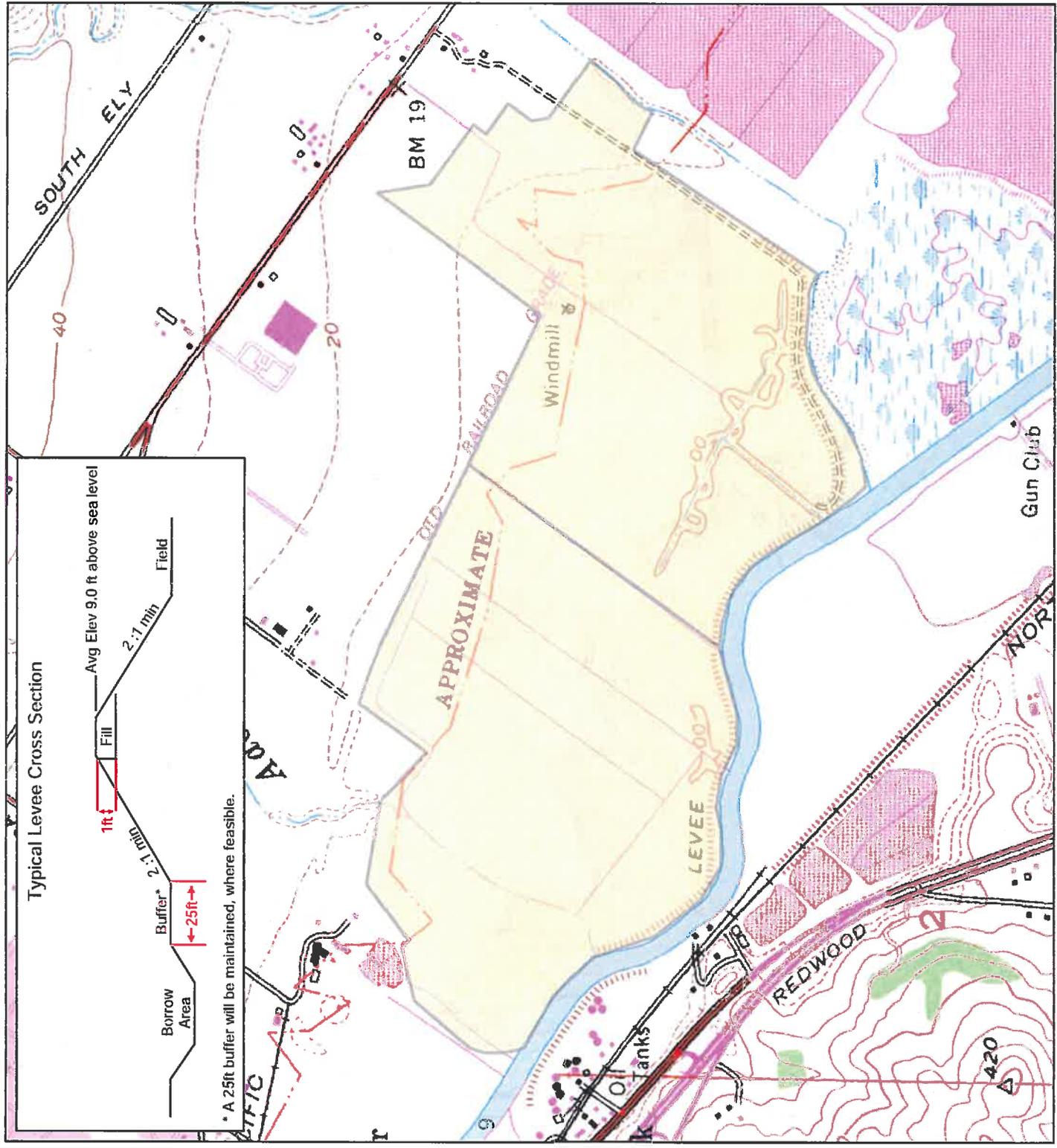
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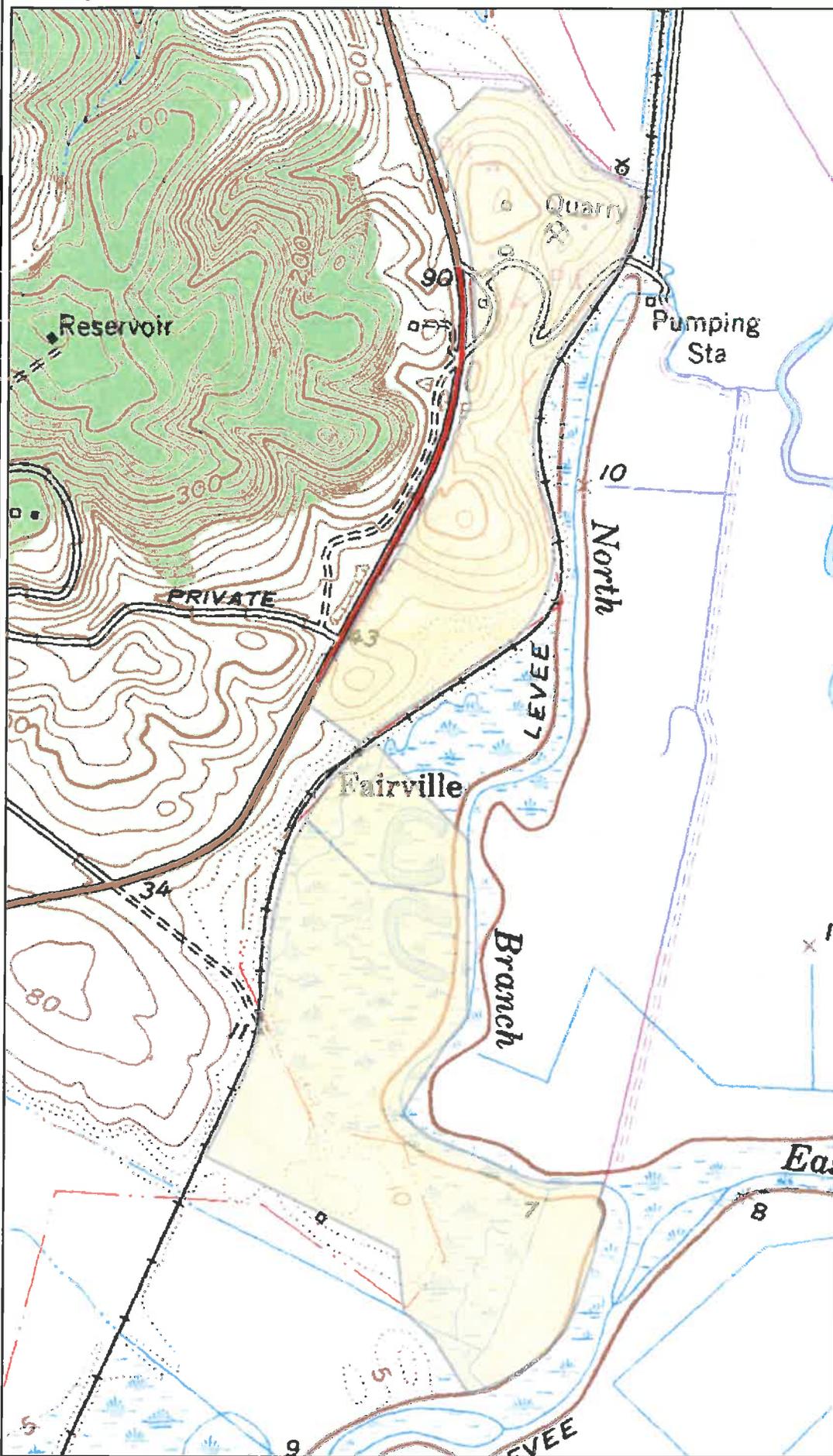
Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

April 2017  
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)





# Levee Maintenance Permit (RGP-6)

Permittee:  
6-F

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

### Clapper Rail- Seasonal Restrictions

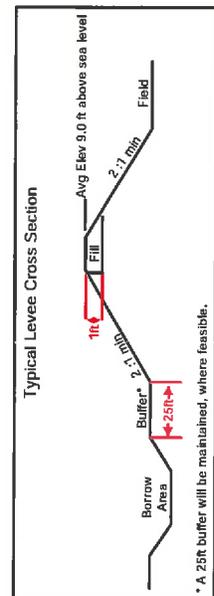
-  (see permit conditions)
-  Landowner Parcel

April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



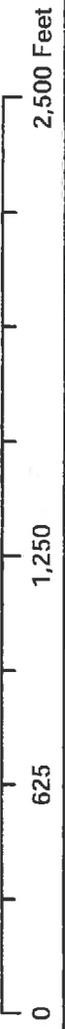
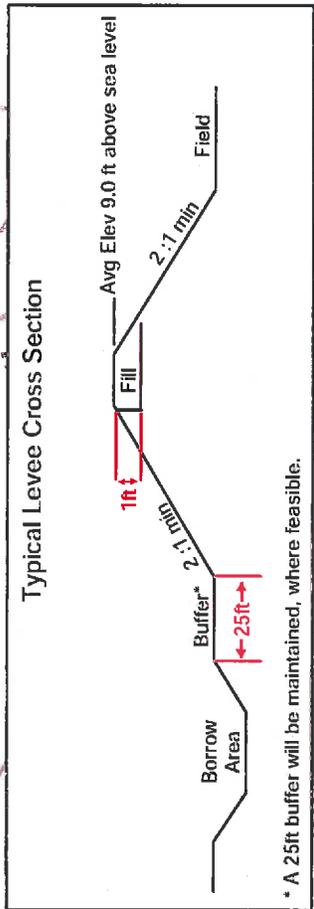
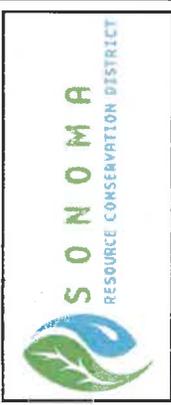
**Levee Maintenance Permit (RGP-6)**  
 Permittee: 7-B  
 Permit Holder: Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

**Clapper Rail- Seasonal Restrictions** (see permit conditions)

**Landowner Parcel**

April 2017  
 Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS 0402 Feet  
 Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River)



# Levee Maintenance Permit (RGP-6)

Permittee:  
8-K

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

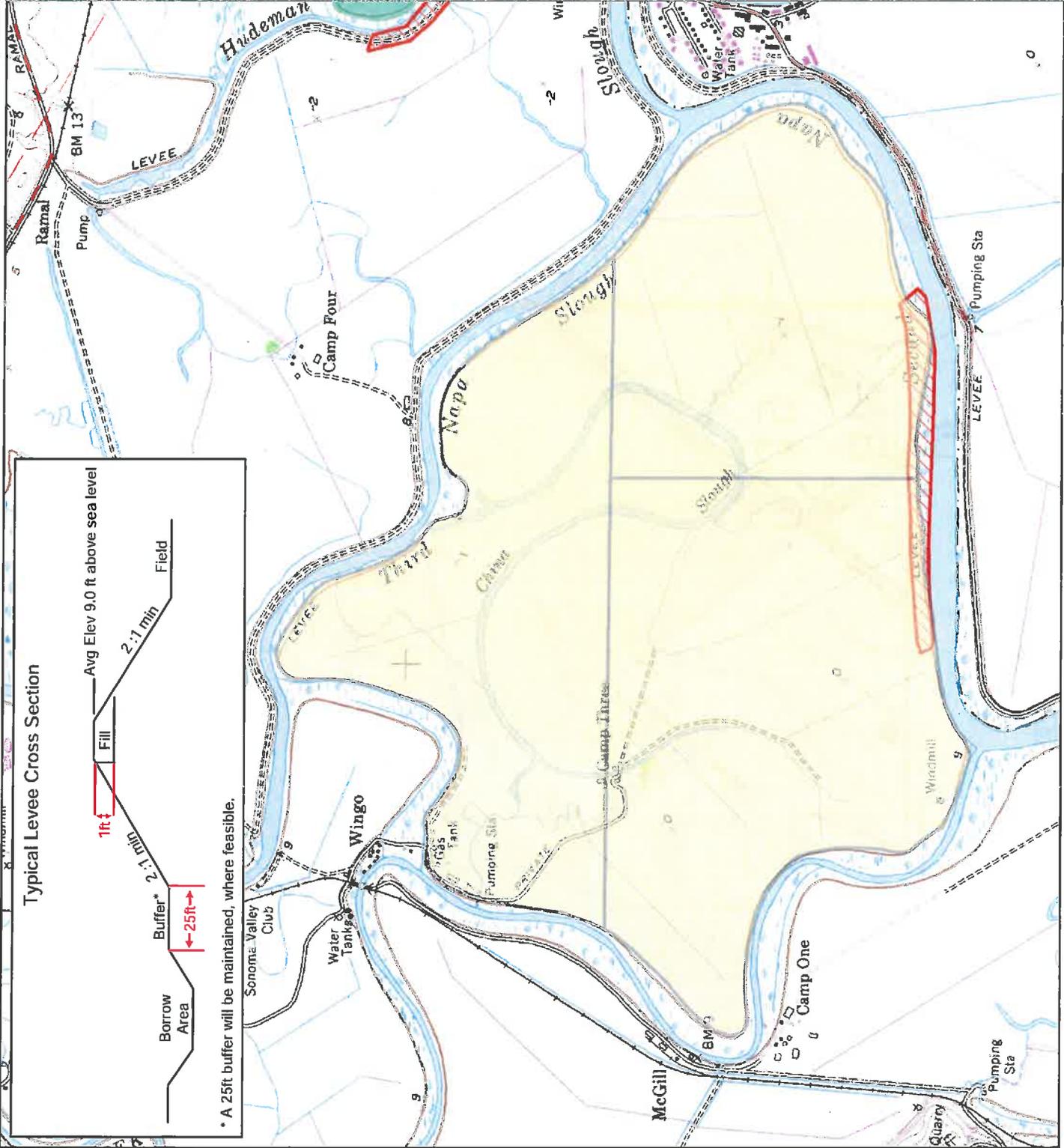
Landowner Parcel



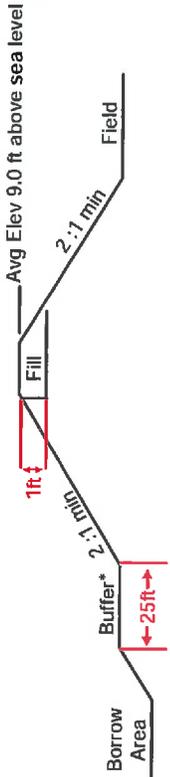
April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point)



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

**Levee Maintenance Permit (RGP-6)**

Permittee: 9-T

Permit Holder: Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

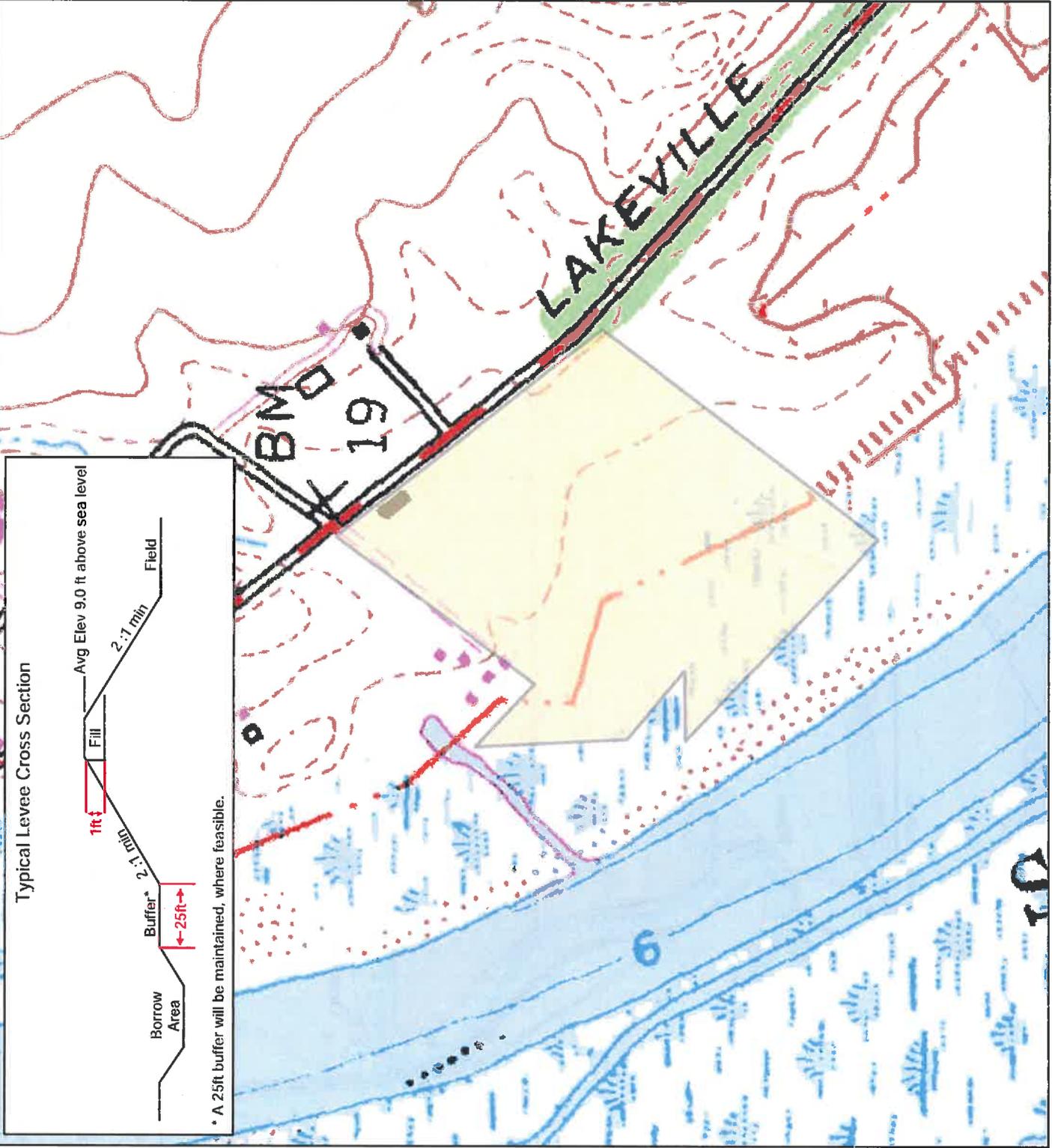
Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

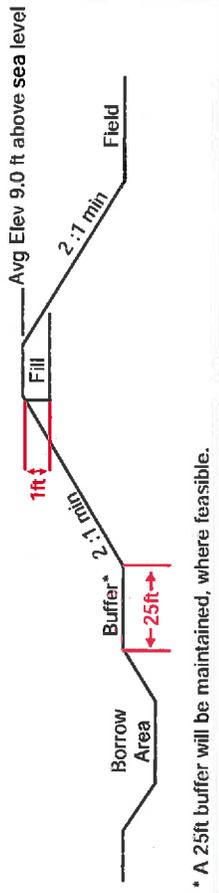
April 2017

Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS 0402 Feet

Base layer: USGS 7.5" Topographic Quadrangle (Petaluma River)



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

# Levee Maintenance Permit (RGP-6)

Permittee:  
11-H

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

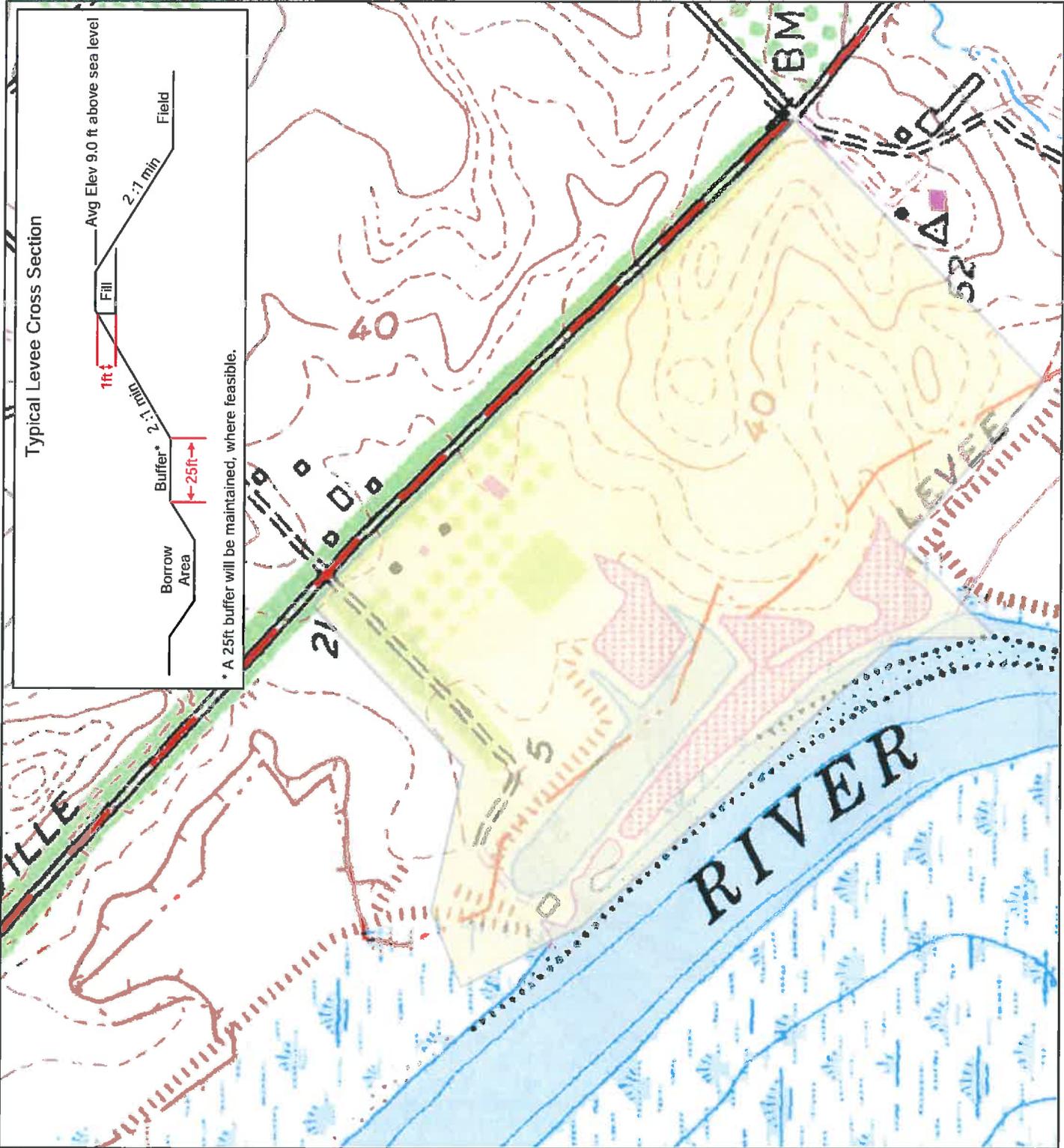
Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

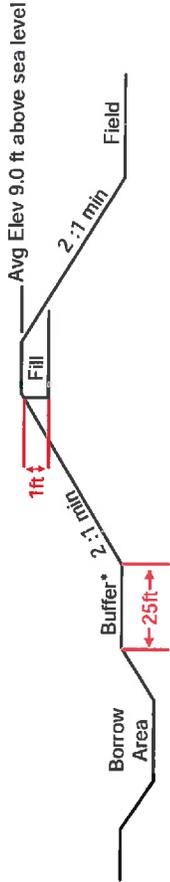


April 2017  
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

0 700 1,400 2,800 Feet

# Levee Maintenance Permit (RGP-6)

Permittee:  
12-A

Permit Holder:  
Sonoma Resource Conservation District

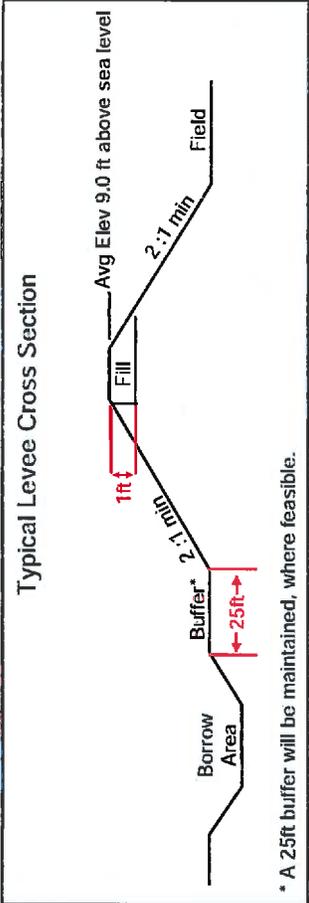
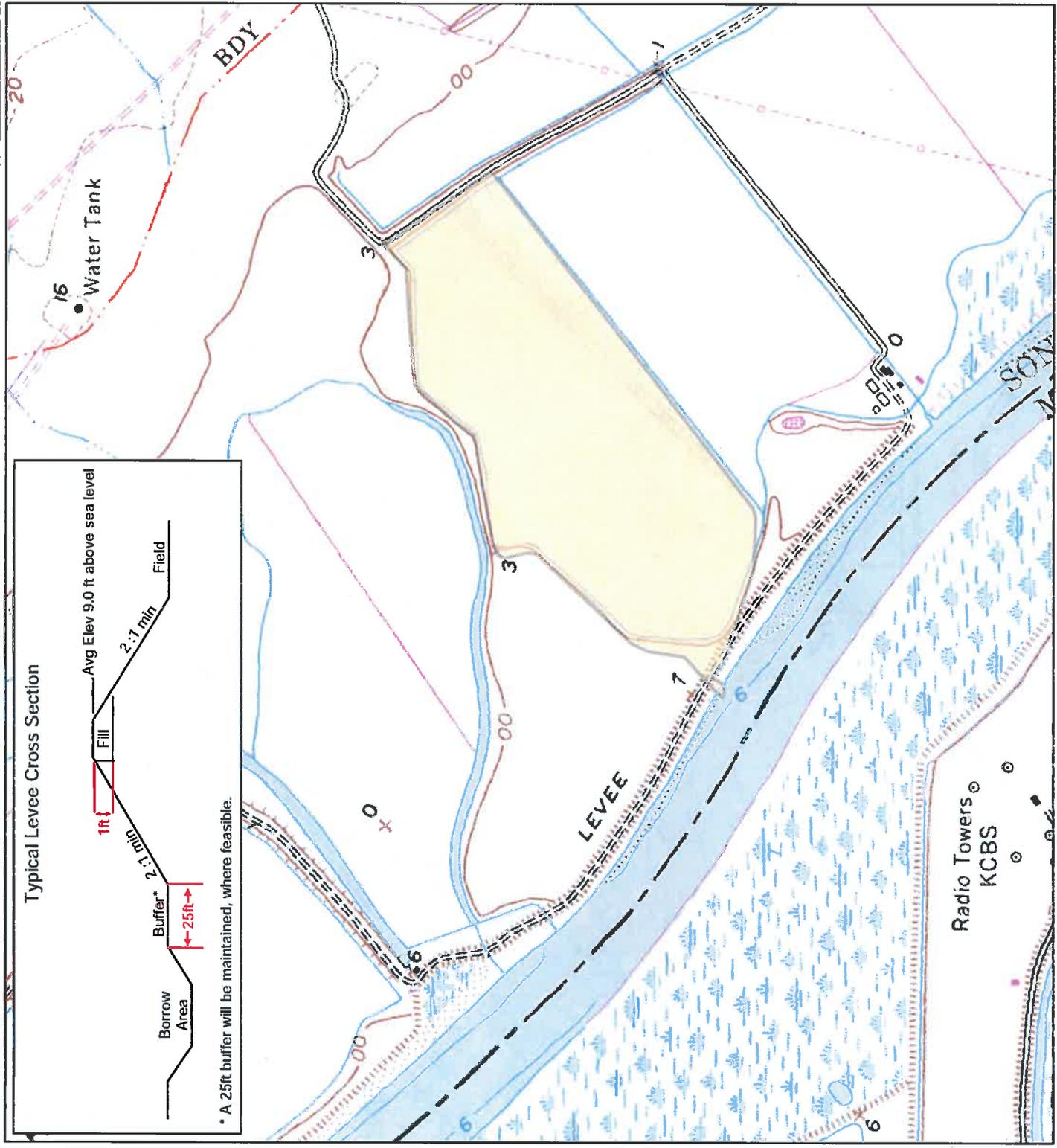
This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

April 2017  
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



# Levee Maintenance Permit (RGP-6)

Permittee: 13-C

Permit Holder: Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

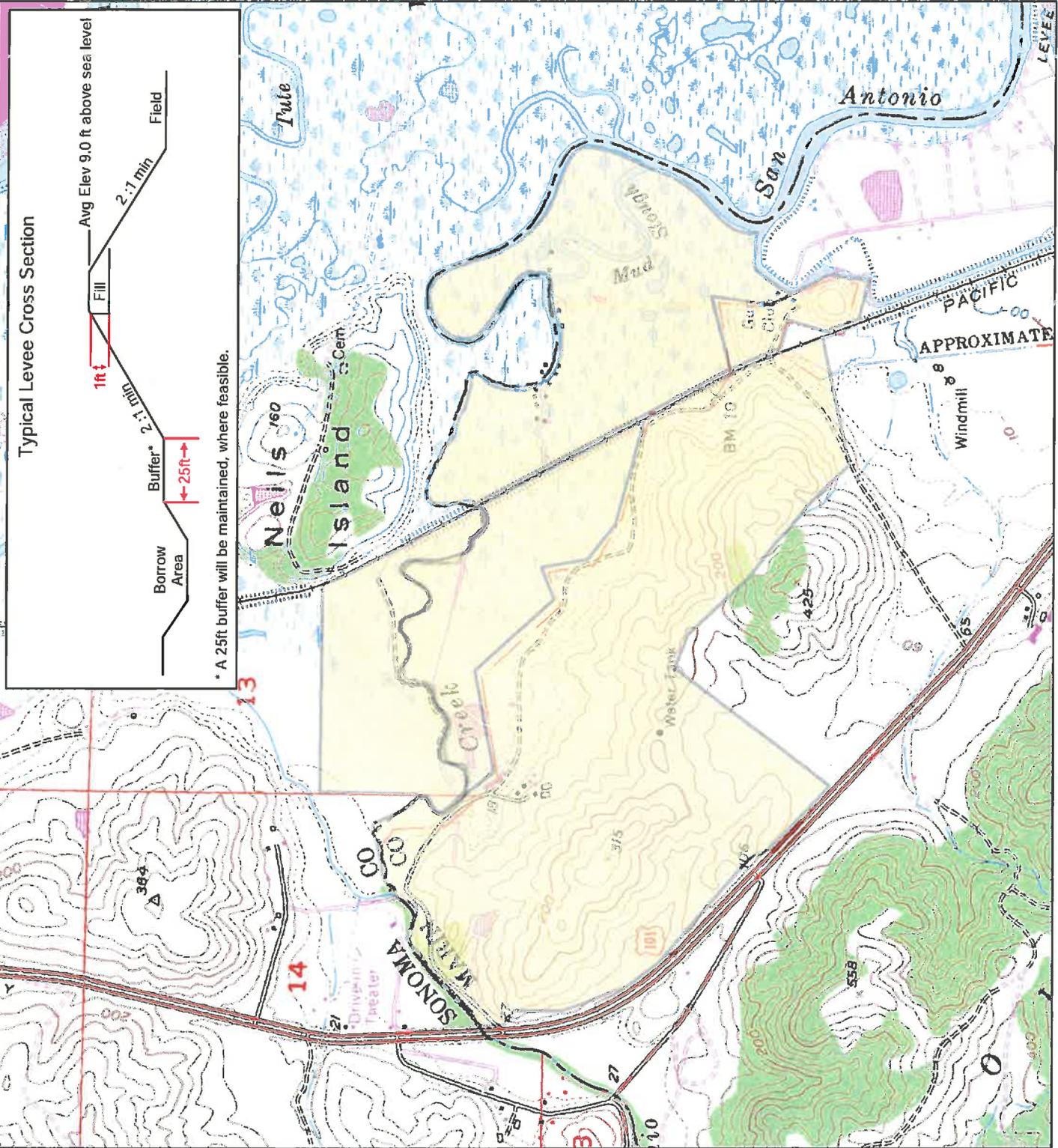
Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel



August 2017  
 Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

Base layer: USGS 7.5" Topographic  
 Quadrangle (Petaluma River)



# Levee Maintenance Permit (RGP-6)

14-C

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

-  Clapper Rail- Seasonal Restrictions (see permit conditions)
-  Landowner Parcel

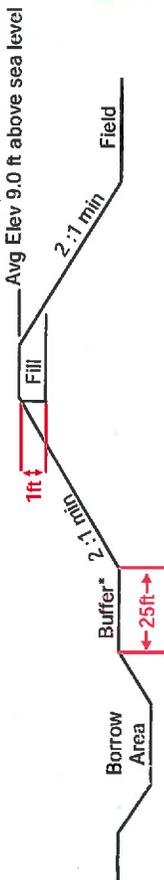
April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

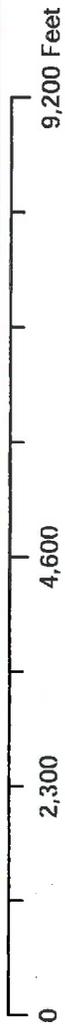
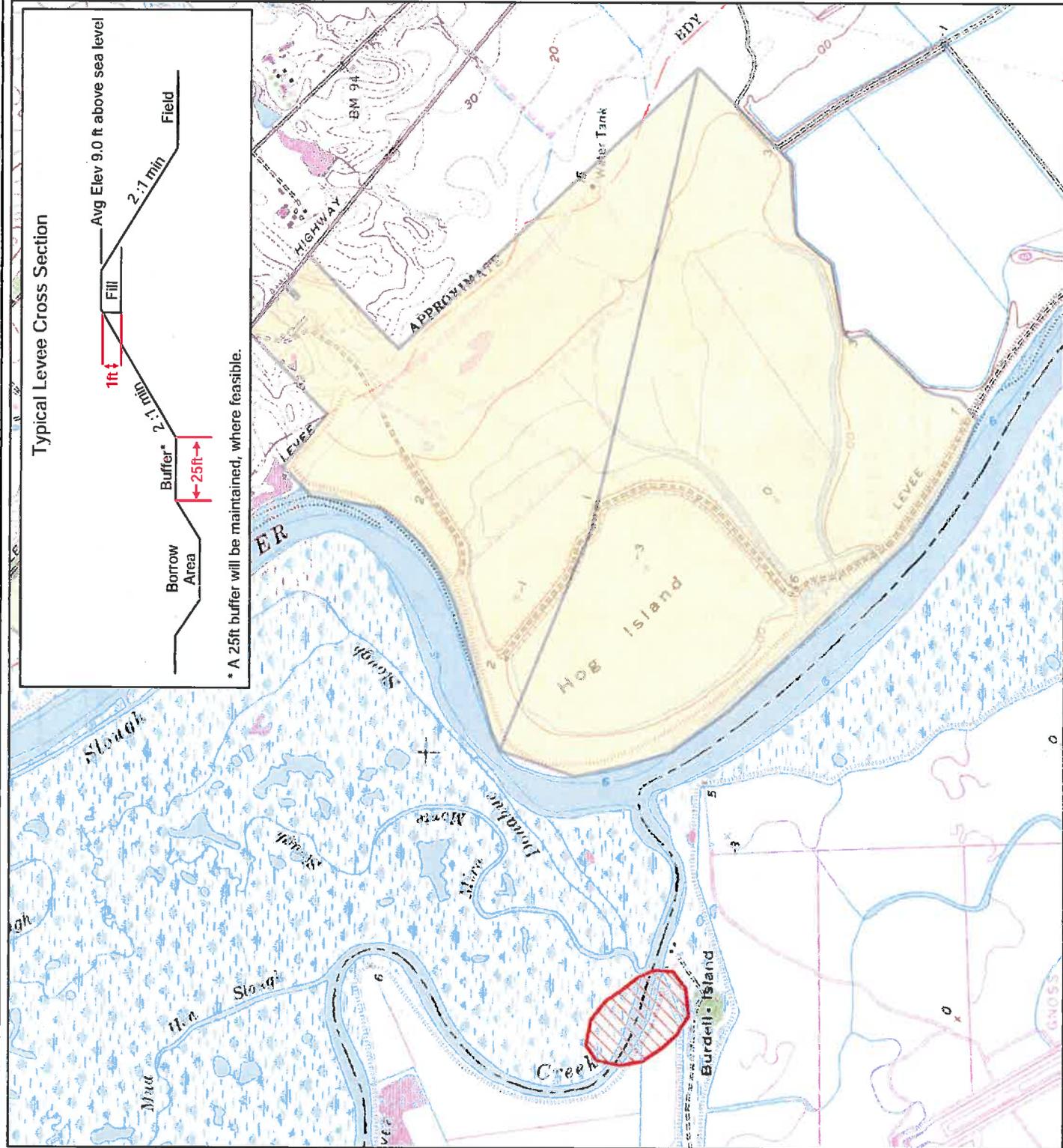
Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



# Levee Maintenance Permit (RGP-6)

Permittee:  
15-J

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

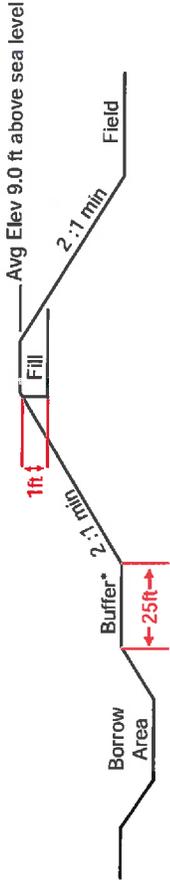


April 2017  
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

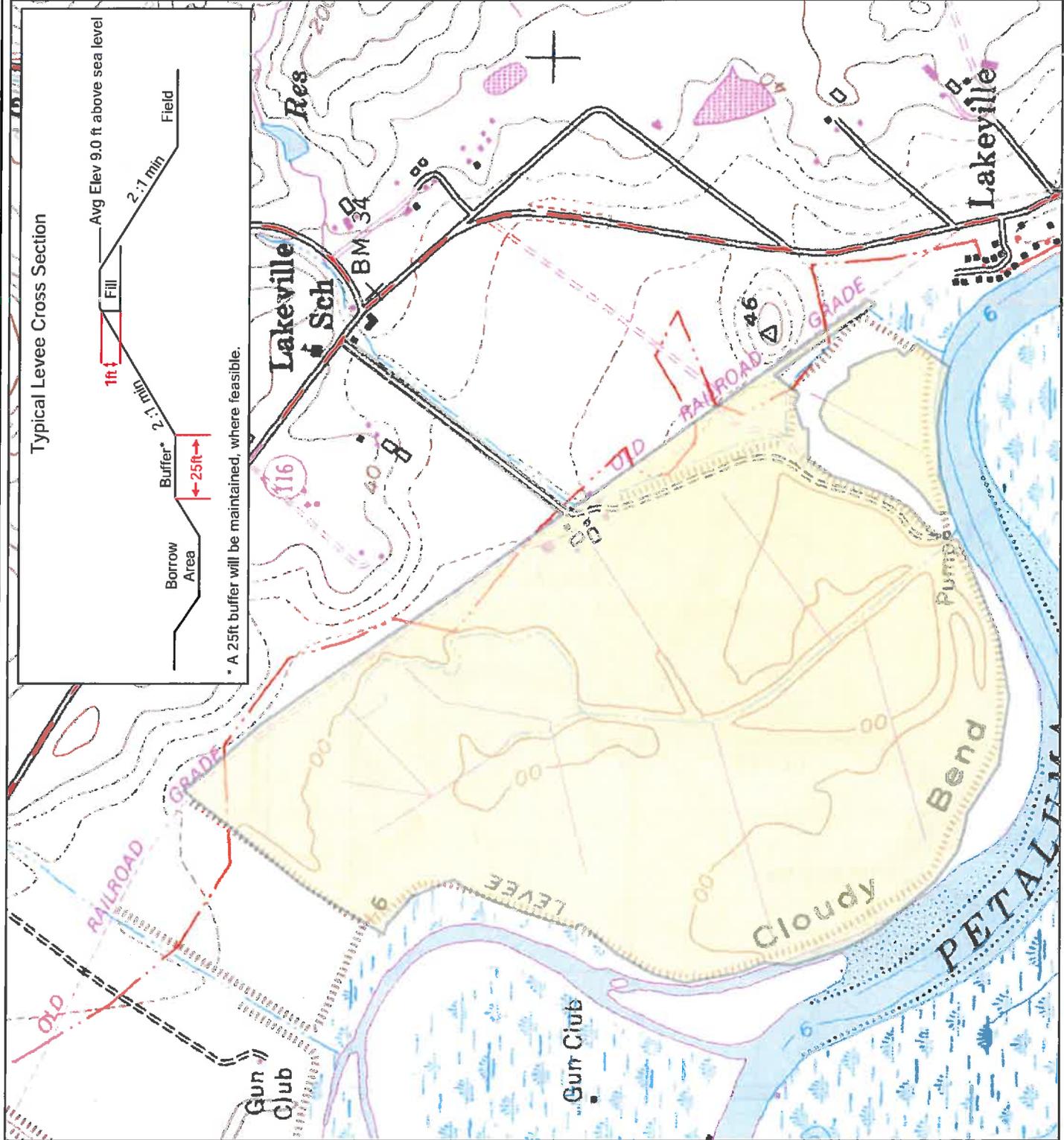
Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

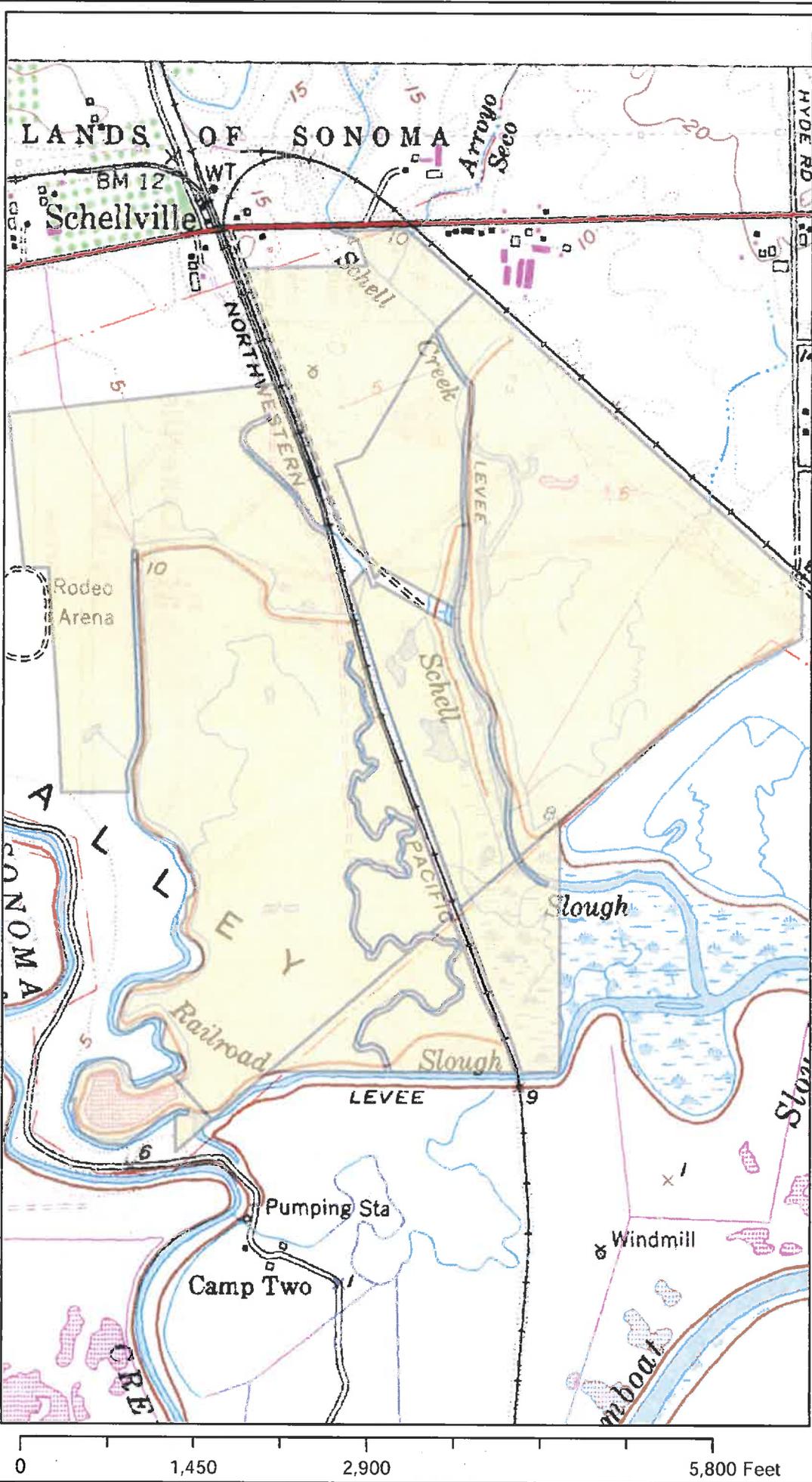


5,000 Feet

2,500

1,250

0



# Levee Maintenance Permit (RGP-6)

Permittee:  
17-M

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

**Clapper Rail- Seasonal Restrictions**

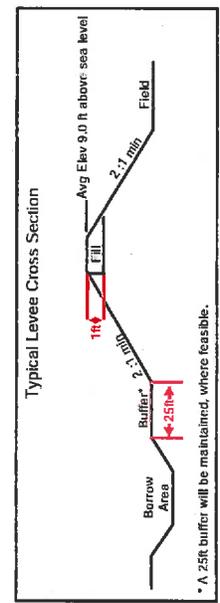
-  (see permit conditions)
-  Landowner Parcel

April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



# Levee Maintenance Permit (RGP-6)

Permittee:  
18-R

Permit Holder:  
Sonoma Resource Conservation District

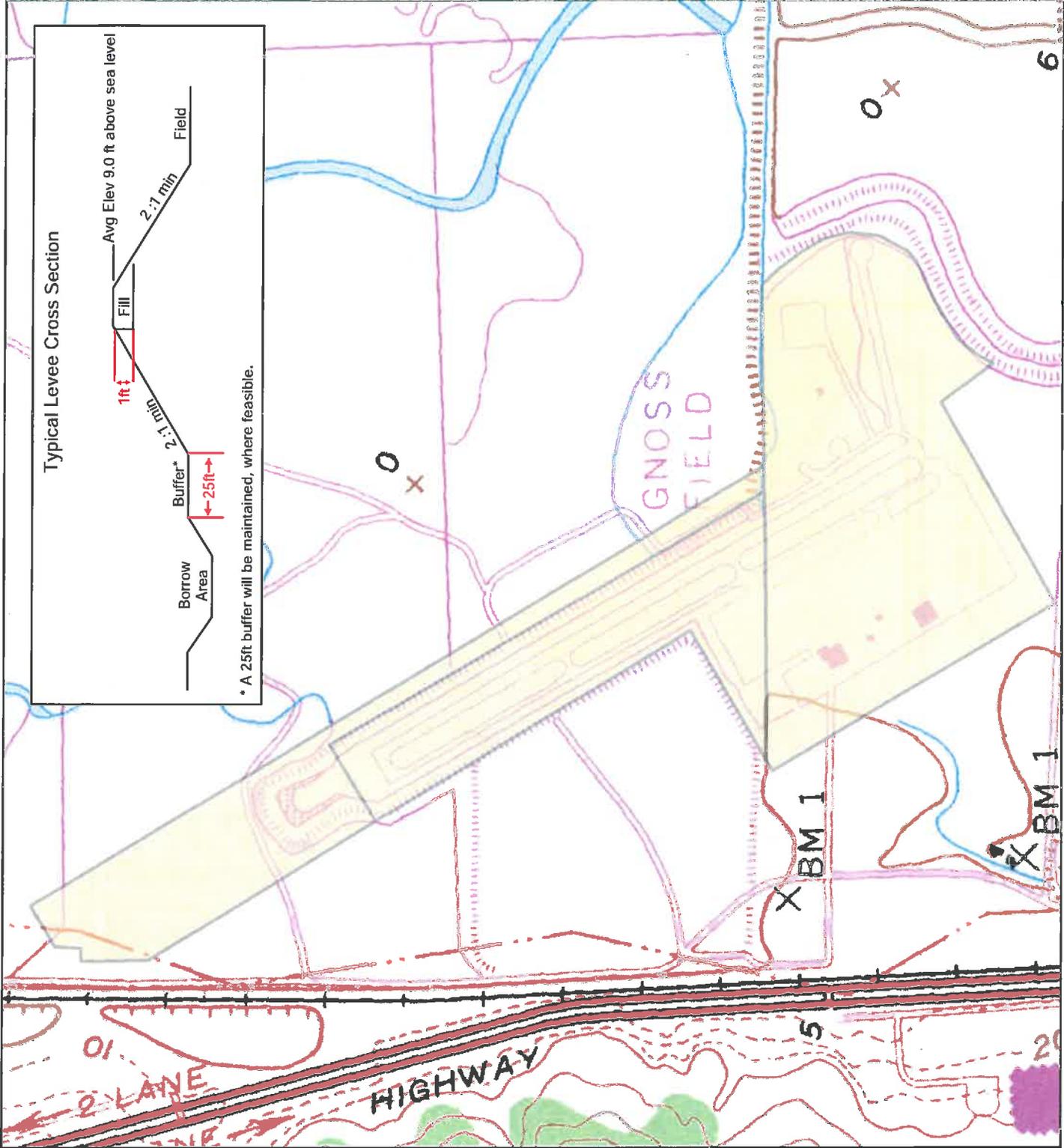
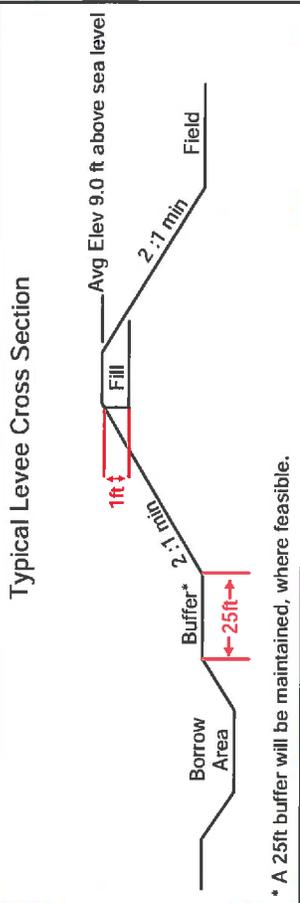
This map is for annual maintenance reporting to the permitting agencies.

- Clapper Rail- Seasonal Restrictions (see permit conditions)
- Landowner Parcel

April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



# Levee Maintenance Permit (RGP-6)

Permittee:  
19-B

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions  
(see permit conditions)

Landowner Parcel

April 2017

Datum: North American 1983

Coordinate System: NAD 1983

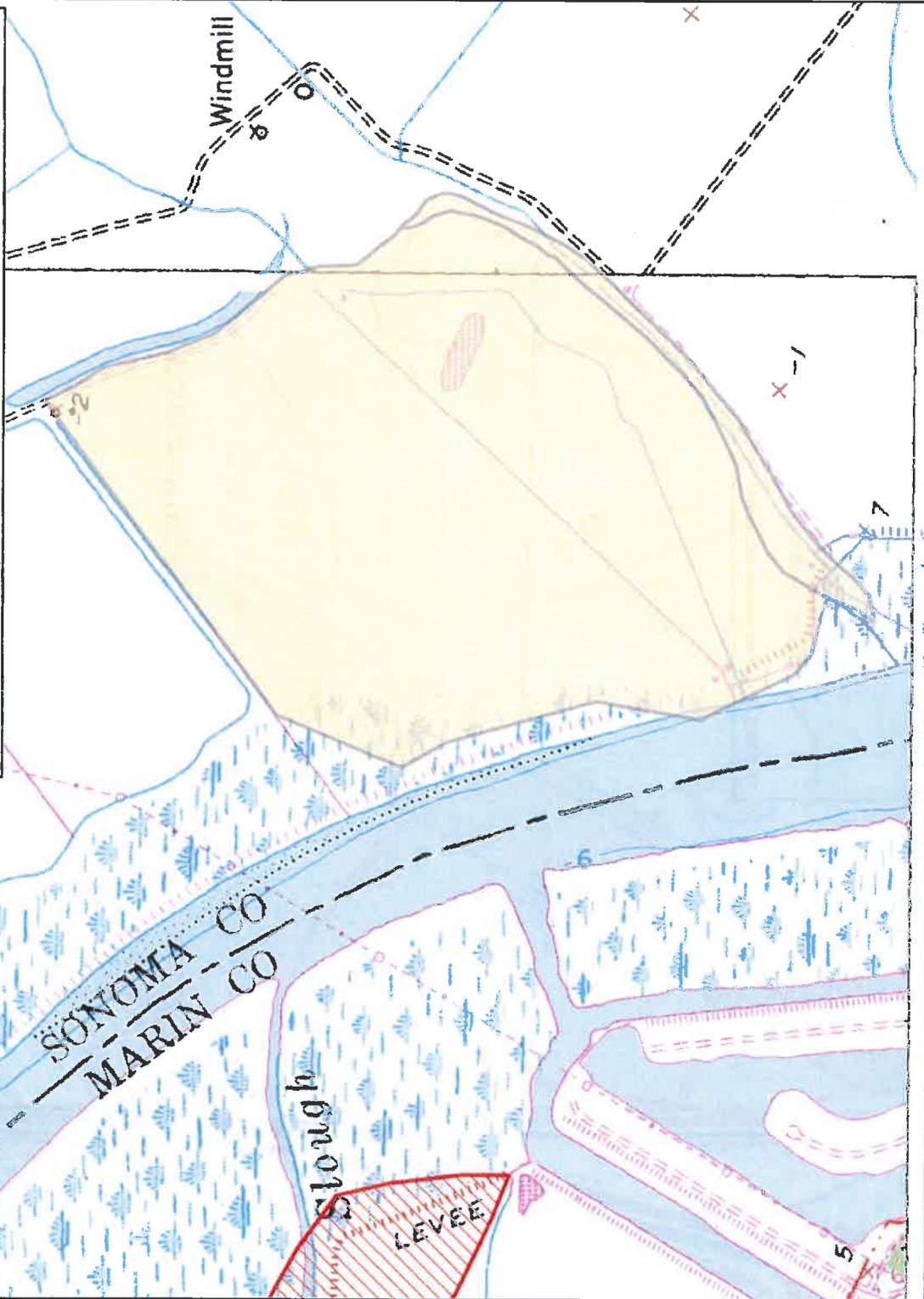
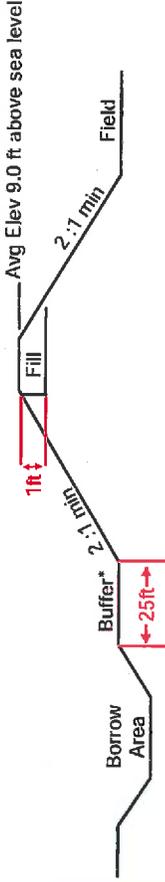
State Plane California II FIPS

0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



Typical Levee Cross Section



# Levee Maintenance Permit (RGP-6)

Permittee:  
20-C

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)



Landowner Parcel

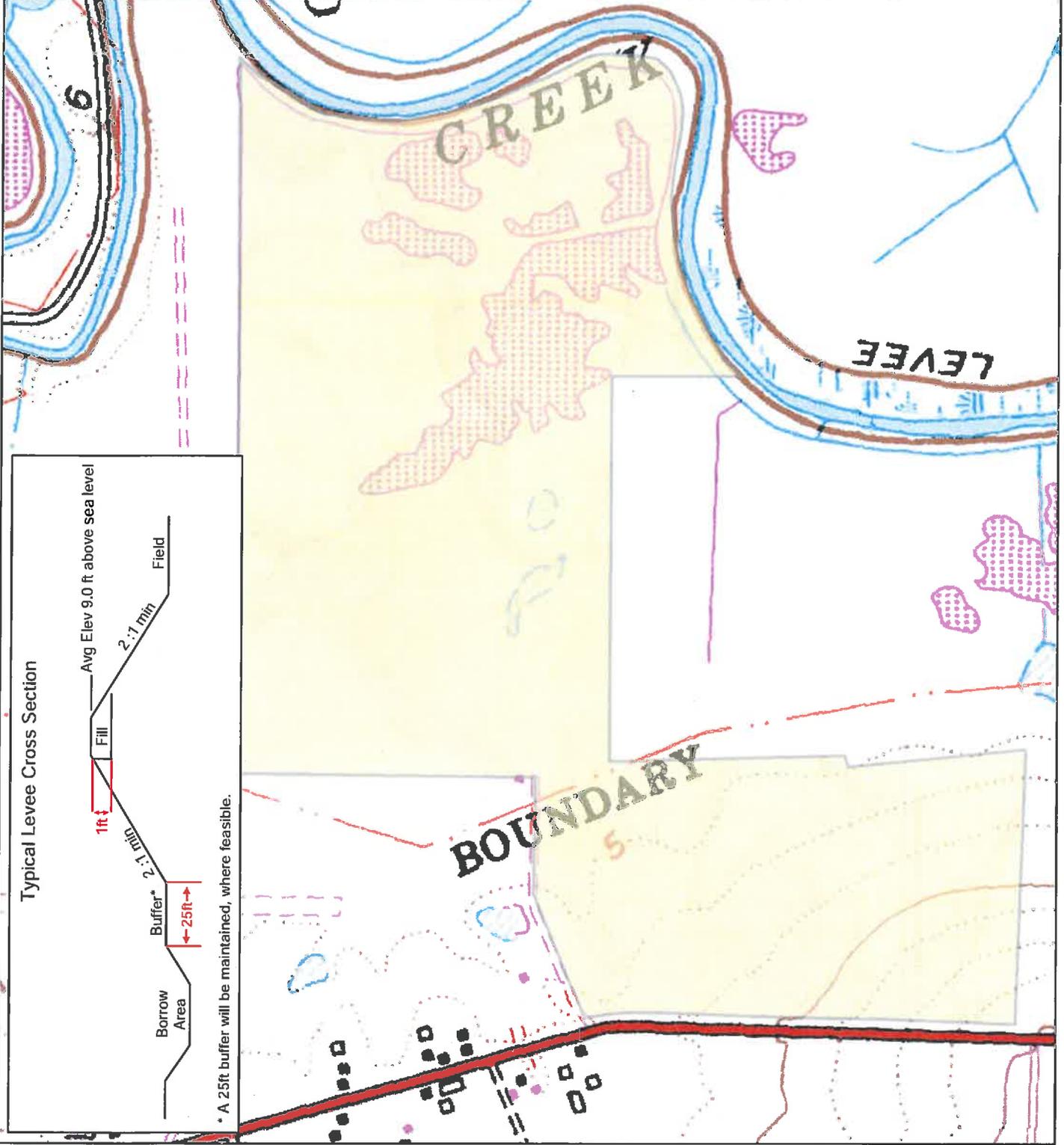


April 2017

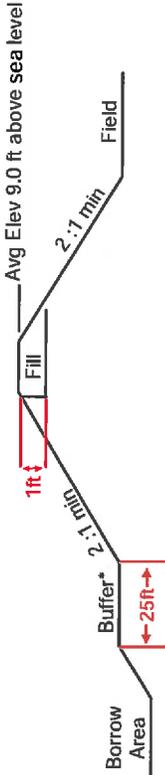
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point)

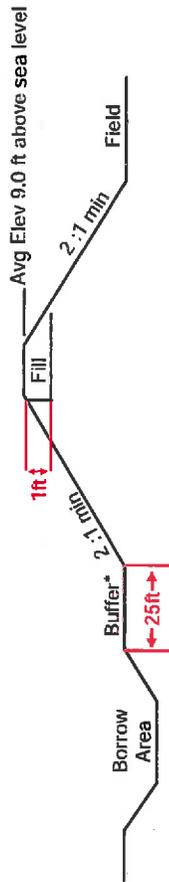


Typical Levee Cross Section

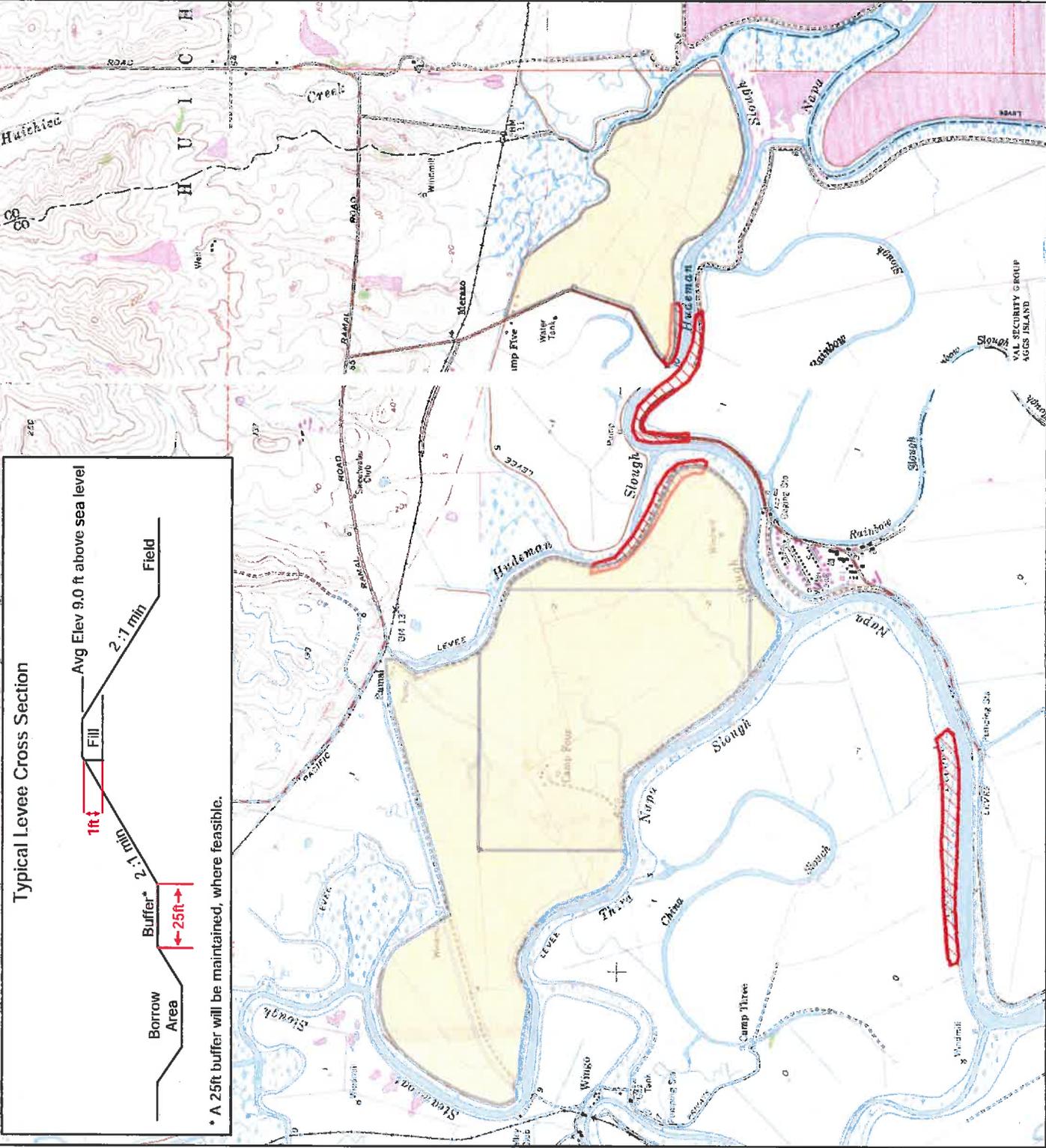


\* A 25ft buffer will be maintained, where feasible.

### Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



# Levee Maintenance Permit (RGP-6)

Permittee: 21-L

Permit Holder: Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

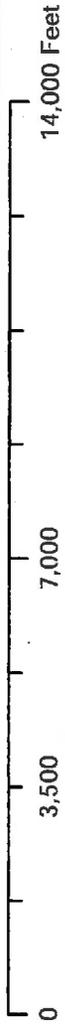
April 2017

Datum: North American 1983

Coordinate System: NAD 1983

State Plane California II FIPS 0402 Feet

Base layer: USGS 7.5" Topographic Quadrangle (Sears Point, Cuttings Wharf)



# Levee Maintenance Permit (RGP-6)

Permittee:  
23-R

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

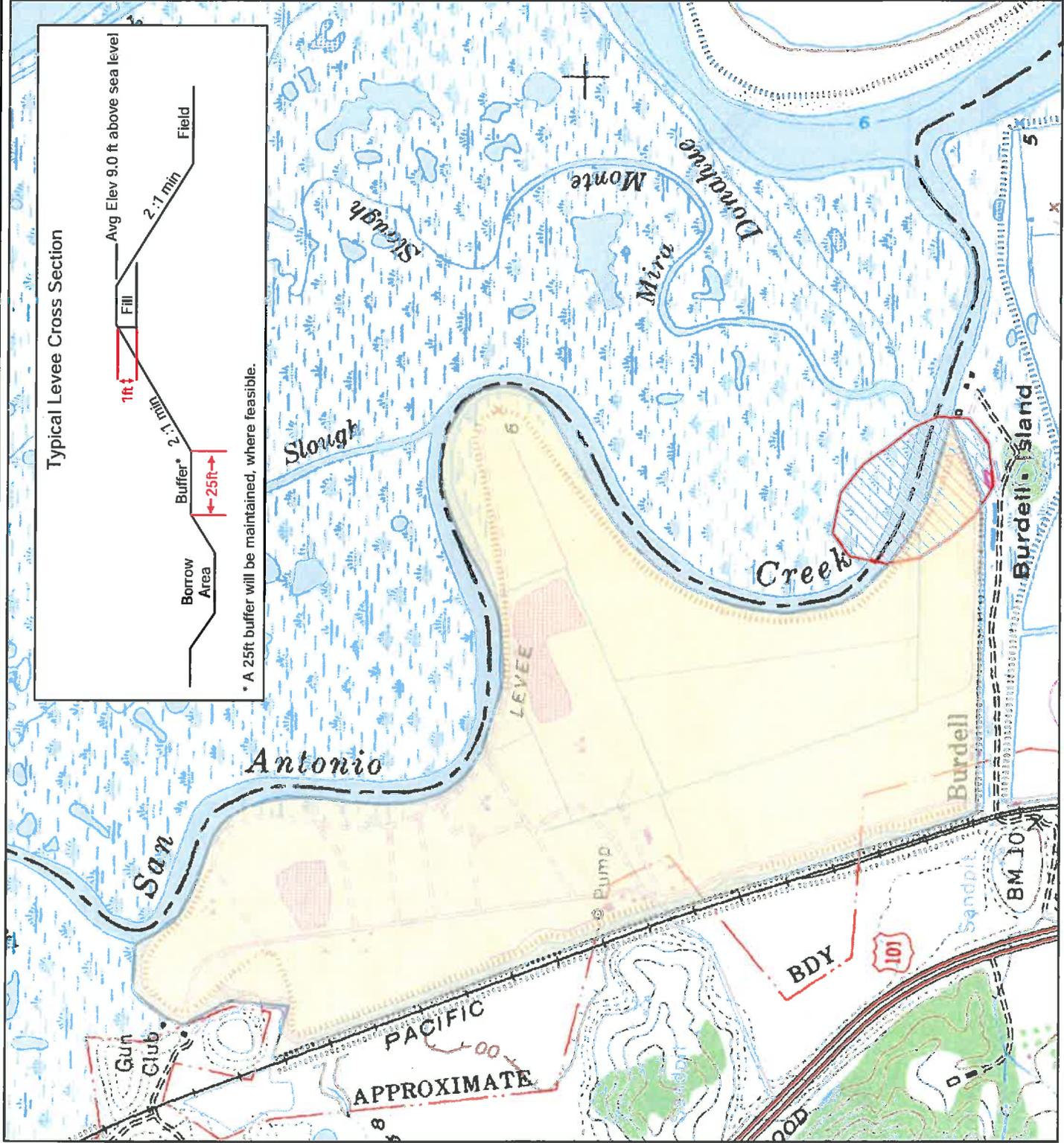
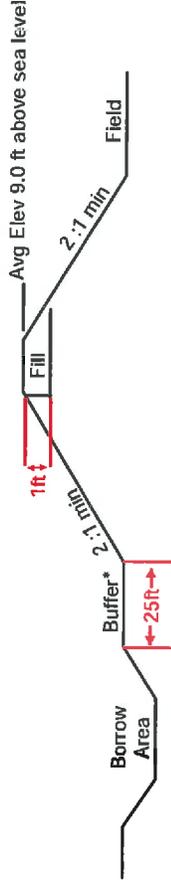
April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

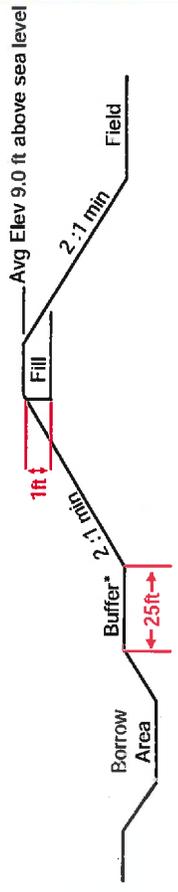
Base layer: USGS 7.5" Topographic  
Quadrangle (Petaluma River)



Typical Levee Cross Section



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.

# Levee Maintenance Permit (RGP-6)

Permittee: 24-H

Permit Holder: Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

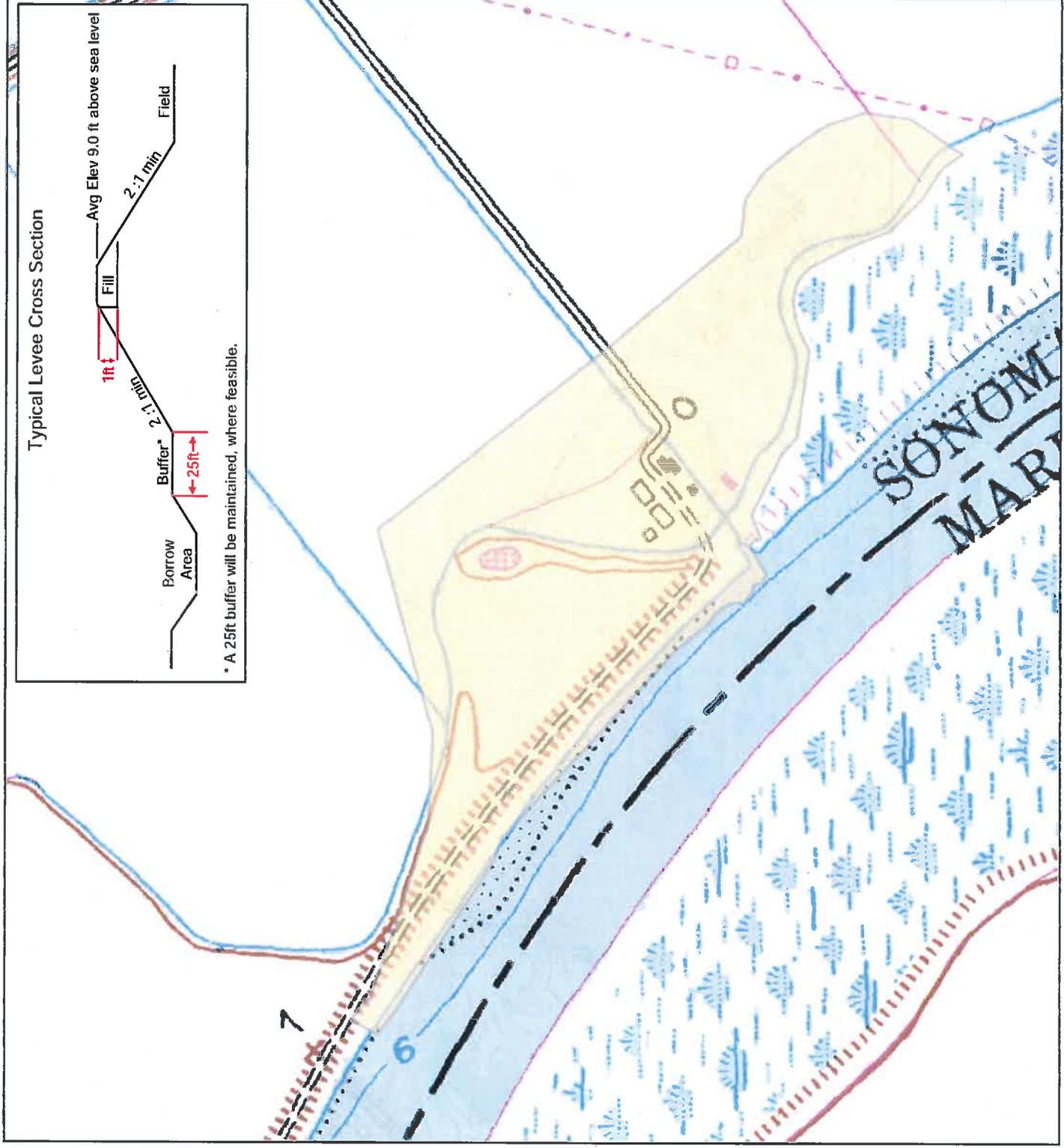
Clapper Rail- Seasonal Restrictions (see permit conditions)

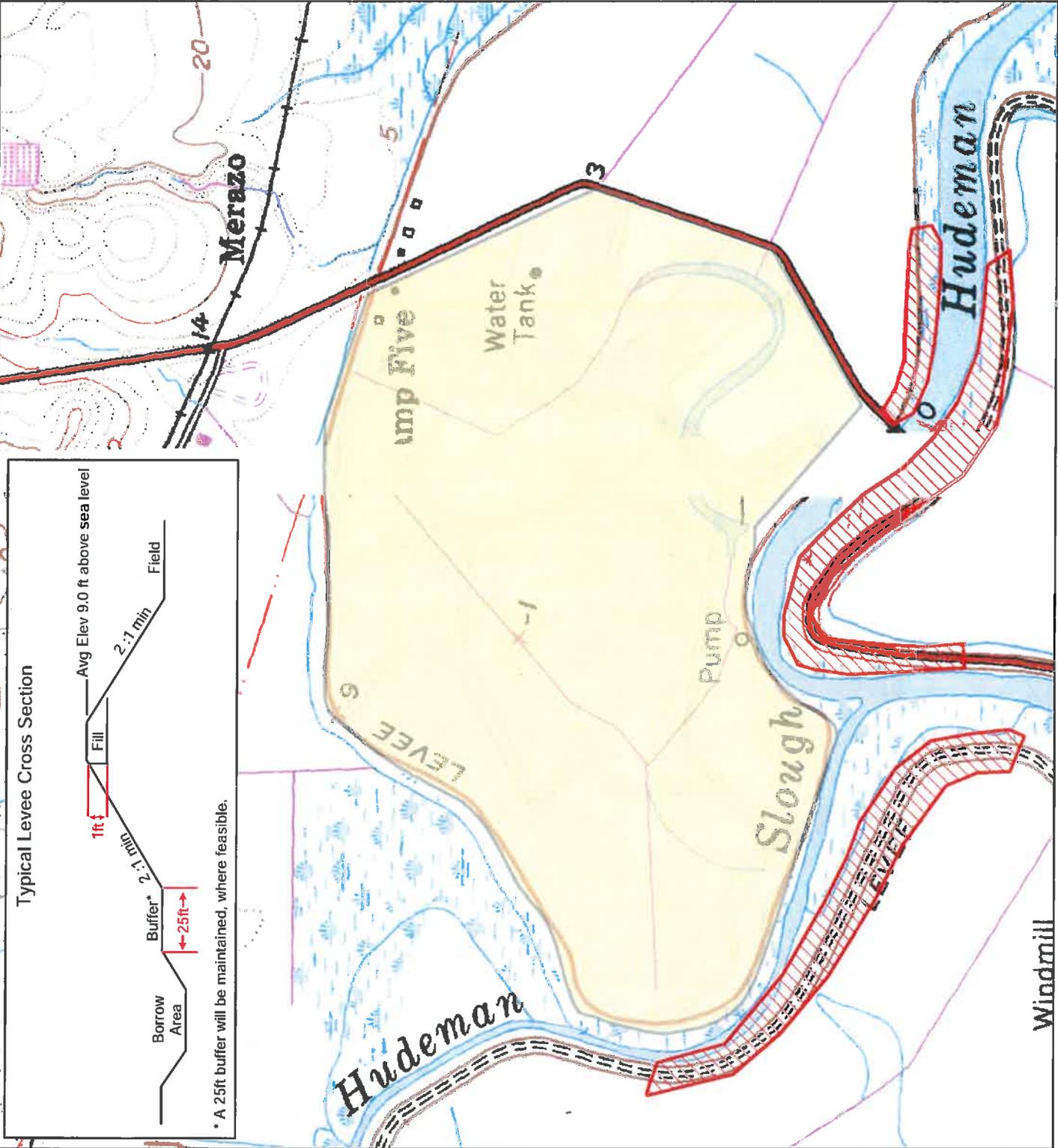
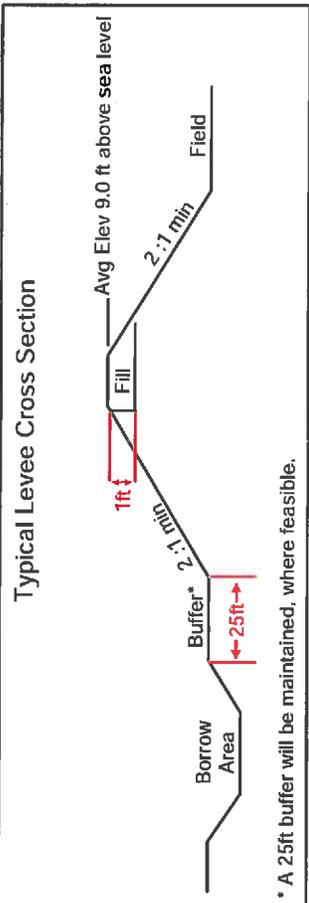
Landowner Parcel

April 2017

Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

Base layer: USGS 7.5" Topographic  
 Quadrangle (Petaluma River)





# Levee Maintenance Permit (RGP-6)

Permittee: 25-M

Permit Holder: Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

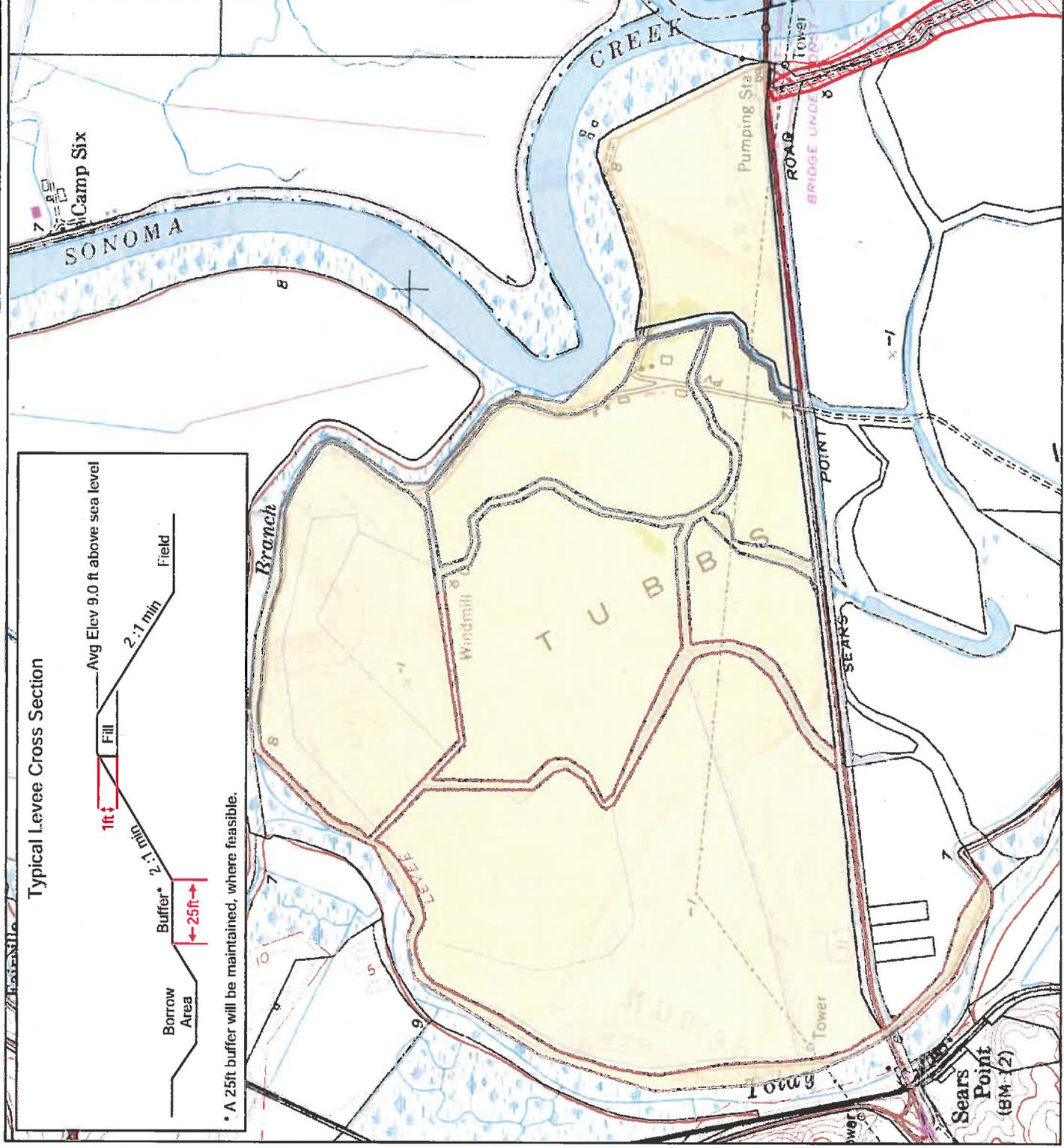
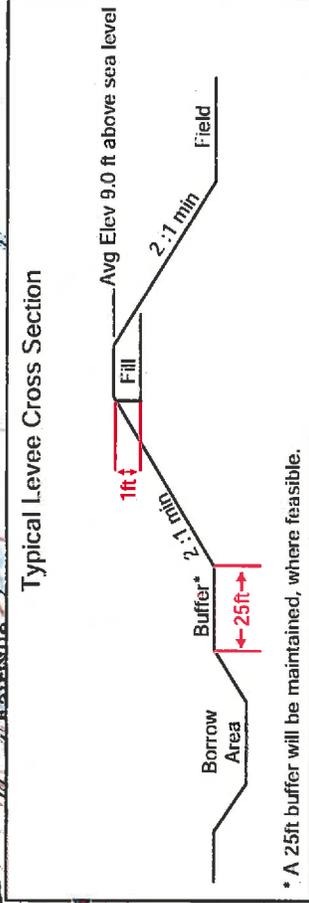
Landowner Parcel



April 2017  
Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point, Cuttings Wharf)





# Levee Maintenance Permit (RGP-6)

Permittee: 26-Y

Permit Holder: Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

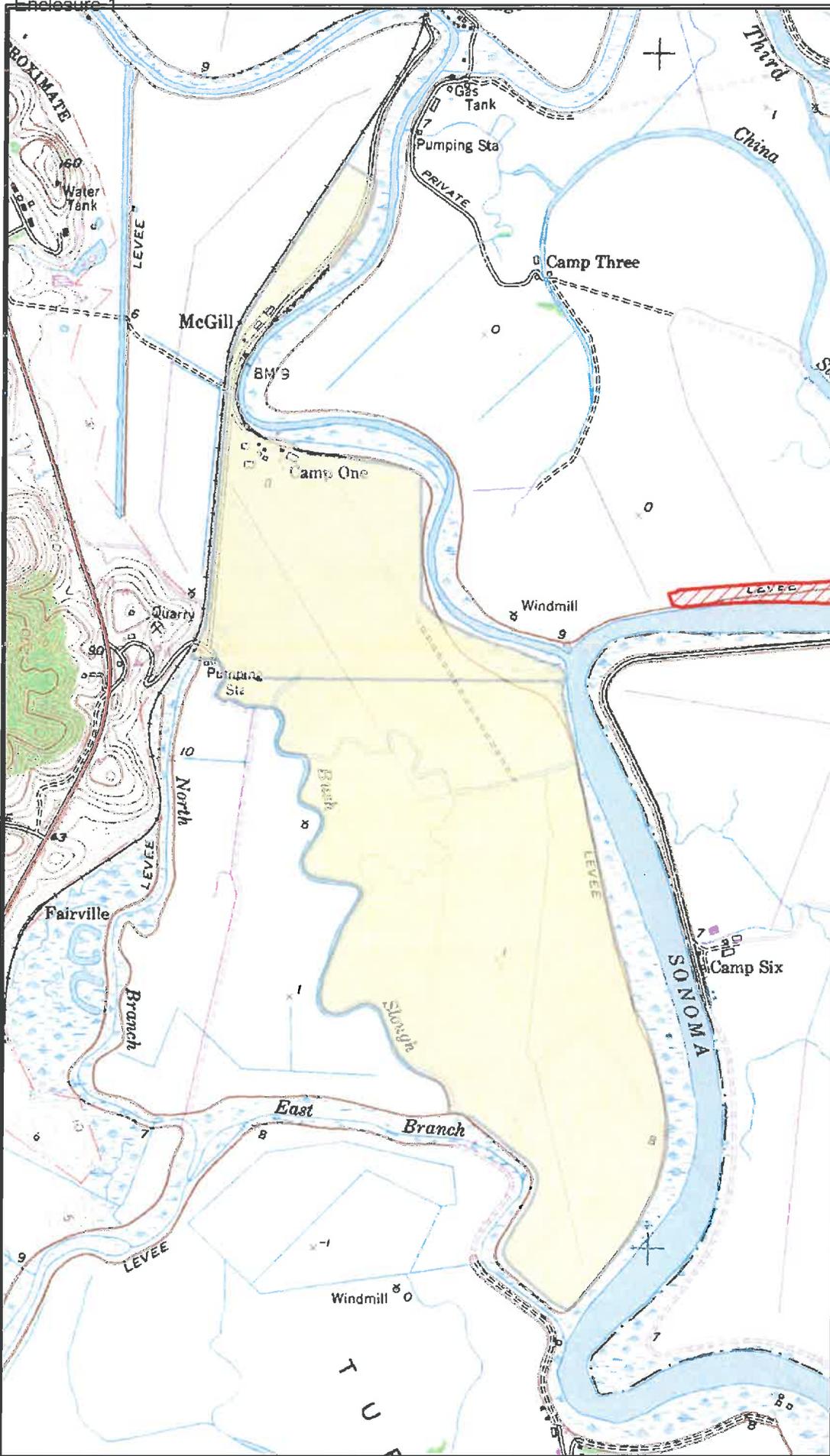
Landowner Parcel

July 2017

Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)





# Levee Maintenance Permit (RGP-6)

Permittee:  
28-M

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

### Clapper Rail- Seasonal Restrictions

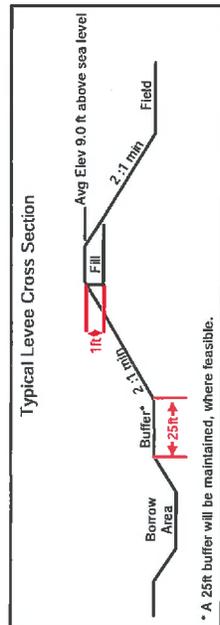
-  (see permit conditions)
-  Landowner Parcel

April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet



Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)



# Levee Maintenance Permit (RGP-6)

Permittee:  
30-T

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

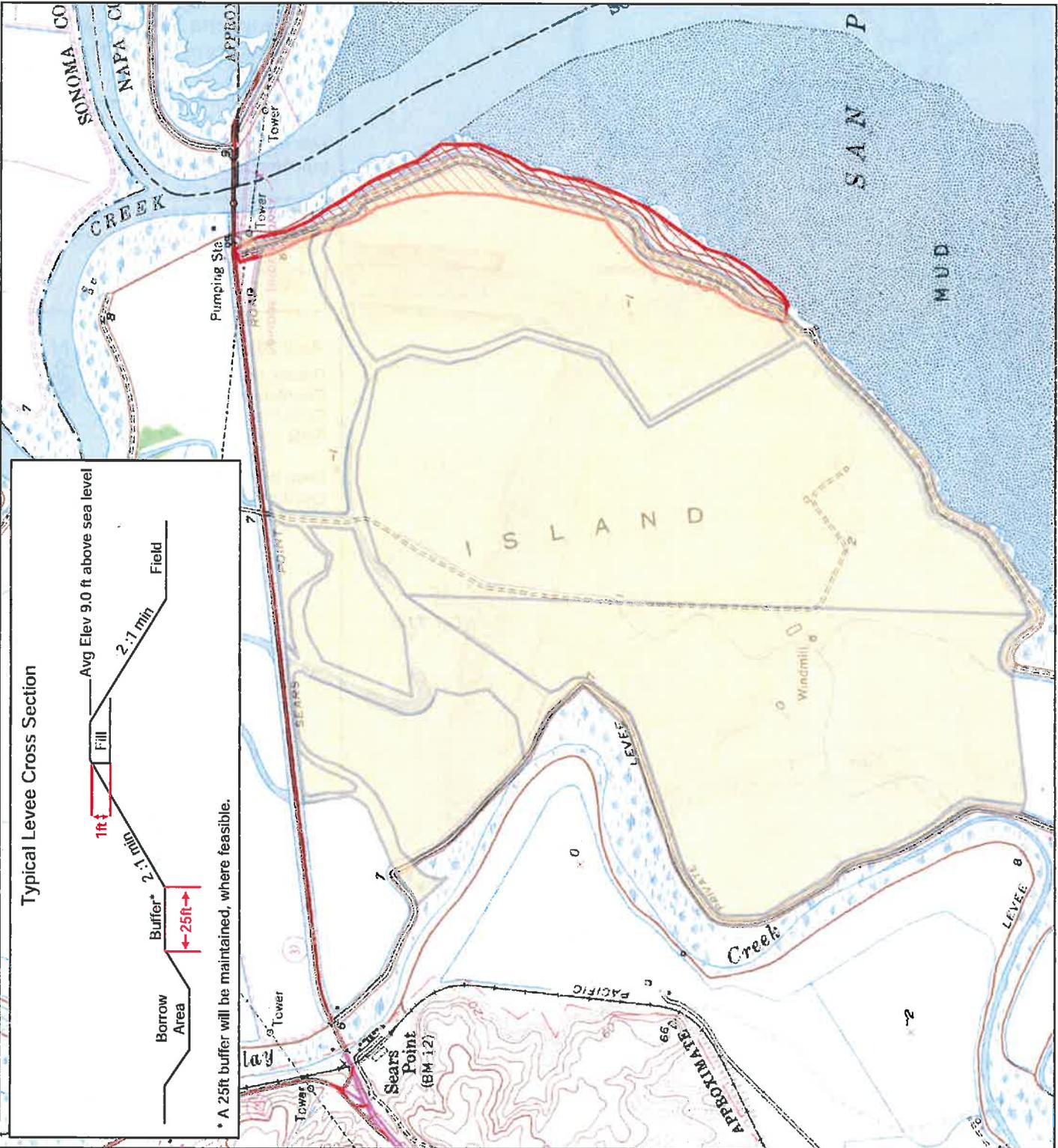
Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

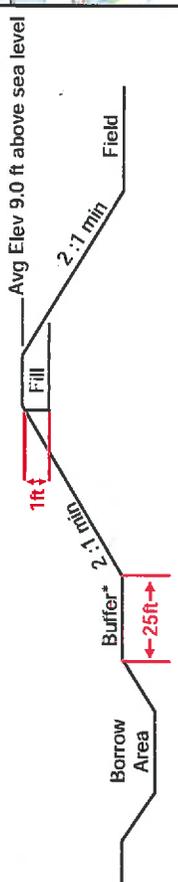
July 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

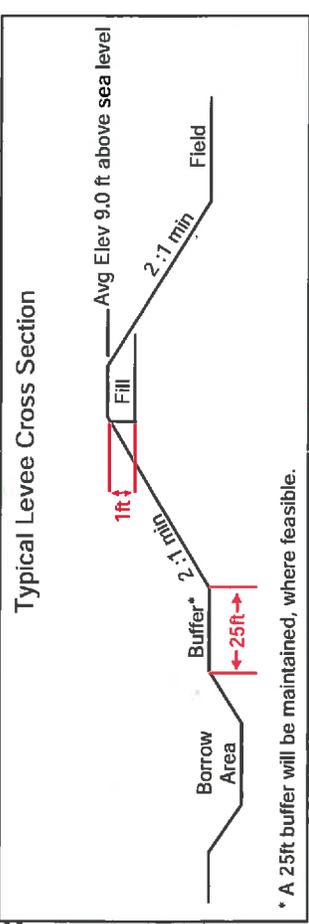
Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point)



Typical Levee Cross Section



\* A 25ft buffer will be maintained, where feasible.



# Levee Maintenance Permit (RGP-6)

Permittee:  
31-M

Permit Holder:  
Sonoma Resource Conservation District

This map is for annual maintenance reporting to the permitting agencies.

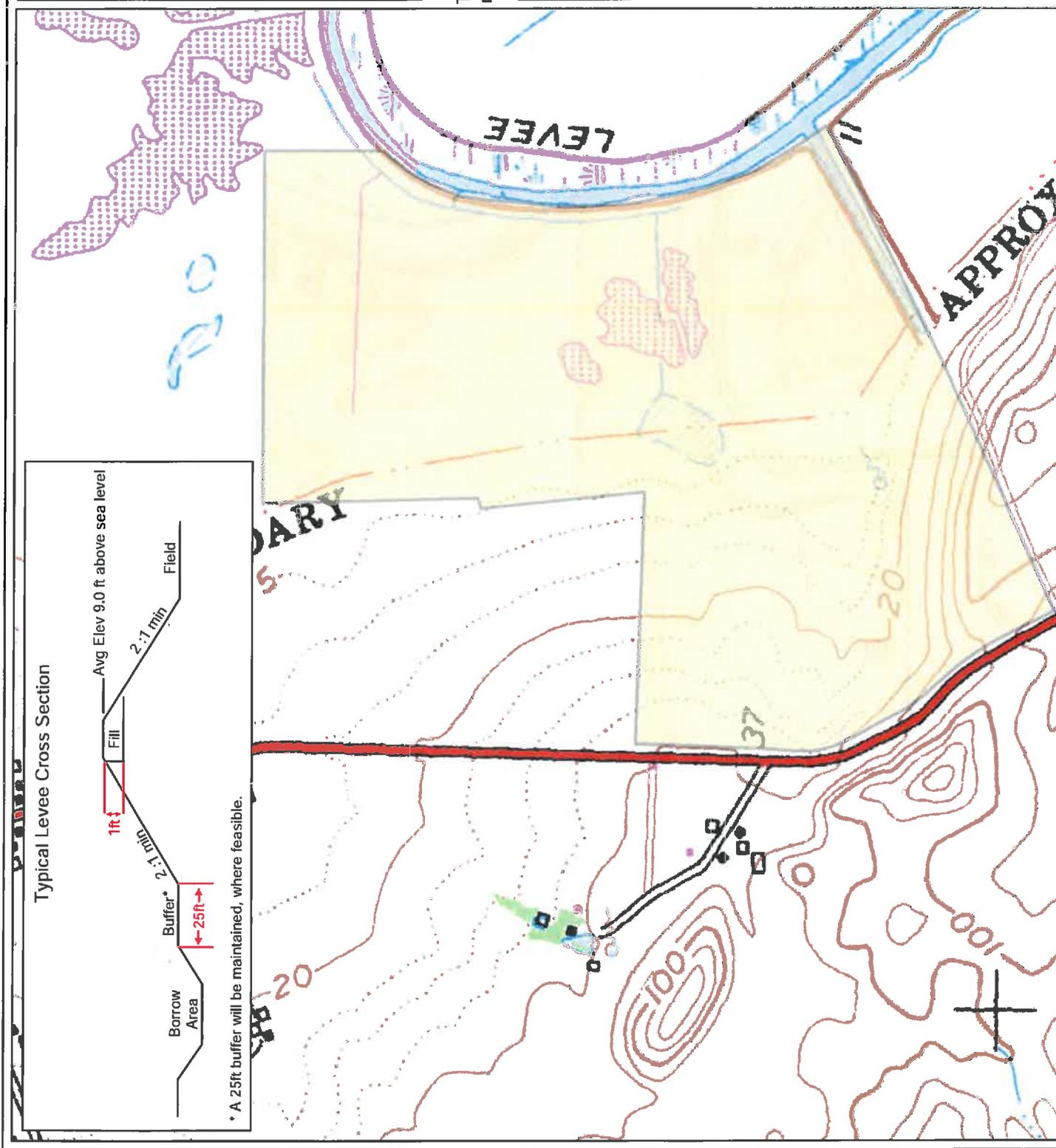
**Clapper Rail- Seasonal Restrictions**  
(see permit conditions)

- Clapper Rail- Seasonal Restrictions
- Landowner Parcel

April 2017

Datum: North American 1983  
Coordinate System: NAD 1983  
State Plane California II FIPS  
0402 Feet

Base layer: USGS 7.5" Topographic  
Quadrangle (Sears Point)



**Levee Maintenance Permit (RGP-6)**  
 Permittee: 32-P  
 Permit Holder: Sonoma Resource Conservation District

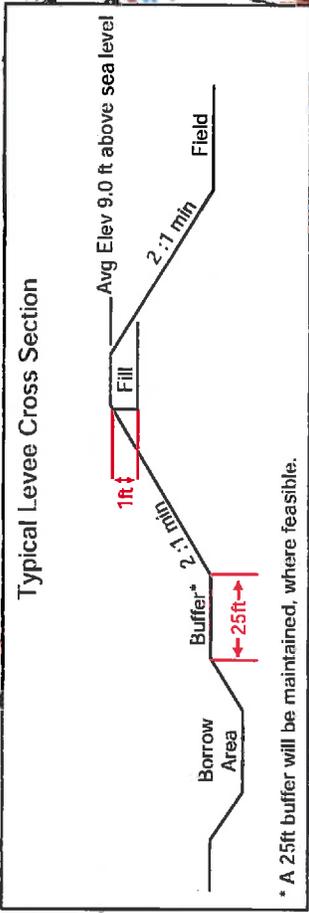
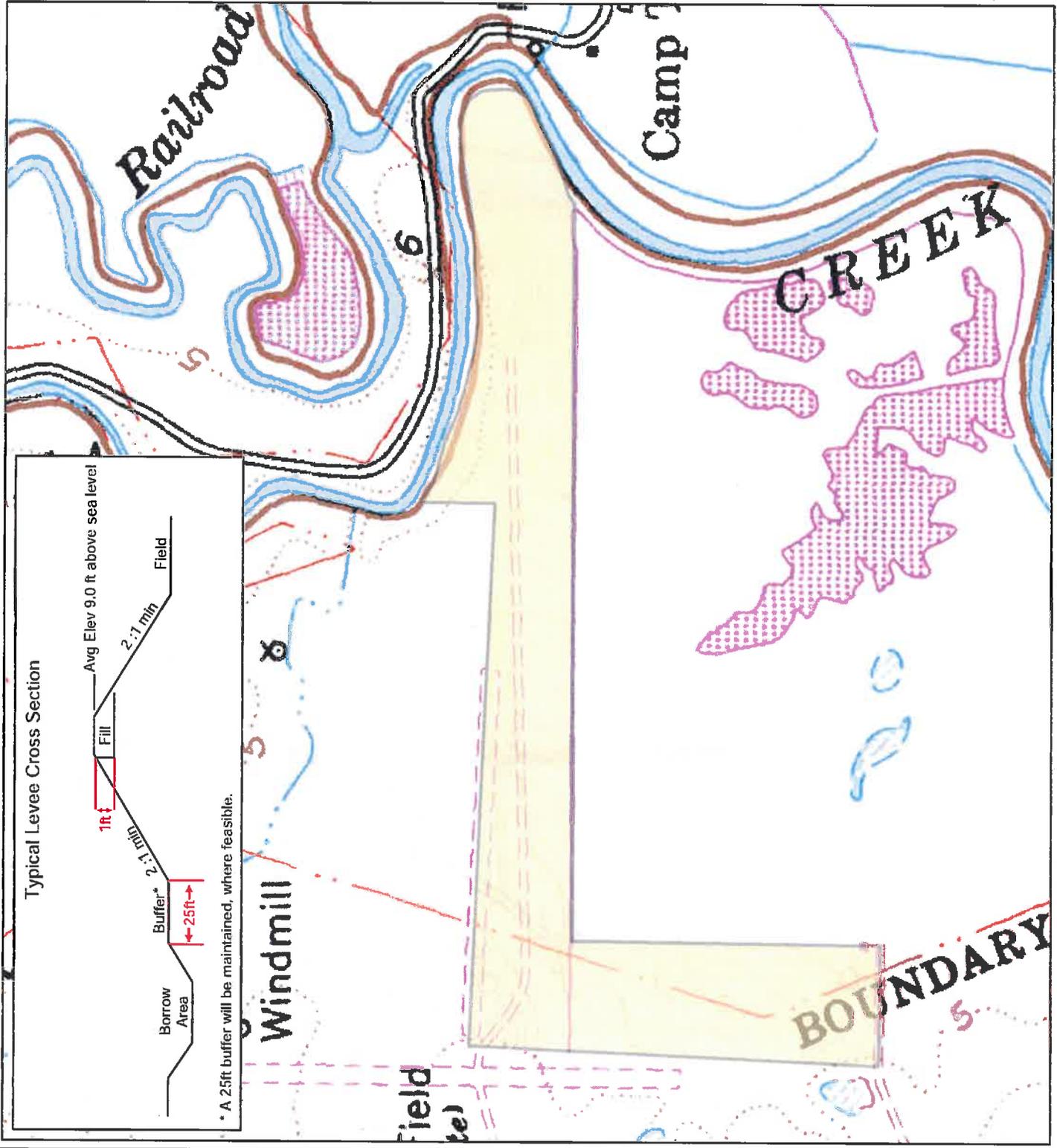
This map is for annual maintenance reporting to the permitting agencies.

Clapper Rail- Seasonal Restrictions (see permit conditions)

Landowner Parcel

April 2017  
 Datum: North American 1983  
 Coordinate System: NAD 1983  
 State Plane California II FIPS  
 0402 Feet

Base layer: USGS 7.5" Topographic Quadrangle (Sears Point)





United States Department of the Interior  
Fish and Wildlife Service

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846

IN REPLY REFER TO:  
1-1-00-I-763

February 1, 2000

Mr. Calvin C. Fong  
Chief, Regulatory Branch  
U.S. Army Corps of Engineers  
San Francisco District  
333 Market Street  
San Francisco, California 94105-2197

Subject: Response to Request for an Amendment to Biological Opinion for the  
Tolay Creek Restoration Plan (Service File Number 1-1-97-F-134),  
Sonoma County, California

Dear Mr. Fong:

This is in response to your request for an amendment to a biological opinion dated October 17, 1997. Your request was dated December 30, 1999, and received in this office on January 5, 2000. On September 9, 1994, the U.S. Fish and Wildlife Service (Service) issued a biological opinion (Service File No. 1-1-94-F-41) to the U.S. Army Corps of Engineers (Corps) on the effects of levee maintenance activities and dredging in Sonoma Creek, Petaluma River, and San Antonio Creek drainages, on California clapper rail (*Rallus longirostris obsoletus*) (clapper rail) and salt marsh harvest mouse (*Reithrodontomys raviventris*) (harvest mouse). The Service's biological opinion required the Corps and the permit applicant to prepare and implement a detailed tidal salt marsh habitat restoration plan to compensate for the temporary loss of 71 acres of clapper rail and harvest mouse habitat associated with the project. The Tolay Creek Restoration Plan (Restoration Plan) identified a 53 acre oat-hay field (parcel) immediately south of highway 37 and on the east side of Tolay Creek and proposed to restore 47 acres to tidal marsh as compensation for the proposed project. On October 17, 1997, the Service issued a biological opinion on the Restoration Plan (Service File No. 1-1-97-F-134), which stated that compliance with the Service's September 9, 1994, biological opinion "must be addressed as a formal amendment to that biological opinion". The Corps' letter dated December 30, 1999, requested an amendment to the Service's September 9, 1994, biological opinion stating "that the habitat restored at the [p]roposed CDFG pond is sufficient to relieve the Southern Sonoma Resource Conservation District of its mitigation requirement".

Acquisition of the parcel, breaching the levee to restore tidal action, and its transfer to California Department of Fish and Game satisfies the acreage requirement of the term and condition (a)

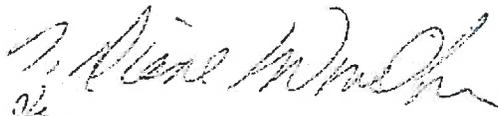
Mr. Calvin C. Fong

under reasonable and prudent measure number two of the September 9, 1994, biological opinion. In order to be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the remaining terms and conditions described in the September 9, 1994, biological opinion, which implement the reasonable and prudent measures described in the opinion and outline required reporting and monitoring requirements. Completing the remaining terms and conditions, including implementation of the May 14, 1998, Restoration Plan, is nondiscretionary. Therefore, the Corps shall assure that the following monitoring, as fully described in the Restoration Plan, will occur:

- (1) Monthly bird surveys will be conducted;
- (2) Annual California clapper rail and black rail surveys will be conducted;
- (3) Salt marsh harvest mouse populations will be monitored every two to three years once pickleweed habitat begins to develop;
- (4) Vegetative change and marsh development will be monitored annually from three photo points in the parcel;
- (5) Channel morphology will be monitored annually;
- (6) Elevation of parcel substrate will be monitored every five years;
- (7) Site hydrology will be monitored using staff gauges.

If you have any questions regarding this letter, please contact Carmen Thomas or Ken Sanchez at (916) 414-6625.

Sincerely,



Karen J. Miller  
Chief, Endangered Species Division

cc: Louise Vicencio, San Pablo Bay NWR, Mare Island, CA



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Sacramento Field Office  
2800 Cottage Way, Room E-1803  
Sacramento, California 95825-1846

In Reply Refer To:  
1-1-95-I-337

January 12, 1995

Lt. Colonel Michael J. Walsh  
U.S. Army Corps of Engineers  
Regulatory Branch (B. Smith)  
211 Main Street  
San Francisco, California 94105-1905

Subject: Clarification of the "Terms and Conditions" contained within the Biological Opinion for the Proposed Levee Maintenance Activities and Dredging in Sonoma Creek, Petaluma River, and San Antonio Creek Drainages, Marin and Sonoma Counties, California (Reference Number 1-1-94-F-41)

Dear Lt. Colonel Walsh:

This follows up the January 9, 1995, meeting between Carl Wilcox and Jim Swanson of the California Department of Fish and Game, Grant Davis, a representative from Congresswoman Woolsey's office, Paul Sheffer and Maxine Durney, representing the Sonoma Resource Conservation District, Mike Monroe of the U.S. Environmental Protection Agency and Jim Browning, Ruth Pratt and Matt Vandenberg of my office. The meeting was held to discuss proposed mitigation sites and levee maintenance activities pertaining to the Sacramento splittail (*Pogonichthys macrolepidotus*). The subject of this letter is to provide revised "Terms and Conditions" to the biological opinion issued on September 9, 1994, based on the information below.

The January 9th meeting provided information on the effects of dredging for levee maintenance on the Sacramento splittail that was not considered at the time the biological opinion was prepared. Specifically, information showed that the burrows created during the dredging process would benefit the Sacramento splittail by providing slough areas in the wetlands similar to those that existed historically. The creation of the "sloughs", containing access openings at both ends (i.e., not dead-end sloughs), would allow tidal action to better flood the high marsh plains, thus providing additional spawning habitat for the splittail. Further, because both ends of the created sloughs will be connected to the existing water bodies, splittail will be provided with suitable access to these new areas and adequate escapement during low tides.

Therefore, the following amended "terms and conditions" are provided to implement the original "reasonable and prudent measures" stated in the September 9, 1994, biological opinion on the South Sonoma County Resource Conservation District's proposed levee maintenance activities and dredging in

Lt. Colonel Michael J. Walsh

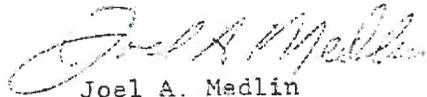
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Sonoma Creek, Petaluma River, and San Antonio Creek Drainages, Marin and Sonoma Counties, California:

- (a) To minimize take of Sacramento splittail, no dredging shall be conducted between February 28 (29) and June 1. Moreover, if the proposed dredging sites are submerged as a result of unimpaired run-off due to natural storm events, no dredging shall be conducted until the water on the proposed dredge sites has subsided. Because Sacramento splittail utilize flooded areas for spawning and rearing during these time periods, the surrounding habitat areas must remain undisturbed.
- (b) To minimize the impact to the normal behavioral patterns of the Sacramento splittail including, but not limited to, breeding, feeding and sheltering, created sloughs shall be "opened" at both ends to allow for tidal action and free movement into and out of the areas. Further, under no circumstances shall the created sloughs contain pools that may entrap the species and not allow escapement of fish during low tides.

If you have any questions regarding these changes, please contact Matthew Vandenberg of this office at 916-979-2725 for further discussion.

Sincerely,



Joel A. Medlin  
Field Supervisor

cc: ARD-ES, Portland, OR  
DFG, Attn: Carl Wilcox and Jim Swanson, Yountville, CA  
Congresswoman Woolsey's Office, Attn: Grant Davis, San Rafael, CA  
Sonoma RCD, Attn: Paul Sheffer, Petaluma, CA  
FWS-SFO, Wetlands, Sacramento, CA



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Sacramento Field Office  
2800 Cottage Way, Room E-1803  
Sacramento, California 95825

**In Reply Refer To:**  
1-1-94-F-41

September 9, 1994

Lt. Colonel Michael J. Walsh  
U.S. Army Corps of Engineers  
Regulatory Branch (Attn: Bob Smith)  
211 Main Street  
San Francisco, California 94105-1905

**Subject:** Endangered Species Formal Consultation on the Proposed Levee Maintenance Activities and Dredging in the Sonoma Creek, Petaluma River, and San Antonio Creek Drainages, Marin and Sonoma Counties, California (PN 19989N46, PN 19990N54, and PN 19991N39)

Dear Lt. Colonel Walsh:

This responds to your request for formal consultation on issuance of a permit to the Southern Sonoma County Resource Conservation District (SSCRCD) to maintain levees through dredging of material from waterways in the Sonoma Creek, Petaluma River, and San Antonio Creek drainages in Marin and Sonoma Counties. Your request for formal consultation and conferencing, dated June 3, 1994, was received by the U.S. Fish and Wildlife Service (Service) on June 6, 1994.

This biological opinion addresses the effects of levee maintenance and dredging on the endangered California clapper rail (*Rallus longirostris obsoletus*), endangered salt marsh harvest mouse (*Reithrodontomys raviventris halicoetes*), and proposed threatened Sacramento splittail (*Pogonichthys macrolepidotus*).

This biological opinion is based on (1) U.S. Army Corps of Engineers (Corps) Public Notices 19989N46, 19990N54, and 19991N39, dated February 14, 1994; (2) information in Service files; and (3) additional communications between the Corps, the SSCRCD, and the Service.

## Biological Opinion

It is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the endangered California clapper rail, endangered salt marsh harvest mouse, or proposed threatened Sacramento splittail. Critical habitat for these species has not been designated or proposed; therefore, none will be adversely modified or destroyed.

### Description of the Proposed Action

Participating members of the SSCRCO propose to dredge material from the channels and/or wetlands adjacent to existing levees on their property to obtain material for levee maintenance. These levees lie adjacent to Sonoma Creek, Tolay Creek, the north and east branch of Tolay Creek, Napa Slough, Second Napa Slough, Third Napa Slough, Hudeman Slough, Steamboat Slough, Schell Slough, Railroad Slough, Rainbow Slough, and San Pablo Bay in the Sonoma Creek drainage; and San Antonio Creek, Petaluma River, and San Pablo Bay in the Petaluma River drainage.

Material would be dredged using a dragline from the water side of the levee and placed directly on top of the levee. The borrow areas are typically 25 feet out from the base of the levee and 15 feet wide, although the width varies. Borrow areas are excavated about 3 feet in depth.

In the Petaluma River drainage, most of the levees along the east bank of the river and some along San Antonio Creek support emergent vegetation 25 feet or less in width. Along these stretches, material for levee repair would be dredged directly from the river or creek bed. Along the remaining levees, material would be dredged from borrow areas in adjacent sloughs (Mud, Mud Hen, Black John, and Basalt Creek) with emergent tidal vegetation. According to the Public Notice (19989N46, 19991N39), the borrow areas along most of these levees are well defined, but for some, particularly along Black John Slough, the borrow areas are less visible because of regrowth of emergent vegetation.

In the Sonoma Creek drainage, many of the levees along Sonoma Creek above Second Napa Slough, along Lower Tolay Creek, and portions of remaining sloughs support emergent vegetation 25 feet or less in width. Material in these areas would be dredged directly out of the slough or creek bed. Along other levees, material would be dredged from borrow areas in adjacent marsh. According to the Public Notice (19990N54), the borrow areas along upper Tolay Creek, the north and east branches of Tolay Creek, the south side of Tubbs Island (San Pablo Bay), the south side of Steamboat Slough, upper Hudeman Slough, Second Napa Slough, and Napa Slough east of the Gonzales property, are less visible because of regrowth of emergent vegetation.

The permit application includes 242,000 linear feet of levee in the Sonoma Creek drainage and 83,500 linear feet (excludes Redwood Sanitary Landfill proper) in the Petaluma River drainage. The Corps Regional Permit for this activity, however, would authorize the dredging of up to 4 cubic yards of material per foot of levee, not to exceed 10,000 cubic yards per property owner per year (approximately 2,500 feet of levee/property owner/year). The Regional Permit would be in effect for 5 years.

### Species Account/Environmental Baseline

#### California Clapper Rail

Please refer to U.S. Fish and Wildlife Service (1984) for biological information on the California clapper rail. Additional information is taken

from a previous biological opinion prepared by the Service, dated August 31, 1990, on Department of the Army permit application no. 15283E49, however, certain sections on the distribution, abundance, and status of the rail contained in that opinion are updated below to reflect current information.

Of the 193,800 acres of tidal marsh that bordered San Francisco Bay in 1850, about 30,100 acres currently remain (Dedrick, 1993). This represents an 84 percent reduction from historical conditions. In the north Bay alone, 59,000 acres of tidal marsh occurred historically. Only 13,670 acres or 23 percent remain today. A number of factors influencing remaining tidal marshes limit habitat values for clapper rails. In the north Bay as well as other portions of the Bay, habitat suitability of many marshes for clapper rails is limited or precluded by small size, fragmentation, and lack of tidal channel systems and other microhabitat features. Much of the tidal marsh habitat in the project area is comprised of narrow strips adjacent to levees. Although much is unsuitable for nesting, these narrow strips of marsh may also provide movement corridors for rails dispersing from existing nesting areas. In addition, marshes in the upstream portions of the Sonoma Creek drainage are comprised of primarily freshwater vegetation which is unsuitable for the clapper rail. In other portions of the Bay, marsh erosion and conversion to freshwater habitat are eliminating or limiting available habitat for clapper rails. These limitations render much of the remaining tidal marsh acreage in San Francisco Bay unsuitable or of low value for the species.

Throughout the Bay, the remaining California clapper rail population is besieged by a suite of mammalian and avian predators. At least twelve native and three non-native predator species are known to prey on various life stages of the rail in the south Bay (Albertson *et al.*, in prep.). Albertson *et al.* (in prep.) reported nest predation as high as 64 percent in some south Bay marshes. Red fox, Norway rats, and various raptors are the most common predators of clapper rails in the south Bay. These predators also may commonly prey on clapper rails in the north Bay. No studies, however, have been done in the north Bay on the effects of predators on clapper rails. Red fox, however, have been sighted at several locations in the north Bay in recent years.

Mercury accumulation in eggs is perhaps the most significant contaminant affecting clapper rails in San Francisco Bay, with the south Bay containing the highest mercury levels. Mercury is extremely embryo toxic and has a long biological half-life. The Service collected data from 1991 and 1992 on mercury concentrations in rail eggs in the southern portion of the estuary and found that the current accumulation of mercury in rail eggs occurs at potentially harmful levels. The percentage of non-viable eggs ranged from 25 to 38 percent (mean = 29 percent). No similar studies of contaminants and their effects on clapper rails have been done in the north Bay.

Gill (1979) estimated the total California clapper rail population in San Francisco Bay in the mid-1970's at 4,200 to 6,000 birds. Surveys conducted by the California Department of Fish and Game and the Service estimated that the clapper rail population approximated 1,500 birds in the mid-1980's (Harvey 1988). In 1988, the total San Francisco Bay clapper rail population was estimated to be 700 individuals with 200-300 rails in the north Bay and Suisun

Marsh (Foerster 1989). The total rail population reached an estimated all-time historical low of about 500 birds in 1991 with the greatest recorded declines occurring in the south Bay (USFWS unpubl. data; E. Harding-Smith, pers. comm., 1993). In response to predator management, the south Bay rail population has since rebounded and is now estimated to be approximately 600 individuals (USFWS unpubl. data). A preliminary estimate of the north Bay and Suisun Marsh population is 195-422 pairs (Evens and Collins 1992).

In the Petaluma River drainage, Evens and Collins (1992) estimated 19 pairs of clapper rails. Clapper rails were found primarily at the mouth of Petaluma River, in Petaluma Marsh, and in nearby large blocks of tidal salt marsh habitat. In the Sonoma Creek drainage, Evens and Collins (1992) estimated 13 pairs of rails with Second Napa Slough, Hudeman Slough, and the mouth of Sonoma Creek being the primary locations of breeding pairs.

In a north Bay marsh, Evens and Page (1983) concluded that the clapper rail breeding season, including pair bonding and nest construction, may begin as early as February. Field observations in south Bay marshes suggest that pair formation also may occur in February in some areas (J. Takekawa, pers. comm., 1993). Similar observations have been made in Suisun Marsh (B. Grewell, pers. comm., 1993). The end of the breeding season is typically defined as the end of August, which corresponds with the time when eggs laid during re-nesting attempts have hatched and young are mobile. Young may fledge as late as mid-September (J. Takekawa, pers. comm., 1993).

Upland cover for escape during flood tides is essential for the species (Evens and Page 1983). In the project area, upland refugial cover is confined to the slopes of the levees.

**Salt Marsh Harvest Mouse**

Please refer to U.S. Fish and Wildlife Service (1984) for a summary of the status, distribution, and habitat requirements of the salt marsh harvest mouse. The information included in the Service's August 31, 1990, biological opinion on Department of Army permit application no. 15283E49 is still current and, therefore, thereby incorporated by reference.

Preferred habitat of the salt marsh harvest mouse in the project area is tidal salt marsh dominated by pickleweed. Salt marsh harvest mice share similar habitat with the California clapper rail, and therefore have experienced similar historic loss of habitat, particularly in the north Bay.

No comprehensive salt marsh harvest mouse surveys have been conducted in either the Petaluma River or Sonoma Creek drainage basins. The most recent trapping studies in the project area occurred in the late 1970's and early 1980's in preferred habitat in Sonoma Creek, Tolay Creek, at the mouth of Petaluma River, and just south of the Highway 101 bridge over Petaluma River. Mice are presumed to inhabit other similar habitat in the drainage basins.

## Sacramento Splittail

Please refer to the proposed rule to list the Sacramento splittail as a threatened species (59 FR 862) for a more detailed account of the biology of the species. The Sacramento splittail (*Pogonichthys macrolepidotus*) is a large cyprinid that can reach greater than 12 inches in length (Moyle 1976). Adults are characterized by an elongated body, distinct nuchal hump, and a small blunt head with barbels usually present at the corners of the slightly subterminal mouth. This species can be distinguished from other minnows in the Central Valley of California by the enlarged dorsal lobe of the caudal fin. Splittail are dull, silvery-gold on the sides and olive-grey dorsally. During the spawning season, the pectoral, pelvic and caudal fins are tinged with an orange-red color. Males develop small white nuptial tubercles on the head.

Splittail are endemic to California's Central Valley where they were once widely distributed (Moyle 1976). Historically, splittail were found as far north as Redding on the Sacramento River and as far south as the site of Friant Dam on the San Joaquin River (Rutter 1908). Rutter (1908) also found splittail as far upstream as the Oroville Dam site on the Feather River and Folsom Dam site on the American River. Anglers in Sacramento reported catches of 50 or more splittail per day prior to damming of these rivers (Caywood 1974).

In recent times, dams and diversions have increasingly prevented upstream access to large rivers and the species is restricted to a small portion of its former range (Moyle and Yoshiyama 1992). Splittail enter the lower reaches of the Feather (Jones and Stokes 1993) and American Rivers (Charles Hanson, State Water Contractors, in litt., 1993) on occasion, but the species now largely is confined to the Delta, Suisun Bay, Suisun Marsh, and Napa Marsh.

Splittail are long lived, frequently reaching five to seven years of age. Females are highly fecund and each produces over 100,000 eggs. Populations fluctuate annually depending on spawning success. Spawning success is highly correlated with fresh water outflow and the availability of shallow-water habitat with submerged vegetation (Daniels and Moyle 1983). Splittail usually reach sexual maturity by the end of their second year. There is some variability in the reproductive period since older fish reproduce before younger individuals (Caywood 1974). Splittail migrate upstream to spawn, similar to delta and longfin smelt. The onset of spawning is associated with rising temperature and peaks from the months of March through May, although there are records of spawning from late January to early July (Wang 1986). Spawning occurs over flooded vegetation in tidal freshwater and euryhaline habitats of estuarine marshes and sloughs and slow-moving reaches of large rivers. Larvae remain in shallow, weedy areas close to spawning sites and move into deeper water as they mature (Wang 1986).

Splittail are benthic foragers that feed on opossum shrimp, although detrital material makes up a large percentage of their stomach contents (Daniels and Moyle 1983). Earthworms, clams, insect larvae, and other invertebrates are

also found in the diet. Predators include striped bass and other piscivores. Splittail are sometimes used as bait for striped bass. Although this occurs, it is not a common practice.

Splittail can tolerate salinities as high as 10-18 ppt (Moyle 1976, Moyle and Yoshiyama 1992). Splittail are found throughout the Delta, Suisun Bay and Suisun and Napa marshes. They migrate upstream from brackish areas to spawn in freshwater. Because they require flooded vegetation for spawning and rearing, splittail are frequently found in areas subject to flooding.

The 1983-1992 decline in splittail abundance is concurrent with hydrologic changes to the Sacramento-San Joaquin Estuary. These changes include increases in water diversions during the spawning period of January through July and dams that limit upstream migration. Diversions, entrainment due to CVP/SWP pumping, dams and reduced outflow, coupled with severe drought years, introduced aquatic species, and loss of wetlands and shallow-water habitat (California Department of Fish and Game 1992) appear to have reduced the 'species' capacity to reverse its decline.

The existing environmental baseline for the Sacramento splittail includes Central Valley Project (CVP) and State Water Project (SWP) operations modified by D-1485, the February 12, 1993, winter-run chinook salmon biological opinion, and the Service's February 4, 1994, delta smelt biological opinion.

The Sacramento splittail is adapted to living in rivers of the Central Valley where salinity varies spatially and temporally according to tidal cycles and the amount of freshwater inflow. Despite this tremendously variable environment, historical conditions probably offered relatively consistent spring flows that provided the Sacramento splittail with desired spawning and rearing grounds. Since the 1850's, however, the amount and extent of suitable habitat for the Sacramento splittail has declined dramatically. The advent in 1853, of hydraulic mining in the Sacramento and San Joaquin Rivers, led to increased siltation and alteration of the circulation patterns of the estuary (Nichols et al. 1986, Monroe and Kelly 1992). The reclamation of Merritt Island for agricultural purposes, in the same year, marked the beginning of the present-day cumulative loss of 94 percent of the Estuary's tidal marshes (Nichols et al. 1986, Monroe and Kelly 1992).

In addition to this degradation and loss of habitat, the Sacramento splittail has been increasingly subject to entrainment, upstream or reverse flows of waters in the Delta and San Joaquin River, and constriction of desired flooded vegetative habitat. These adverse conditions are primarily a result of the steadily increasing proportion of water diverted from the Delta by the Federal and State water projects (Monroe and Kelly 1992). Water delivery through the CVP began in 1940. The SWP began delivering water in 1968. However, the proportion of freshwater being diverted has increased since 1983, and has remained at extremely high levels ever since (Moyle et al. 1992). The high proportion of fresh water exported has exacerbated the already harsh environmental conditions experienced by the Sacramento splittail during the last six drought years.

There are over 1,800 screened and unscreened diversions within the delta; most of which adversely impact the Sacramento splittail. Entrainment caused by these diversions is likely the greatest source of mortality to Sacramento splittail. No fish screens can protect all Sacramento splittail from being entrained or impinged, and larval Sacramento splittail are particularly susceptible to entrainment, even with the best screening.

During the Sacramento splittail critical rearing interval from March 1 to May 31, adequate outflows of sufficient magnitude and duration are beneficial to provide the conditions necessary for spawning. For Sacramento splittail, these flows also provide transport away from the influence of the CVP/SWP pumps, and provides the necessary rearing habitat areas.

### Effects of the Action

#### Disturbance to Clapper Rail Breeding Territories

Proposed levee maintenance activities could disrupt clapper rail breeding where territories lie adjacent to levees to be maintained. The degree of this disturbance likely would depend upon the proximity of individual rails and nests and the timing within the breeding season, and could result in increased competitive interactions, territory boundary shifts, or territory abandonment.

During a recent telemetry study of clapper rails in south San Francisco Bay, researchers observed an individual rail leaving an established territory in the Laumeister Marsh during the breeding season when apparently disturbed by a PG&E work crew in April 1992. The rail disturbed in Laumeister Marsh left a small, well-defined territory and subsequently moved throughout a large 37-acre area within the marsh and was unable to establish a new territory within the breeding period (USFWS, unpub. data). As a result of this territorial abandonment, the opportunity for successful reproduction during the breeding season was eliminated (J. Takekawa, pers. comm., 1993). Data from this telemetered rail suggest that increased human activity and associated noise within a rail's established territory can significantly alter the normal behavioral patterns of rails during the breeding season, possibly resulting in extensive movements, lack of reproductive success, or territory abandonment.

Levee maintenance activities conducted during the breeding season could cause rails to shift or abandon their territories. The ability of rails to reestablish new breeding territories could be severely hampered by limited habitat available in the vicinity to establish a new territory and the fact that rails tenaciously defend established breeding territories from intrusions by other rails. Furthermore, suitable tidal marsh habitat along remaining portions of the Sonoma Creek and Petaluma River drainages also is limited and disturbed rails could be forced to move considerable distances across marginal habitat in search of suitable unoccupied habitat. Such movement by a pair of rails from its established territory could significantly increase the risk of predation and mortality. Survival of displaced rails likely would be less than survival of rails that remain in established territories. In a telemetry study of light-footed clapper rails in southern California, Zembal and Massey (1988) found that three out of six telemetered rails that moved extensively were preyed upon within a relatively short period of time. By comparison,

seven other rails that remained sedentary within established territories were not preyed upon during the telemetry period. Loss of one female rail also would constitute the loss of potential progeny to the north Bay population into the future.

#### Loss of Marsh Habitat

In the Petaluma and Sonoma Creek drainages there are 14 and 16 property owners, respectively, potentially needing to do levee repair in any given year. Because the permit would restrict the amount of dredging per land owner per year to 10,000 cubic yards, a maximum of 140,000 cubic yards/year or 3.2 acres/year in the Petaluma River drainage and 160,000 cubic yards/year or 3.7 acres/year in the Sonoma Creek drainage could be dredged. According to calculations in the Public Notice, which are based on SSCRCO previous work from 1978 to 1990 under a separate permit and SSCRCO data, the total average borrow area dredged per year was estimated to be 210,000 square feet or 4.8 acres. The SSCRCO believes that only 1/3 to 1/2 of property owners that apply in any given year to repair levee segments actually do the work in that year.

Although the SSCRCO has applied for a five year permit which allows limited dredging by each property owner, this dredging activity is likely to continue into the future. Past levee maintenance activities have resulted in primarily permanent and some temporary loss of tidal salt marsh habitat as evidenced by the permanency of the majority of borrow ditches in both the Petaluma and Sonoma Creek drainages. This activity has resulted in a permanent and temporary loss of nesting habitat and cover for the clapper rail and habitat for the salt marsh harvest mouse.

The Service has calculated the acreage of tidal salt marsh habitat that has in the past or in the future will be affected by dredging operations in the Petaluma River drainage. The area affected was calculated by multiplying the linear feet of levees of each property in the application by a borrow area 15 feet in width. Subtracted from this calculation were levee areas not lying adjacent to salt marsh habitat and levee segments that have tidal marsh vegetation less than 25 feet wide adjacent to the levee. In these latter areas, it was assumed that the dredge reaches into the slough for material and does not disturb tidal marsh vegetation. For the purposes of this calculation, we also assumed that vegetation lying between the borrow area and the crest of the levee would not be impacted by the dredging operation. The total area of wetland impact was calculated to be 15 acres in the Petaluma River drainage and 56 acres in the Sonoma Creek drainage.

Excavation of borrow ditches, however, could benefit clapper rails and salt marsh harvest mice in several ways. Creation of borrow ditches might increase tidal circulation in the marsh where the ditches are connected to tidal sloughs. Increased tidal circulation in the marsh could increase overall marsh productivity, thereby indirectly benefiting the clapper rail and salt marsh harvest mouse. The number of ditches connected to tidal sloughs in the project area, however, has not been quantified and, therefore, the extent of this potential benefit to the rail and mouse is unknown. These borrow ditches also may provide travel lanes or foraging areas for clapper rails, although no studies have been done to estimate the extent of their use by clapper rails.

Where borrow ditches have revegetated, plant species diversity could increase marsh productivity by providing alternate nesting habitat.

#### Interruption of Access by Salt Marsh Harvest Mice to Refugial Habitat

Temporary and permanent creation of 15-foot wide borrow ditches between the levee slope and the tidal salt marsh interrupt access to high tide refugial habitat for the salt marsh harvest mouse. During high tide events at the locations of borrow ditches, salt marsh harvest mice would be forced to leave vegetative cover and cross a 15-foot wide expanse of water to reach upland cover on the levee slope. Exposure of salt marsh harvest mice to predation would be significantly increased.

#### Disturbance to Refugial Habitat for Clapper Rails

Noise associated with levee maintenance particularly if these activities occur during high tides could reduce availability of high tide refugial habitat that lies along the outboard levee face. The level of impact would be exacerbated if levee maintenance activities occur during a winter high tide series, which typically occurs from November through February each year. High tide series during these months also can be augmented substantially with changes in local weather patterns, including the presence of low pressure systems, heavy precipitation, and extraordinary tidal heights associated with storm surges (J. Takekawa, pers. comm., 1993). Although no studies have been done of the availability or extent use of refugial cover in the project area, it is likely that during high tide series, suitable refugial habitat becomes limited and any available vegetative cover becomes critical to the survival of clapper rails in the project area.

Rail mortality could occur if rails are displaced by levee maintenance activities during a high tide and are preyed upon while attempting to seek alternative refugial habitat along the levee or within the adjacent marsh. DeGroot (1927) noted that rails were extremely vulnerable to predation by raptors during high tide events when they were forced to seek refuge in exposed locations. Foerster et al. (1990) observed red foxes and raccoons foraging in one south Bay marsh during extreme winter high tides. Additional observations of red foxes foraging in south Bay marshes during high tides have been made by Refuge staff (E. Harding-Smith, pers. comm., 1993). Furthermore, of 7 rails lost to raptor predation during a telemetry study, all were lost during tidal cycles of 5.5 NGVD or higher (USFWS, unpub. data). Although lacking comparative data, Evens and Page (1986) suspected that avian predator success on black rails to be much lower during tidal events below winter high tides, and suggested initiation of a study on avian and possibly mammalian predatory behavior to determine if these predators keyed into high tide events and thus increased their foraging activities.

#### Loss of Subtidal Habitat

The dredging and/or excavation of bottom material from tidal sloughs or borrows for the purposes of providing material for levee maintenance has the potential to effect Sacramento splittail directly and indirectly. First, because Sacramento splittail are known to utilize flooded vegetation in

shallow slow moving sloughs and back water channel habitat for spawning, they, or the eggs they may have laid, may be directly taken as a result of the dredging and/or excavation of existing substrate if such activity disrupts or removes any existing emergent vegetation. The placement of dredged materials on the tops of levees could further effect emergent vegetation if measures, such as temporary fences or walls, are not constructed to prevent such material from falling back into the water. Eggs laid that are not directly taken by the dredging activities could remain unfertilized as adults are "chased" from the nesting sites by the proposed dredging activities. Eggs could also become covered with silt stirred up from the dredging operations and suffocated. Further, because the dredging activities will subsequently change the water depth and circulation in these areas, Sacramento splittail may be forced to seek alternative, less desirable, spawning sites.

Dredging operations resulting in the creation of standing pools that are not tidally influenced at low tide could result in the stranding of Sacramento splittail and other species. Stranding could make these species more susceptible to predation by predatory fish that are also stranded in the pool or piscivorous birds in and around the area. Therefore, any pools created during dredging must be provided with escape channels to allow free movement of any stranded species. These escape channels must also be accessible at low tides.

#### Summary

- 1) Disturbances from levee maintenance work during the breeding season from February through August creates the likelihood for rails to abandon up to an estimated 8 breeding territories within adjacent tidal marshes. The Service assumes this could result in the loss of reproductive success during the breeding season, and/or possible mortality of displaced individual birds. Any combination of the above would result in a net reduction in the long-term reproductive contribution to the population.
- 2) Long term levee maintenance work would result in the permanent and temporary loss of about 15 acres of tidal salt marsh in the Petaluma River Drainage and 56 acres of tidal salt marsh in the Sonoma Creek drainage which provides cover for both the salt marsh harvest mouse and clapper rail, and possibly nesting habitat for the clapper rail.
- 3) Levee maintenance work which creates permanent borrow ditches interrupts access for the salt marsh harvest mouse to the levee slope during high tide events, thereby increasing the risk of predation.
- 4) Levee maintenance work conducted during high tide events would reduce availability of high tide refugial habitat for clapper rails in the project area, thereby increasing the risk of predation.
- 5) Levee maintenance work conducted within areas of emergent vegetation may disrupt the normal behavioral patterns of Sacramento splittail including, but not limited to, breeding, feeding, and sheltering, and may also mobilize sediments containing contaminants.

Based on our analyses above, the increased probability of adverse effects to a low number of individuals, including progeny, and temporary loss of a small area of habitat from the proposed project, would not appreciably reduce the likelihood of survival and recovery of the endangered salt marsh harvest mouse and California clapper rail or the proposed Sacramento splittail in the wild.

### Cumulative Effects

Cumulative effects are those impacts of future non-Federal actions affecting listed species that are reasonably certain to occur in the action area. Future Federal actions are subject to the consultation requirements under section 7 of the Act and, therefore, are not considered cumulative to the proposed action.

Cumulative effects on the clapper rail include ongoing habitat conversion from salt to brackish conditions by fresh water effluent from the San Jose/Santa Clara Water Pollution Control Plant. The San Francisco Bay Regional Water Quality Control Board routinely renews discharge permits that allow marsh conversion to continue. Although the most recent permit renewal contained a mitigation measure to replace about 275 acres of former salt marsh that has been converted to largely unsuitable brackish marsh conditions, it has yet to be implemented. Other cumulative effects include chemical contamination from point and non-point discharges that may adversely affect survival rates and reproductive success.

One of the most serious cumulative effects on the salt marsh harvest mouse has been the degradation of diked wetlands, typically by the elimination of wetland vegetation through grazing, discing, grubbing, and plowing, and/or the elimination of appropriate hydrologic conditions by installing drains, ditches, and pumps. The extensive conversion of south Bay salt marshes to brackish and freshwater habitat also has appreciably reduced available tidal habitat for the species. Approval of urban developments without maintaining adequate upland habitat adjacent to wetlands also represents a major cumulative effect by likely increasing mortality rates and lowering harvest mouse carrying capacity in affected areas.

Cumulative effects on the Sacramento splittail include any continuing or future diversions of water that may entrain adult or larval fish or that may decrease outflows incrementally. Water diversions through intakes serving numerous small, private agricultural lands and duck clubs in the Delta, upstream of the Delta, and in Suisun Bay contribute to these cumulative effects. These diversions also include municipal and industrial uses, and provide cooling water for power plants. State or local levee maintenance and channel dredging activities also disturb spawning or rearing habitat. Sacramento splittail adults seek flooded vegetation in shallow, tidally-influenced sloughs and channel edges for spawning. To assure egg hatching and larval viability, spawning areas also must provide suitable water quality (i.e., low concentrations of pollutants) and substrates for egg attachment (e.g., submerged tree roots and branches and emergent vegetation). Suitable water quality must be provided by addressing point sources of contaminants so that maturation is not impaired by pollutant concentrations. Levee

maintenance and channel dredging disturbs spawning and rearing habitat, and re-suspends contaminants into these waters.

Cumulative effects also include point and non-point source chemical contaminant discharges. These contaminants include selenium and numerous pesticides and herbicides associated with discharges related to agricultural and urban activities. Implicated as potential sources of mortality in Sacramento splittail, these contaminants may adversely affect splittail reproductive success and survival rates.

Cumulative effects, operating together with those of the proposed action, are not likely to appreciably reduce the likelihood of survival and recovery of the salt marsh harvest mouse, California clapper rail, or Sacramento splittail.

#### Incidental Take

Sections 4(d) and 9 of the Act, as amended, prohibit taking (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Under the terms of 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement. The measures described below are nondiscretionary, and must be undertaken by the agency so that they become binding conditions of any authorization granted to the applicant for the exemption under 7(o)(2) to apply.

The Federal agency has a continuing duty to regulate the activity that is covered by this incidental take statement. If the agency fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the authorization, the protective coverage of 7(o)(2) may lapse.

For the California clapper rail, we anticipate that harassment and/or harm of up to 8 pairs of rails would result from the proposed action. Reduced availability of refugial habitat would subject rails to increased risk of predation. Territorial abandonment by rails could result in harassment and/or harm of individual rails and breeding failure. Levee maintenance activities over the long term would directly impact about 71 acres of rail cover and possibly nesting habitat.

The Service anticipates that an unquantifiable number of harvest mice may be killed during levee maintenance activities over the long term. This area of impact is estimated to be 71 acres in the two drainages combined. An additional unquantifiable number of harvest mice not directly impacted by

levee maintenance activities may be exposed to higher levels of predation because of the loss of continuous habitat adjacent to the levees. The harvest mouse population, however, is expected to rebound in those areas where the borrow ditches revegetate.

The Service anticipates that an unquantifiable number of Sacramento splittail may be taken as a result of the proposed maintenance activities. Project implementation would reduce the availability of approximately 13.5 acres of spawning and rearing habitat for Sacramento splittail. In this area contaminants would also be mobilized and could also adversely affect Sacramento splittail over an unknown period of time as these substances bio-accumulate.

The Service establishes the following reasonable and prudent measures to minimize the impact of incidental take. The measures described below are nondiscretionary, and must be implemented by the Department of the Army.

- 1) The potential for harassment, harm (including habitat modification), or mortality to California clapper rails shall be minimized.
- 2) Impacts to California clapper rail and salt marsh harvest mouse resulting from habitat modification shall be minimized.
- 3) Harm and harassment to Sacramento splittail resulting from the proposed dredging operations shall be minimized.

To be exempt from the prohibitions of Section 9 of the Act, the following terms and conditions, which implement the reasonable and prudent measures described above, must be complied with, and included as special conditions in any permit granted by the Department of the Army for this project.

The following terms and conditions implement reasonable and prudent measure #1:

- (a) To avoid possible disruption of clapper rail breeding activities, levee maintenance work in the Petaluma River and Sonoma Creek drainages shall not occur during the period from February 1 through August 31 within any given year on the levee segments shown in the enclosed maps (cross-hatched areas) of the drainage basins. These areas are: in the Petaluma River drainage - 2,500 linear feet of levee (California Department of Fish and Game) adjacent to Black John Slough; and for the Sonoma Creek drainage - (1) 4,000 linear feet of levee (Kiser Brothers) that lies adjacent to Second Napa Slough; (2) 2,900 linear feet of levee and 800 linear feet of levee (J. Leveroni), both adjacent to Hudeman Slough; (3) 3,400 linear feet of levee (W. Haire) adjacent to Hudeman and Second Napa Sloughs; and (4) 8,000 linear feet of levee (N. Yanni) at the mouth of Sonoma Creek. All levee segments lie adjacent to established clapper rail breeding territories. Future surveying for rails in either drainage may result in expansion or contraction of seasonal restrictions to protect nesting rails. The Service shall provide the Corps with any revision to rail seasonal restrictions during annual review of work proposed under the permit.

- (b) Levee maintenance adjacent to the above clapper rail nesting areas shall not occur during high winter tide events to avoid disturbance of clapper rails using refugial habitat within these areas.

The following term and condition implements reasonable and prudent measure #2:

- (a) The applicant shall prepare and implement a detailed tidal salt marsh habitat restoration plan which compensates for the permanent and temporary loss of 71 acres of salt marsh harvest mouse and clapper rail habitat associated with the proposed action. The enclosed maps identify several areas within the Petaluma River and Sonoma Creek drainages that could be suitable restoration sites (outlined areas). These are: in the Petaluma River drainage - (1) a 98-acre piece of agricultural land owned by the Redwood Sanitary landfill, (2) a 48-acre portion of agricultural land owned by A. Anolik on the Petaluma River, and (3) a 20-acre portion of agricultural land owned by M. Kulberg on the Petaluma River; and in the Sonoma Creek drainage - (1) a 16-acre piece of agricultural land owned by D. Reinecker, which was formerly the bed of the North Branch of Tolay Creek, and 62 acres of native vegetation upstream of the 16-acre parcel on Tolay Creek that could be enhanced; and (2) a 74-acre portion of agricultural land owned by G. Kiser near Wingo. The restoration plan shall be submitted to the Service and Corps for review and approval within one year of permit issuance and implemented within two years of permit issuance. The plan shall include habitat enhancement, monitoring for compliance and effectiveness, and management in perpetuity of the habitat for salt marsh harvest mouse and California clapper rail. Upon completion of appropriate salt marsh mitigation, no consultation for future regional permits will be required on the effects of the temporary and permanent loss of tidal salt marsh habitat on the salt marsh harvest mouse and California clapper rail provided there are no changes in the scope and extent of levee maintenance work which is currently proposed.

The following terms and conditions implement reasonable and prudent measure #3:

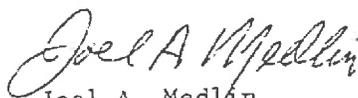
- (a) To minimize take of Sacramento splittail, no dredging shall be conducted between January 1 and July 31. Because Sacramento splittail utilize the proposed areas for spawning and rearing during this time, habitat during this season must remain undisturbed.
- (b) To minimize the impacts to the normal behavioral patterns of Sacramento splittail including, but not limited to, breeding, feeding, and sheltering, dredging shall occur away from the edge waters so that the shorelines are minimally disturbed. Dredging not shall disturb any emergent vegetation or create pools that are not tidally influenced at low tide. Furthermore, no dredged materials shall be placed on any existing emergent vegetation during levee repairs or fall into the water where emergent vegetation exists.

If, while maintaining levees in the project areas, the amount or extent of incidental take of the California clapper rail, salt marsh harvest mouse or Sacramento splittail, as described above, is exceeded, the causative action shall cease and consultation shall be reinitiated immediately.

The Service shall be notified within twenty-four (24) hours of the finding of any injured or dead California clapper rail or their eggs, or salt marsh harvest mouse, or any unanticipated damage to clapper rail or salt marsh harvest mouse habitat associated with levee maintenance. Notification must include the date, time, and precise location of the specimen/incident, and any other pertinent information. The Service contact person is Karen Miller (916/978-4866). Any dead or injured specimens shall be repositied with the Service's Division of Law Enforcement, 2800 Cottage Way, Sacramento, California 95825-1846 (916/978-4860).

This concludes formal consultation on the proposed work described above. Reinitiation of formal consultation is required if (1) the amount or extent of incidental take is exceeded, as previously described; (2) new information reveals effects of the actions that may affect listed species or critical habitat in a manner that was not considered in this opinion; (3) if the project is substantially modified in a manner that causes an effect to listed species that was not considered in this opinion; and/or (4) if a new species is listed or critical habitat is designated that may be affected by the action. If you have any questions regarding this opinion, please contact Karen Miller (mouse/rail) or Matt Vandenberg (splittail) of my staff at (916) 978-4866.

Sincerely,



Joel A. Medlin  
Field Supervisor

Enclosures

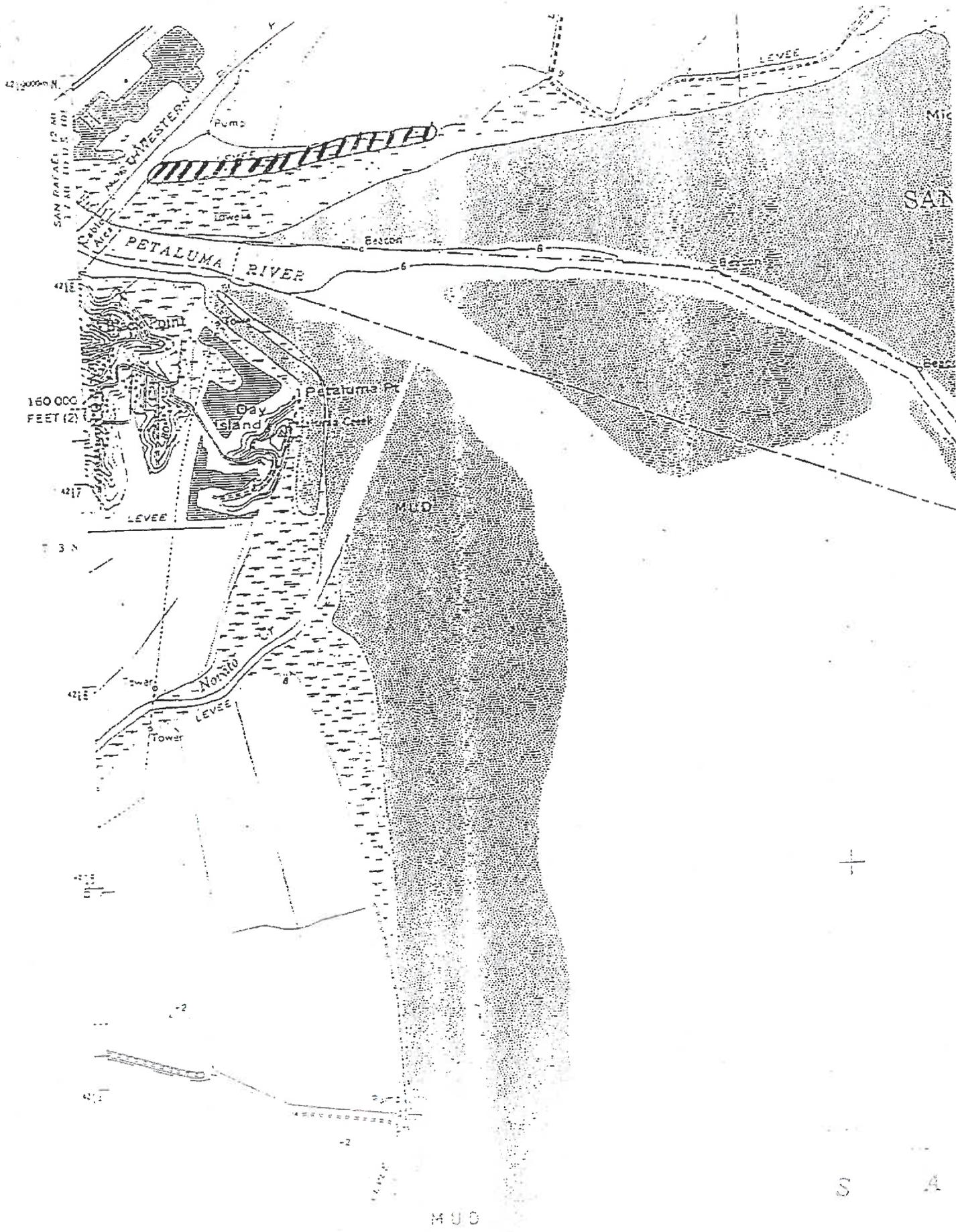
cc: RD (ARD-ES), FWS, Portland, OR  
FS (ES), FWS, Wetlands Branch, Sacramento, CA  
DHC, Washington, D.C.  
CDFG, Region III, Yountville, CA  
CDFG, Environmental Services, Sacramento, CA

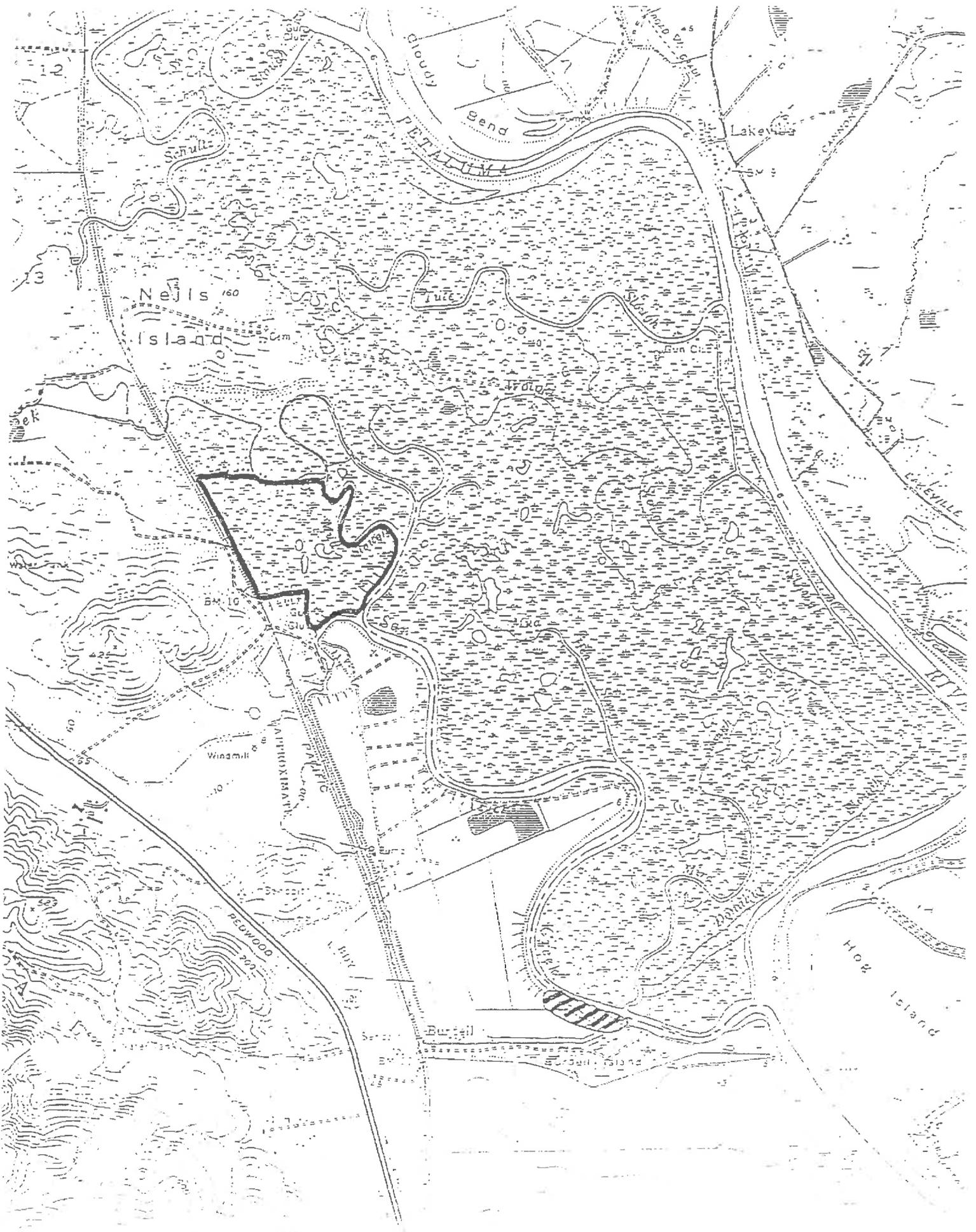
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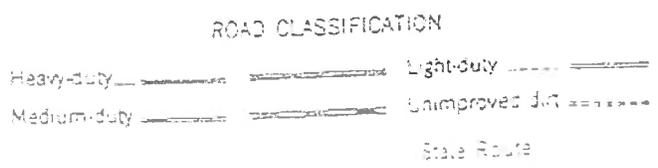
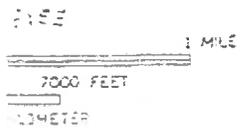
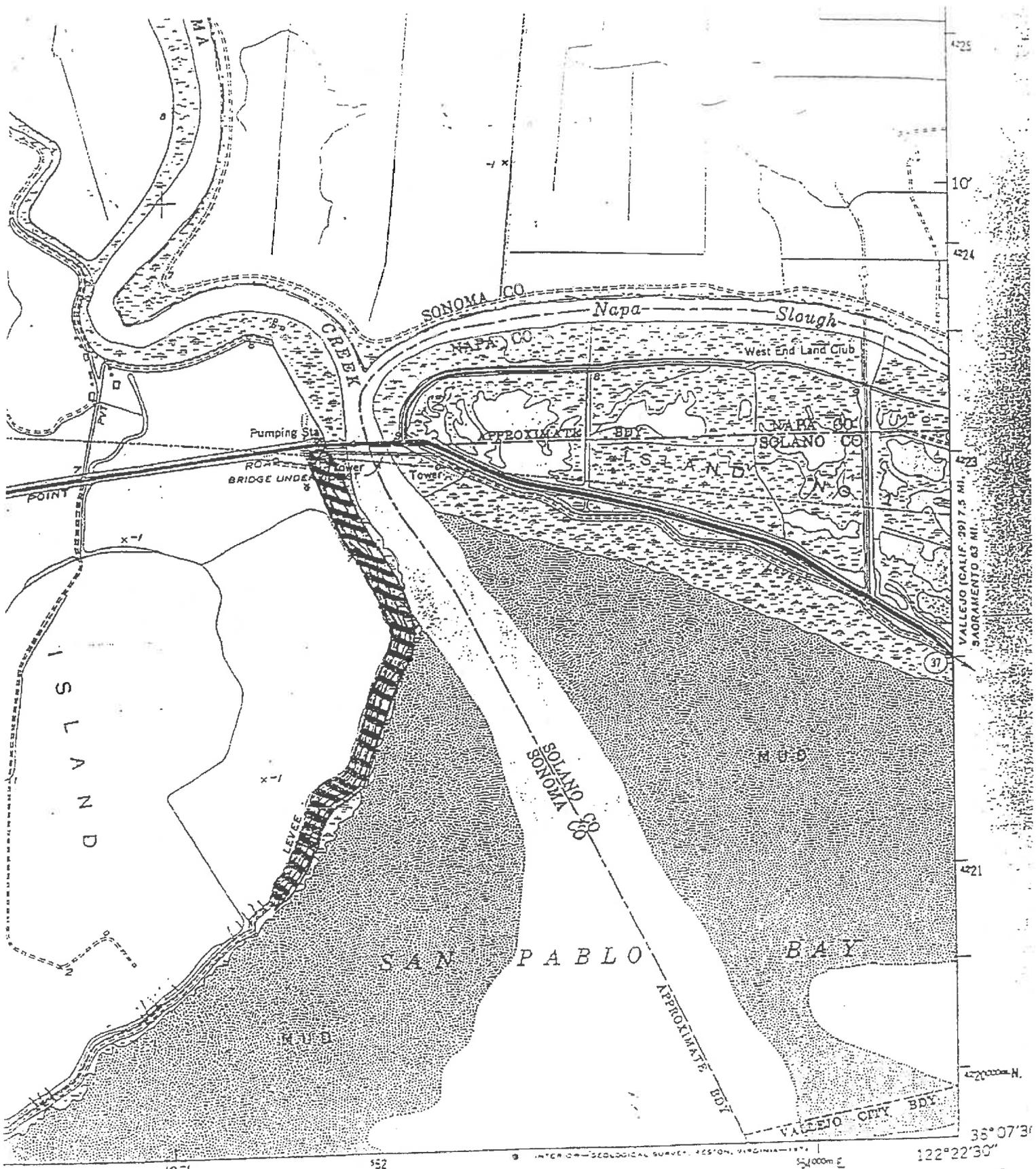
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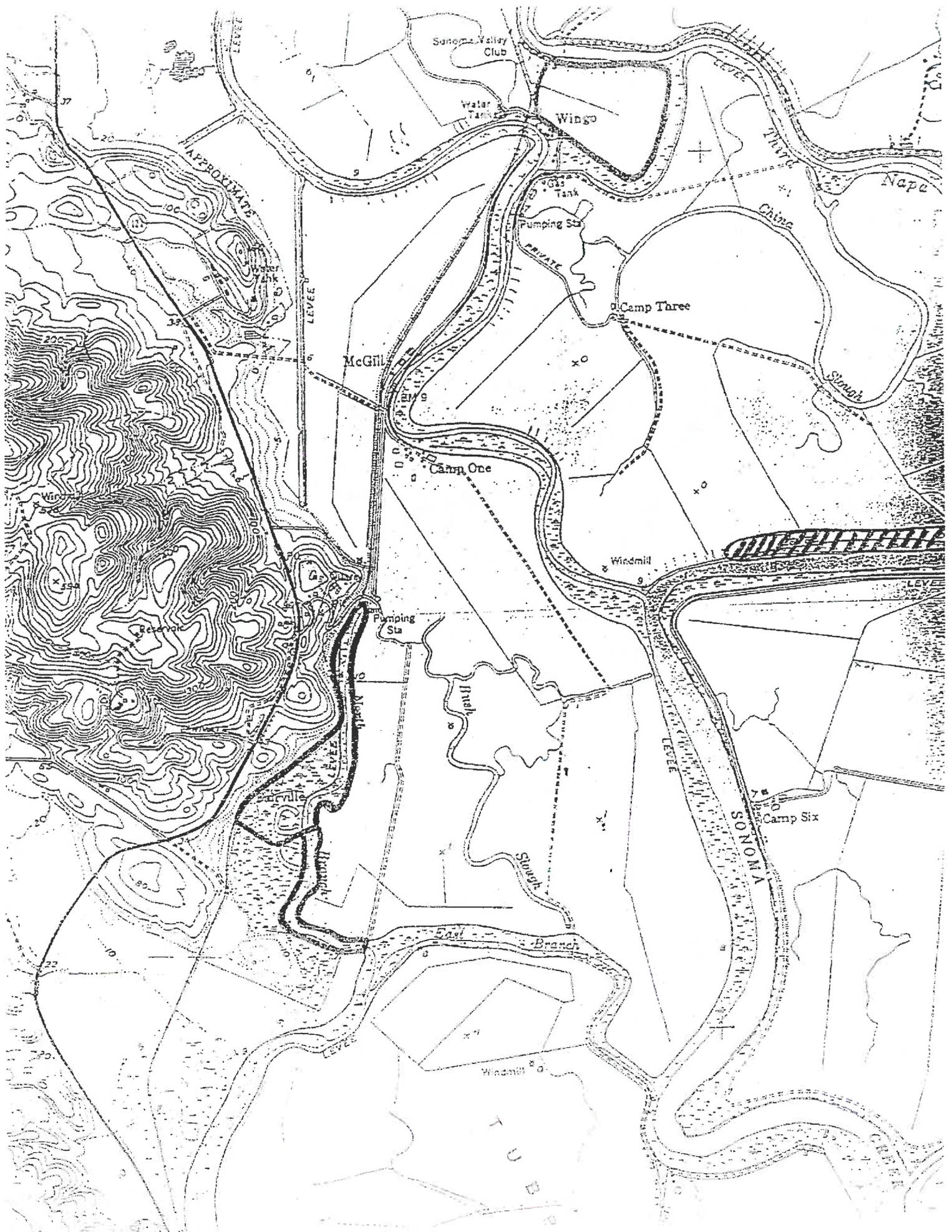


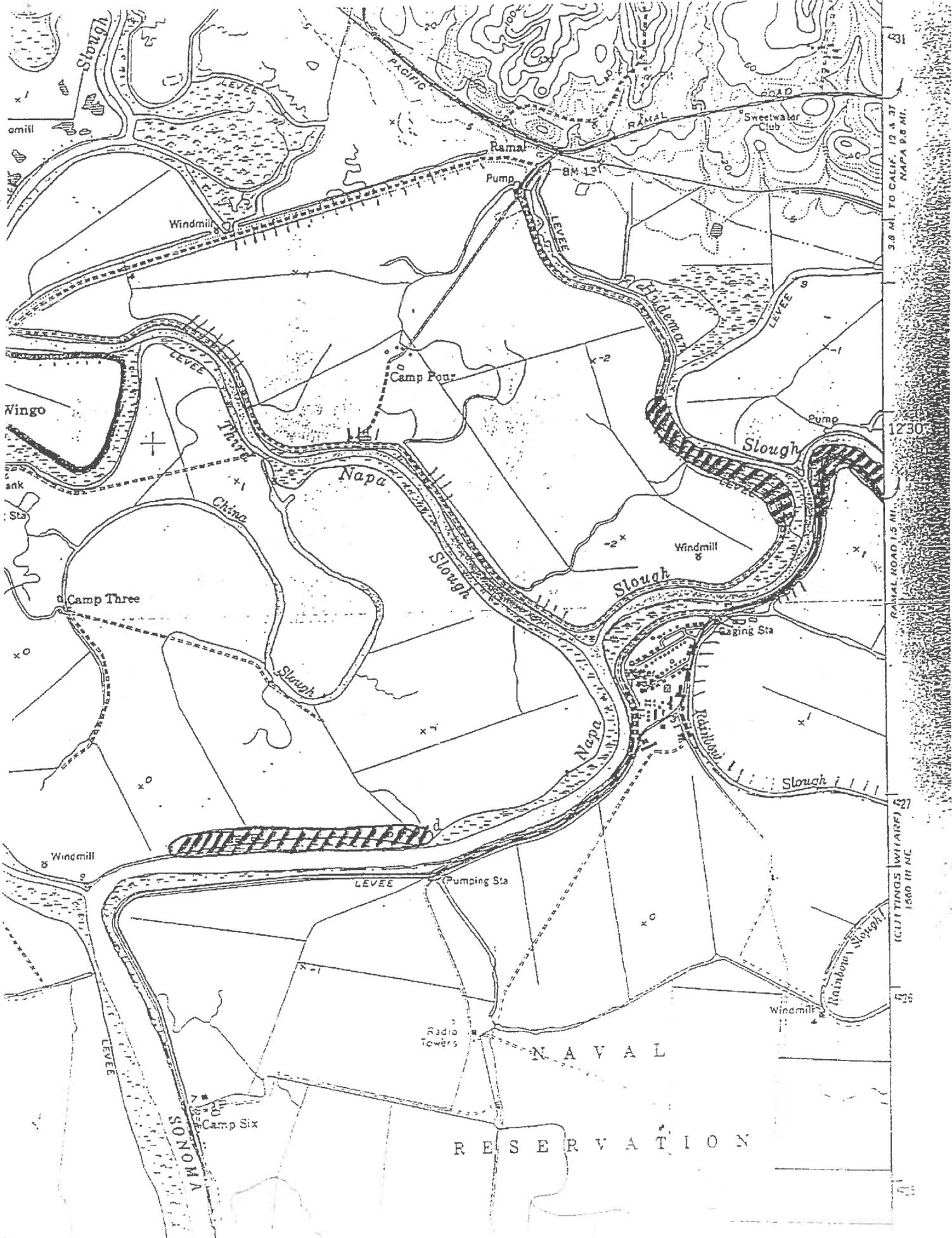






MAP 1300





3.8 M. TO CALIF. 12.5 37  
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RESERVATION

RESERVAATION

NAVAL

SONOS

Camp Six

RADIO TOWERS

Pumping Sta

LEVEE

Windmill

426

(CUTTINGS WHARF) 527  
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Slough

Slough Sta

Napa

Slough

Camp Three

Slough

Windmill

Slough

Napa

Windmill

Camp Four

Slough

Pump

1230

LEVEE

RAMAL ROAD 1.5 MI.

3.3 MI. TO CAUSE 12 A 37  
MAP 5 6 6 MI.

Pump

Pump

Windmill

Slough

Slough

Windmill

Slough

Personal Communications

Mr. Jules Evens, Avocet Research Associates, Point Reyes Station, California

Ms. Brenda Grewell, California Department of Water Resources, Sacramento, California

Ms Elaine Harding-Smith, U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge, Newark, California

Ms. Jean Takekawa, U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge, Newark, California



State of California – The Natural Resources Agency  
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
Bay Delta Region  
7329 Silverado Trail  
Napa, CA 94558  
(707) 944-5500  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

EDMUND G. BROWN JR., Governor  
CHARLTON H. BONHAM, Director



October 3, 2013

Kara Heckert  
Sonoma Resource Conservation District  
201 Concourse Blvd, Suite B  
Santa Rosa, CA 95403

Subject: Final Lake or Streambed Alteration Agreement  
Notification No. 1600-2012-0364-R3  
Levee Maintenance Project in the Sonoma Creek and Petaluma River  
Watersheds

Dear Ms. Heckert:

Enclosed is the final Streambed” Alteration Agreement (“Agreement”) for the Levee Maintenance Project in the Sonoma Creek and Petaluma River Watersheds (“Project”). Before the Department may issue an Agreement, it must comply with the California Environmental Quality Act (“CEQA”). In this case, the Department, acting as a lead agency, determined your project is exempt from CEQA and filed a notice of exemption (“NOE”) on October 3, 2013.

Under CEQA, filing a NOE starts a 35-day period within which a party may challenge the filing agency’s approval of the project. You may begin your project before the 35-day period expires if you have obtained all necessary local, state, and federal permits or other authorizations. However, if you elect to do so, it will be at your own risk.

If you have any questions regarding this matter, please contact Adam McKannay, Environmental Scientist, at (707) 944-5534 or [adam.mckannay@wildlife.ca.gov](mailto:adam.mckannay@wildlife.ca.gov).

Sincerely,

  
Craig J. Weightman  
Environmental Program Manager  
Bay Delta Region

cc: Kara Heckert – [kheckert@sotoyomercd.org](mailto:kheckert@sotoyomercd.org)  
Lieutenant Jones  
Warden Swaney  
Warden Esquivel

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**

BAY DELTA REGION  
7329 SILVERADO TRAIL  
NAPA, CALIFORNIA 94558  
(707) 944-5520  
[WWW.WILDLIFE.CA.GOV](http://WWW.WILDLIFE.CA.GOV)



**STREAMBED ALTERATION AGREEMENT**

NOTIFICATION NO. 1600-2012-0364-R3  
Petaluma River, Sonoma Creek, Tolay Creek, San Antonio Creek,  
Rush Creek, Novato Creek and unnamed tributaries

SONOMA RESOURCE CONSERVATION DISTRICT  
LEVEE MAINTENANCE PROJECT IN THE SONOMA CREEK AND PETALUMA  
RIVER WATERSHEDS

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Sonoma Resource Conservation District (Permittee) as represented by Kara Heckert.

**RECITALS**

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on October 12, 2012, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement

**PROJECT LOCATION**

The project is located at the Petaluma River, Sonoma Creek, Tolay Creek and San Antonio Creek, Rush Creek and Novato Creek and unnamed tributaries to each of the aforementioned streams, in the Counties of Sonoma and Marin, State of California; locations of each parcel are found in Attachment B.

## PROJECT DESCRIPTION

The project is limited to the routine maintenance of existing levees under the ownership of the 32 participating Sonoma Resource Conservation District (SRCD) landowners/members. Maintenance activities which both parties agree may be considered "routine" are listed on Attachment A and are hereby made a part of this 1602 Agreement. In brief summary, these activities will include dredging of up to four cubic yards (cy) of material per linear-foot of levee, not to exceed 10,000-cubic yards or 2,500-linear feet per parcel in one year, for placement onto existing levees. Dredging volumes should not exceed 150,000 cy in any given year. During the 5-year permit term, the SRCD shall oversee work performed by the 32 participating landowners under this Agreement. Mechanical dredging would be completed using long-reach excavators or drag lines working from the top of existing levees, and dredged material would be excavated on the outboard side of the levee at the extreme reach of the available equipment to avoid damage to the levee toe. Dredging will not occur within 10 feet of the toe of the levee. Dredged material would be placed on the levee crown and mechanically compressed. Routine maintenance is understood not to include any new work other than described in Attachment A.

This Agreement consists of the Agreement, Attachment A (list of routine activities and definitions), Attachment B (map of the sections of creeks, channels and parcel numbers) and Attachment C (Annual Notifications).

## PROJECT IMPACTS

Existing fish or wildlife resources the project could potentially be substantially adversely affect if measures within this Agreement are not followed include:

- Steelhead trout (Federal Threatened)
- Chinook salmon (Federal Threatened)
- Green sturgeon (Federal Threatened)
- California clapper rail (Federal Endangered, California Fully Protected)
- California black rail (California Fully Protected)
- Salt marsh harvest mouse (SMHM) (Federal Threatened, California Fully Protected)
- Burrowing owl (California Species of Special Concern)

The adverse effects the project could have on the fish or wildlife resources identified above include:

- loss of natural bed or bank
- change in contour of bed, channel or bank
- change in channel cross-section (confinement or widening)
- loss of bank stability during construction
- loss or decline of aquatic species' habitat: migration corridors, spawning or rearing areas

- soil compaction or other disturbance to soil layer
- Increased turbidity
- loss or decline of riparian and/or emergent marsh habitat
- decline of vegetative diversity
- change to, or loss or decline of natural bed substrate
- direct take of fish and other aquatic species
- direct impacts from dredging on benthic organisms
- disruption to nesting birds and other wildlife
- direct take of terrestrial species
- disturbance from project activity
- increase of bank erosion during construction

## **MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES**

### **1. Administrative Measures**

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. CDFW agrees to provide the Permittee with 24 hour notice prior to entering the project site to verify compliance with the Agreement.
- 1.5 No Trespass. To the extent that any provisions of this Agreement provide for activities that require the Permittee to traverse another owner's property, such provisions are agreed to with the understanding that the Permittee possesses the

legal right to so traverse. In the absence of such right, any such provision is void.

## 2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

### Routine Maintenance Notification Procedures

- 2.1 The Permittee shall submit separate written notification pursuant to Code Section 1602 (Form FG 2023 and FG 2024), together with the required fee prescribed in the CDFW SAA fee schedule, and otherwise follow the normal notification process prior to the commencement of work activities in all cases where:
  - 2.1.1. The proposed work does not meet the criteria established for routine maintenance in Attachment A.
  - 2.1.2. The nature of the proposed work is substantially modified from the work described in Attachment A of this RMA.
  - 2.1.3. Work will occur at a location where the Department advises the Permittee that conditions affecting fish and wildlife resources on the site have substantially changed or such resources would be adversely affected by the proposed maintenance activity.
  - 2.1.4. The proposed work would adversely impact a State of California (State) Species of Special Concern or State or federally listed rare, threatened, endangered or candidate species or its habitat.
- 2.2 The Permittee shall provide to the CDFW written notification of proposed routine maintenance activities by **May 1** of each year and shall describe each by location, length and width of the impact area. Additional work may be submitted upon discovery using the conditions above. Refer to RMA Number 1600-2012-0364-3 in the notification. Each annual notification of proposed maintenance work shall be added to this RMA as Attachment C-year (C-2013, C-2014) by CDFW.
- 2.3 CDFW may review in the field any maintenance work submitted and or may require that additional conditions be applied to specific activities and amended into this RMA with the agreement of both parties.
- 2.4 CDFW personnel or its agents may inspect the work site at any time. A copy of this agreement must be provided to any contractor or subcontractor who works under this RMA. A copy of the RMA shall be kept on the work site during

operations. Operators and personnel who shall be supplied with the RMA would include all Field Supervisors for the area that work will take place and other, special personnel that might conduct work under this RMA.

### **Work Periods for Excavation of Borrow Pits**

- 2.5 Location Specific Work Period. From Highway 37 upstream to Highway 121 or Lakeville Highway, participating landowners may dredge material from the main channels of Sonoma Creek, San Antonio Creek, Rush Creek and Novato Creek, Napa Slough, Second Napa Slough, Third Napa Slough and Hudeman Slough from **June 1 to October 31**.
- 2.6 Location Specific Work Period. From Highway 37 upstream to Highway 121 or Lakeville Highway, participating landowners may dredge material from non-main channels (i.e. secondary channel, sloughs, or creeks) from **June 1 to November 30**. These areas include areas such as Steamboat Slough, Railroad Slough, and Tolay Creek, as well as unnamed borrow areas that are subject to daily tidal influence and are adjacent to the main stream channel.
- 2.7 Location Specific Work Period. For the entire project area identified in Attachment B, if the proposed repair site contains no identified channel, maintenance may be performed at any time. SRCD shall submit a site and project description of these repairs locations to CDFW prior to implementation to determine if the project qualifies as a Project Activity per Attachment A.
- 2.8 Location Specific Work Period. Along the shoreline of Sonoma Creek, Tubbs Island, and San Pablo Bay from Highway 37 downstream to the mouth of Sonoma Creek, and extending to the southwestern extent of the levees along the shoreline of San Pablo Bay, dredging must be restricted to periods of low tide.
- 2.9 Work During Daylight Hours. To avoid impacts to California clapper rail, and salt marsh harvest mouse, dredging shall be limited to daytime only; work shall occur at least a 1/2 hour after sunrise and end a 1/2 hour before sunset.
- 2.10 Work Period Modification. If Permittee needs more time to complete the project activity, the work may be permitted outside of the work period and extended on a day-to-day basis by the CDFW representative who reviewed the project. Permittee shall submit a written request for a work period variance to CDFW. The work period variance request shall: 1) describe the extent of work already completed; 2) detail the activities that remain to be completed; 3) detail the time required to complete each of the remaining activities; and 4) provide photographs of both the current work completed and the proposed site for continued work. The work period variance request should consider the effects of increased stream flows, rain delays, increased erosion control measures, limited access due to saturated soil conditions, and limited growth of erosion control grasses

due to cool weather. Work period variances are issued at the discretion of CDFW. CDFW will review the written request to work outside of the established work period. CDFW reserves the right to require additional measures to protect fish and wildlife resources as a condition for granting the variance. CDFW will have seven (7) calendar days to review the proposed work period variance.

### **Wildlife Protection and Prevention**

- 2.11 Listed species. The project site has been identified as an area that is potentially inhabited by species listed under the federal Endangered Species Act and/or the California Endangered Species Act, including Steelhead trout (Federal Threatened), Chinook salmon (Federal Threatened), Green sturgeon ((Federal Threatened), California clapper rail (Federal Endangered, California Fully Protected), California black rail (California Fully Protected) and salt marsh harvest mouse (Federal Threatened, California Fully Protected). This 1602 RMA does **not** allow for the relocation or take of any endangered species, species of special concern, candidate species or federally listed, threatened, or endangered species that are discovered in work sites covered by this RMA. If CDFW determines, or the Permittee finds there are threatened or endangered species on the work site the Permittee shall notify the CDFW, USFWS, USACOE, and/or National Marine Fisheries Service (NMFS) as appropriate. The Permittee shall immediately cease work at that location until CDFW deems that the concerns over special status species have been resolved.
- 2.12 Designated Biologist. At least thirty (30) days before initiating any biological survey work required in this Agreement, the Permittee shall submit to the CDFW in writing the name, qualifications, business address, and contact information for a Designated Biologist. Permittee shall obtain CDFW's written confirmation of the Designated Biologist prior to the commencement of project activities in the stream. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local wildlife, specifically California clapper rail, California black rail, burrowing owl and salt marsh harvest mouse.
- 2.13 Vegetation with Bird Nests. Permittee shall not disturb trees, bushes or other vegetation that contain bird nests without prior consultation and approval of a CDFW representative.
- 2.14 Excavation at Toe of the Levee. No Excavation shall occur within 10 feet of the toe of the levee on the waterborne side of the levee.
- 2.15 No equipment in stream. No tracked or wheeled equipment shall be driven below the top of bank.

- 2.16 Allow Wildlife To Leave Unharmd. Permittee shall allow any wildlife encountered during the course of construction to leave the construction area unharmed. This authorization does not allow for the trapping, capture, or relocation of any state or federally listed species.
- 2.17 Prohibition Against Use of Plastic Netting in Erosion Control Measures. Permittee shall not use temporary or permanent erosions control devices containing plastic netting, including photo- or bio-degradable plastic netting.

### **New Zealand Mudsail Cleaning and Disinfection – Rush Creek and Novato Creek Watersheds**

- 2.18 Invasive Species Management – Rush Creek and Novato Creek. The Rush Creek and Novato Creek watersheds in Marin County have been identified as contaminated with New Zealand mudsail, a highly invasive species. The Permittee and operators within the Rush Creek and Novato Creek watersheds shall implement cleaning/disinfection procedures on all equipment and gear that comes into contact with contaminated or potentially contaminated waterway, such as Rush Creek and Novato Creek. Cleaning/disinfection procedures can be found in the following reference document: *DiVittorio, J., M. Grodowitz, and J. Snow, 2012. Inspection and Cleaning Manual for Equipment and Vehicles to Prevent the Spread of Invasive Species. U.S. Department of the Interior, Bureau of Reclamation, Technical Memorandum No. 86-68220-07-05.* This document can be downloaded and or viewed on the CDFW website at: <http://www.dfg.ca.gov/invasives/quaggamussel/>.

### **California Clapper Rail and California Black Rail Avoidance Measures**

- 2.19 Rail Surveys. If construction will occur between February 1st and August 31<sup>st</sup> within the work areas outlined with red crosshatch in Map 1 (Attachment B), the site shall first be surveyed by the Designated Biologist to determine if California clapper rails and California black rails are present within 700 feet of the project area. If the construction site is left unattended for more than two weeks during the breeding season, another survey will be completed to determine if the California clapper rail and California black rails have moved back into the area and are occupying active nests. If active nests or behavior indicative of nesting are encountered, those areas plus a 700-foot buffer will be avoided until the area had been vacated by California clapper rails and California black rail. The results of the survey shall be faxed to (707) 944-5563 or emailed to [adam.mckannay@wildlife.ca.gov](mailto:adam.mckannay@wildlife.ca.gov). Refer to Notification Number 1600-2012-0364-R3 when submitting the survey to CDFW.

### **Burrowing Owl Protective and Prevention Measures**

- 2.20 Burrowing Owl Habitat Assessment. If construction will occur between February 1<sup>st</sup> and August 31<sup>st</sup>, a Designated Biologist shall inspect all burrows within 250 feet of the project site that exhibit typical characteristics of owl activity (see Attachment A, Burrowing owl habitat, burrow surrogates) no sooner than fifteen (15) days prior to any site preparation activities. If it is evident that the burrows are actively being used, Permittee shall not work within 250 feet of active burrows until no sign is present that the burrows are being used by adults or juvenile owls. Additional information on identification of burrowing owl habitat can be found in the CDFW publication *Staff Report on Burrowing Owl Mitigation* (Staff Report), which is available at <http://dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf>.

### **Salt Marsh Harvest Mouse Education and Reporting**

- 2.21 Salt Marsh Harvest Mouse – On Site Education Program. During the annual site visit, CDFW staff will provide an educational presentation for the Landowner or a Designated Agent. The presentation from CDFW will include a discussion of the biology and general behavior of the Salt Marsh Harvest Mouse (SMHM), information about the distribution and habitat needs of the SMHM, sensitivity of the SMHM to human activities, its status under Fish and Game Code including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this Agreement. Permittee shall provide interpretation services for non-English speaking landowners. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for landowners to distribute to workers to carry on-site. Upon completion of the program, landowners shall sign a form stating they attended the program and understand all protection measures. These forms shall be submitted annually with the Annual Notification (Attachment C) and be made available to CDFW at other times upon request. Prior to beginning project activities, project personnel shall receive training from the Landowner or a Designated Agent regarding legal responsibilities and precautionary measures working in a sensitive habitat area.
- 2.22 Salt Marsh Harvest Mouse - Entrapped Animal. If an entrapped mouse of any species is found by any crew member, the Landowner or Designated Biologist will be informed immediately. If mice are present where project activities may result in injury to them, project activities shall be suspended until the individuals have moved to a safe location on their own. CDFW will be immediately informed if any mice are found.
- 2.23 Salt Marsh Harvest Mouse – Mortality. If the Permittee, Landowner, contractors or agents kills or injures a mouse, black rail or California clapper rail, or finds any such animal dead or injured, project activities in the habitat area shall

immediately cease and CDFW and Service shall be notified within 30 minutes of the discovery.

- 2.24 Salt Marsh Harvest Mouse – Mortality. Any dead or injured animal shall be turned over to the CDFW, the Service or its agent.

#### **Salt Marsh Harvest Mouse Avoidance Procedures**

The goal of CDFW and the Permittee is to avoid impacts to SMHM by excluding SMHM from the borrow sites. Avoidance can be accomplished by removing the SMHM habitat from the site to assure that no SMHM are present in the area. In order to meet the goal of avoiding SMHM, **one or more of the following procedures (measures 2.25 – 2.29)** shall be used to exclude SMHM from the levee borrow site and to avoid the loss of individual SMHM. These procedures may be altered at any time by mutual agreement between CDFW and the Permittee based upon new species distribution information, discovery of new exclusion techniques, or further site specific analysis:

- 2.25 Salt Marsh Harvest Mouse - Vegetation Removal by Hand Tools. Permittee shall first remove the pickleweed/salt marsh vegetation from borrow sites with powered and non-powered hand tools (i.e. shovel, trowel, hoe, rake, hedger, weed trimmers, push lawnmower, wheel barrow, hand cart, sled, etc) to cause SMHM to relocate from the borrow site. Vegetation removal shall occur only under the supervision of the Landowner or a Designated Agent who has attended the SMHM – Education Program. The Landowner or Designated Agent shall stop work if a mouse of any species, California Clapper Rail, California Black Rail, or any other special status species are found during vegetation removal. If a mouse of any species is observed within the areas being cleared of vegetation, CDFW shall be notified. Unless otherwise approved by CDFW, the mouse shall be allowed to leave on its own volition. Vegetation removal may begin when no mice are observed, or with CDFW approval. The following vegetation removal procedures shall be applied during all vegetation removal activities; the Landowner or a Designated Agent shall walk through and inspect vegetation prior to vegetation removal and search for signs of harvest mice or other sensitive wildlife and plants; immediately following vegetation inspection, personnel, under the supervision of the Landowner or a Designated Agent, will manually remove vegetation with powered and non-powered hand tools. This shall also start in the center of the borrow area and continue toward the two sides away from the open water areas to cause any SMHM to disperse towards areas of continuous plant cover outside the construction zone. The Permittee shall remove all pickleweed/salt marsh vegetation within the designated borrow areas as shown in the Annual Notification and as directed by the Landowner or a Designated Agent; pickleweed/salt marsh vegetation shall be cut and removed so that bare ground is completely visible to the satisfaction of the Landowner or a Designated Agent. Cut stems may be left standing if the ground is still completely visible through them.

- 2.26 Salt Marsh Harvest Mouse - Vegetation Removal by Mechanized Equipment During High Tide Inundation. When borrow sites with salt marsh vegetation are submerged immediately before, during, and after a high tide event, vegetation may be removed from the borrow site with mechanized equipment (e.g. long-reach excavator) during the time period when the marsh vegetation is submerged. CDFW recommends that vegetation be quickly removed from the surface of the borrow site during this time frame. Once an area is denude of vegetation, it may be used as a borrow site during low tide without additional exclusion methods. In order to provide protection to salmonid species which may utilize submerged tidal marsh habitat, Permittee shall coordinate with NMFS and CDFW to determine where this measure may be utilized by organizing a joint site visit or providing documentation of habitat conditions at specific borrow sites. NMFS and CDFW may provide additional guidance on how this measure will be implemented.
- 2.27 Salt Marsh Harvest Mouse – Limited Vegetative Cover and Habitat. CDFW recognizes that in some instances salt marsh vegetation indicative of SMHM habitat may be sparse and of insufficient density to harbor SMHM. An example of when this condition is expected to occur is when salt marsh vegetation provides less than 20 percent coverage of the bare ground or when a previously excavated borrow put has not regrown vegetative cover and can be reused, for example, by using a deeper excavation. When conditions similar to this are present in a borrow area and the Permittee elects to utilize this measures, the Permittee shall submit photo documentation of the onsite vegetative conditions to CDFW at least thirty (30) days prior to beginning to proposed work. CDFW will review the request within thirty (30) calendar days and determine if an onsite meeting is necessary. During the first year of this agreement (2013), CDFW shall provide an expedited review of these project sites; the Permittee shall provide CDFW the above referenced site documentation at least fourteen (14) days prior to beginning the proposed work, CDFW will have fourteen (14) days to meet and verify site conditions. The purpose of this meeting will be to allow CDFW staff to verify that insufficient habitat conditions exist at the site and document the area of insufficient habitat. CDFW will concur or deny the presence of insufficient habitat in writing and the reasoning behind the decision. CDFW's finding will remain valid for at least 60-calender days from the letters date and will not transfer to the following calendar year. CDFW may increase the length of time this finding is valid based on site specific information. The Permittee shall not proceed with work under this measure without written approval of CDFW.
- 2.28 Salt Marsh Harvest Mouse – Mutually Agreeable Alternatives. If alternative SMHM exclusion measures are proposed by either CDFW or the Permittee during the term of this Agreement, the two parties may mutually agree to evaluate and implement the alternatives. Proposed alternatives shall be able to demonstrate that they are able to meet the goal of avoiding the loss of individual SMHM.

- 2.29 Salt Marsh Harvest Mouse – No Avoidance Measures Required - If the Permittee acquires borrow material from the wetted channel or from areas with no vegetation present, no SMHM avoidance measures shall be required for the excavation and placement of that material.

### **Vegetation Protection and Prevention**

- 2.30 Minimize Vegetation Disturbance. Disturbance or removal of vegetation in natural channels shall not exceed the minimum necessary to complete maintenance activities. Precautions shall be taken to avoid other damage to vegetation by people or equipment. Branches and/or limbs overhanging the channel and impacting water flows shall be properly pruned. Trees may be removed from natural channels if and only if they are below ordinary high water (OHW) and they are restricting the capacity of the channel and they are causing erosion or flooding. Any trees which must be cut are to be cut at ground level and the root mass left in place to maintain bank stability.

### **Erosion and Sediment Control**

- 2.31 Disposal and Removal of Materials. All removed vegetation and debris shall be moved outside the ordinary high-water mark prior to inundation by water. All removed vegetation and debris shall be disposed of according to State and local laws and ordinances.
- 2.32 Clean-up. All construction debris, exclusion fencing, and associated materials shall be removed from the work site immediately upon completion of this project.

### **Equipment and Vehicles**

- 2.33 Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.
- 2.34 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.
- 2.35 Clean Up Equipment. Clean up equipment such as extra boom, absorbent pads, skimmers, shall be on site prior to the start of work within the stream zone.

- 2.36 Equipment Storage. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, shall be located outside of the stream channel and banks.
- 2.37 Stockpiled Materials. Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted.

#### **Debris Materials and Waste**

- 2.38 No Dumping. Permittee and all contractors, subcontractors, and employees shall not dump any litter or construction debris within the stream, or where it may pass into the stream.
- 2.39 Pick Up Debris. Permittee shall pick up all debris and waste daily.
- 2.40 Wash water. Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter a lake or flowing stream or placed in locations that may be subjected to high storm flows.

#### **Toxic and Hazardous Materials**

- 2.41 Toxic Materials. Any hazardous or toxic materials that could be deleterious to aquatic life that could be washed into the stream or its tributaries shall be contained in water tight containers or removed from the project site.
- 2.42 Hazardous Substances. Raw cement/concrete or washings thereof, asphalt; paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter the stream by Permittee or any party working under contract, or with the permission of Permittee, shall be removed immediately.
- 2.43 Hazardous Materials. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the project related activities shall be prevented from contaminating the soil and/or entering the waters of the State.

### Spills and Emergencies

- 2.44 Spill Cleanup. Permittee shall begin the cleanup of all spills immediately. CDFW shall be notified immediately by the Permittee of any spills and shall be consulted regarding cleanup procedures. The Permittee shall have all spill clean-up equipment on site during construction.
- 2.45 Spill Containment. All activities performed in or near a stream shall have absorbent materials designated for spill containment and clean up activities on-site for use in an accidental spill. The Permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate the clean up activities. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.

### 3. Reporting Measures

Permittee shall meet each reporting requirement described below.

- 3.1 Annual Reports. The Permittee shall provide CDFW written notification of maintenance Projects completed annually. Annual reports shall include the Project identification (stream/watercourse name), a brief Project description, vegetation removal and mitigation, and the appropriate fee determined from the CDFW Streambed Alteration Agreement Fee Schedule for work completed under the RMA based upon the number of Projects completed in the reporting period. **Reports are due within forty five (45) days of the annual due date (March 15)**. CDFW may terminate this agreement if late reports and fees are not submitted within thirty (30) days of a written request from CDFW.
- 3.2 Clapper Rail and Burrowing Owl Surveys. If nesting California Clapper rail surveys or Burrowing owl surveys are performed, these surveys shall be submitted along with the Annual Reports by March 15.
- 3.3 California Natural Diversity Data Base. If any sensitive plant or wildlife species are observed during Project surveys or during Project implementation, the Permittee or qualified biologist shall submit California Natural Diversity Data Base (CNDDDB) forms to the CNDDDB for all species occurrence data **within five (5) working days of the sightings**, and provide CDFW Region 3 with copies of the CNDDDB forms and survey maps. Refer to <http://www.dfg.ca.gov/biogeodata/cnddb/> for additional information on CNDDDB.

### CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S.

mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Kara Heckert  
Sonoma Resource Conservation District  
201 Concourse Boulevard, Suite B  
Santa Rosa, CA 95402  
Phone (707) 569-1448  
kheckert@sonomarc.org

To CDFW:

Department of Fish and Wildlife  
Bay Delta Region  
7329 Silverado Trail  
Napa, California 94558  
Attn: Lake and Streambed Alteration Program – Adam McKannay  
Notification #1600-2012-0364-R3  
Phone (707) 944-5534  
Fax (707) 944-5553  
Adam.McKannay@wildlife.ca.gov

**LIABILITY**

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

**SUSPENSION AND REVOCATION**

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the

Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

## **ENFORCEMENT**

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

## **OTHER LEGAL OBLIGATIONS**

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

## **AMENDMENT**

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## **TRANSFER AND ASSIGNMENT**

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## **EXTENSIONS**

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code, § 1605, subd. (f)).

## **EFFECTIVE DATE**

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at [http://www.dfg.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html).

## **TERM**

This Agreement shall expire on **December 31, 2017**, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

## **ATTACHMENTS**

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

1. Attachment A - Definition of Terms and Covered Activities
2. Attachment B - Landowner Parcel Map with Sections of Creeks and Channels
3. Attachment C - Annual Notifications

## **AUTHORITY**

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

## **AUTHORIZATION**

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

**CONCURRENCE**

The undersigned accepts and agrees to comply with all provisions contained herein.

**FOR SONOMA RESOURCE CONSERVATION  
DISTRICT**

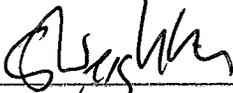


Kara Heckert  
Executive Director

10/2/2013

Date

**FOR DEPARTMENT OF FISH AND WILDLIFE**



Craig J. Weightman  
Environmental Program Manager

10/3/13

Date

Prepared by: Adam McKannay  
Environmental Scientist

Date Prepared: October 12, 2012  
Date Revised: October 17, 2012  
Date Revised: October 26, 2012 3:30 PM  
Date Revised: October 26, 2012 5:00 PM  
Date Revised: September 17, 2013  
Date Revised: September 20, 2013  
Date Revised: September 24, 2013  
Date Revised: October 1, 2013

## ATTACHMENT A DEFINITION OF TERMS AND AUTHORIZED ACTIVITIES

### Definition of terms – as used herein and for purposes of the Agreement

- A. Project: Each activity per Parcel and identified channel shall be construed as one Project for fee purposes. A Project does not include minor debris removal such as removing a shopping cart or a bag of garbage.
- B. Parcel: As identified on the Levee Maintenance Vicinity Map, prepared by the Sonoma Resource Conservation District, dated August 23, 2012 (Attachment B).
- C. Levee: An earthen embankment, floodwall, or structure along a water course whose purpose is flood risk reduction or water conveyance.
- D. Main Channels: The main channels of the Petaluma River, Sonoma Creek, San Antonio Creek, Rush Creek and Novato Creek, Napa Slough, Second Napa Slough, Third Napa Slough and Hudeman Slough.
- E. Non-main Channels: Secondary channels, sloughs, or creeks that are subject to daily tidal influence such as Steamboat Slough, Railroad Slough, and Tolay Creek, as well as unnamed borrow areas.
- F. Emergency Project: is defined in the State Fish and Game Code 1600.
- G. SAA: Lake or Streambed Alteration Agreement
- H. RMA: Routine Maintenance Agreement.
- I. Burrowing owl habitat: generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey.
- J. Burrow surrogates: include culverts, piles of concrete rubble, piles of soil, burrows created along soft banks of ditches and canals, pipes, and similar structures.
- K. Biologist: a person who has a combination of academic training and professional experience in the biological sciences. A permitted biologist is an individual who is authorized by the appropriate agencies (such as USFWS) to handle listed species.

### **Authorized Activities:**

**Levee Maintenance and Repair:** repair, replacement in kind, or maintenance of existing levees using dredged materials so long as the waterborne levee width is not increased and the existing waterborne levee contour is maintained. This does not include the use of riprap or rock slope protection (RSP).

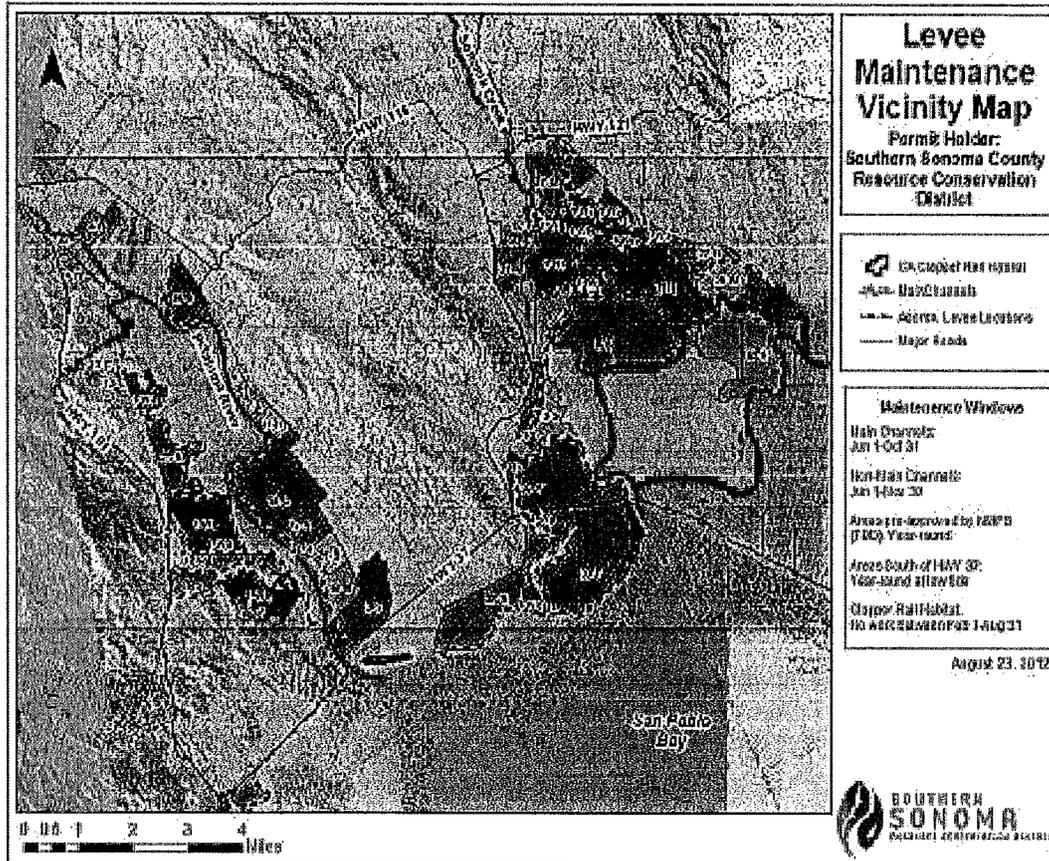
**Dredging:** dredging of up to four cubic yards (cy) of material per linear-foot of levee, not to exceed 10,000-cubic yards or 2,500-linear feet per parcel per identified channel in one year, for placement onto existing levees, using mechanical dredging methods including long-reach excavators or drag lines working from the top of existing levees. This does not include the use of a suction dredge. Dredging volumes should not exceed 150,000 cy in any given year.

### **Exempt Activities**

The following routine maintenance activity is not subject to the provisions of Section 1600 of the State Department of Fish and Game Code if performed within the parameters stated below:

**Trash and Debris.** Trash and debris (baby diapers, shopping carts, car bodies, metal, wood, plastic, etc) not embedded in the Channel bed or bank may be removed. This does not include removal of silt which is not exempt. Materials embedded in the bottom of the Channel are subject to the provisions of Section 1600.

## ATTACHMENT B LANDOWNER PARCEL MAP WITH SECTIONS OF CREEKS AND CHANNELS



**Sonoma County Landowner ID and APN**

ID	APN	ID	APN	ID	APN
10-H	128-491-020	22-G	019-320-007	6-F	068-190-021
10-H	128-491-019	24-H	068-120-015	6-F	068-190-022
11-H	068-110-025	25-M	128-491-041	6-F	142-122-004
12-A	068-120-012	26-Y	068-190-013	7-B	068-110-026
12-A	068-120-013	26-Y	068-180-008	8-K	128-491-015
14-C	068-120-001	27-N	135-081-003		
14-C	068-120-002	27-N	128-491-008		
15-J	068-020-001	27-N	135-071-019		
15-J	068-020-002	27-N	126-121-007		
17-M	128-471-004	28-N	068-140-008		
17-M	128-471-015	28-N	068-180-022		
17-M	128-471-014	28-N	068-160-007		
17-M	128-471-004	28-N	068-140-007		
17-M	128-471-006	28-N	068-180-021		
17-M	128-471-003	29-B	068-120-014		
17-M	128-471-007	2-S	068-130-013		
17-M	128-471-014	30-T	068-180-003		
17-M	135-012-005	30-T	068-180-017		
19-B	068-130-008	30-T	068-180-006		
19-B	068-130-001	30-T	068-180-007		
1-W	128-491-051	30-T	068-180-005		
1-W	128-491-051	30-T	068-180-013		
1-W	068-190-025	30-T	068-180-004		
1-W	068-160-008	30-T	068-180-011		
1-W	135-071-017	31-M	128-491-059		
1-W	128-491-050	32-P	128-471-017		
1-W	128-491-003	3-S	128-491-040		
1-W	135-071-015	3-S	128-491-011		
1-W	068-190-018	3-S	142-122-001		
1-W	128-491-004	4-R	068-010-034		
1-W	135-071-020	5-D	019-330-011		
1-W	135-071-012	5-D	019-320-006		
20-C	128-491-056	5-D	019-320-005		
21-L	128-491-006	5-D	019-330-008		
21-L	128-491-005	5-D	019-330-010		
21-L	128-491-016	5-D	019-330-007		
21-L	128-491-007	6-F	142-122-004		

**Marin County Landowner ID and APN**

ID	APN
13-C	125-130-06
13-C	125-130-05
16-L	125-190-08
16-L	125-190-75
16-L	125-190-21
16-L	125-190-66
16-L	157-171-14
16-L	125-190-20
16-L	125-190-19
18-R	125-190-70
18-R	125-190-24
18-R	125-190-54
1-W	125-190-68
1-W	125-130-08
1-W	125-190-79
1-W	143-151-22
1-W	125-190-72
23-R	125-160-13

**ATTACHMENT C  
ANNUAL NOTIFICATIONS**

FOR DEPARTMENT USE ONLY

Date Received	Amount Received	Amount Due	Date Complete	Notification No.
10/12/12	\$ 1345.25	\$		1600-2012-0364-3



VA# 4365  
SSCRCD

STATE OF CALIFORNIA  
DEPARTMENT OF FISH AND GAME

McKannay  
Lt Jones  
Wdn Swaney



**NOTIFICATION OF LAKE OR STREAMBED ALTERATION**

Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

**1. APPLICANT PROPOSING PROJECT**

Fish & Game

Name				OCT 12 2012
Business/Agency	Southern Sonoma County Resource Conservation District (RCD)			Yountville
Street Address	1301 Redwood Way, Suite 170			
City, State, Zip	Petaluma, CA 94954			
Telephone	(707) 794-1242	Fax	(707) 794-7902	
Email	info@sscrd.org			

**2. CONTACT PERSON** (Complete only if different from applicant)

Name	Kara Heckert			
Street Address	1301 Redwood Way, Suite 170			
City, State, Zip	Petaluma, CA 94954			
Telephone	(707) 794-1242	Fax	(707) 794-7902	
Email	kheckert@sotoyomercd.org			

**3. PROPERTY OWNER** (Complete only if different from applicant)

Name	Many, please refer to section 8A			
Street Address				
City, State, Zip				
Telephone		Fax		
Email				

**4. PROJECT NAME AND AGREEMENT TERM**

A. Project Name		Levee Maintenance Project in the Sonoma Creek and Petaluma River Watersheds		
B. Agreement Term Requested		<input checked="" type="checkbox"/> Regular (5 years or less) <input type="checkbox"/> Long-term (greater than 5 years)		
C. Project Term		D. Seasonal Work Period		E. Number of Work Days
Beginning (year)	Ending (year)	Start Date (month/day)	End Date (month/day)	
2012	2016	01/01	12/31	1,521.00

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

### 5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, or E is checked, complete the specified attachment.	
A.	<input type="checkbox"/> Standard (Most construction projects, excluding the categories listed below)
B.	<input type="checkbox"/> Gravel/Sand/Rock Extraction (Attachment A) <span style="float: right;">Mine I.D. Number: _____</span>
C.	<input type="checkbox"/> Timber Harvesting (Attachment B) <span style="float: right;">THP Number: _____</span>
D.	<input type="checkbox"/> Water Diversion/Extraction/Impoundment (Attachment C) <span style="float: right;">SWRCB Number: _____</span>
E.	<input checked="" type="checkbox"/> Routine Maintenance (Attachment D)
F.	<input type="checkbox"/> DFG Fisheries Restoration Grant Program (FRGP) <span style="float: right;">FRGP Contract Number: _____</span>
G.	<input type="checkbox"/> Master
H.	<input type="checkbox"/> Master Timber Harvesting

### 6. FEES

Please see the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. <i>Note: The Department may not process this notification until the correct fee has been received.</i>			
	A. Project	B. Project Cost	C. Project Fee
1	Levee Maintenance Project		\$1,345.25
2			
3			
4			
5			
		D. Base Fee (if applicable)	
		<b>E. TOTAL FEE ENCLOSED</b>	<b>\$1,345.25</b>

### 7. PRIOR NOTIFICATION OR ORDER

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, the Department for the project described in this notification?	
<input checked="" type="checkbox"/> Yes (Provide the information below) <input type="checkbox"/> No	
Applicant: <u>Sonoma Valley RCD</u> Notification Number: <u>III-246-84</u> Date: <u>03/27/84</u>	
B. Is this notification being submitted in response to an order, notice, or other directive ("order") by a court or administrative agency (including the Department)?	
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Enclose a copy of the order, notice, or other directive. If the directive is not in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.)	
<input type="checkbox"/> Continued on additional page(s)	

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

### 8. PROJECT LOCATION

A. Address or description of project location. <i>(Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway)</i>				
The Project consists of a maximum of 32 landowners in the Sonoma Creek and Petaluma River Watersheds in Marin and Sonoma Counties. Please refer to attached vicinity map, landowner maps and list of APNs within project area. <div style="text-align: right; margin-top: 10px;"><input checked="" type="checkbox"/> Continued on additional page(s)</div>				
B. River, stream, or lake affected by the project.		Sonoma Creek and Petaluma River Watersheds		
C. What water body is the river, stream, or lake tributary to?		San Pablo Bay		
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
E. County			Sonoma and Marin Counties	
F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
<input type="checkbox"/> Continued on additional page(s)				
K. Meridian (check one)		<input type="checkbox"/> Humboldt <input type="checkbox"/> Mt. Diablo <input type="checkbox"/> San Bernardino		
L. Assessor's Parcel Number(s)				
Please refer to supplemental information, 8A.				
<input checked="" type="checkbox"/> Continued on additional page(s)				
M. Coordinates (If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes)				
Latitude/Longitude	Latitude:		Longitude:	
	<input type="checkbox"/> Degrees/Minutes/Seconds		<input type="checkbox"/> Decimal Degrees	
UTM	Easting:		Northing:	
			<input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11	
Datum used for Latitude/Longitude or UTM		<input type="checkbox"/> NAD 27 <input type="checkbox"/> NAD 83 or WGS 84		

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

### 9. PROJECT CATEGORY AND WORK TYPE *(Check each box that applies)*

PROJECT CATEGORY	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR/MAINTAIN EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Bank stabilization – rip-rap/retaining wall/gabion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat dock/pier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat ramp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Channel clearing/vegetation management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Culvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Debris basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diversion structure – weir or pump intake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filling of wetland, river, stream, or lake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geotechnical survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat enhancement – revegetation/mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Levee	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Low water crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road/trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sediment removal – pond, stream, or marina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm drain outfall structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary stream crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utility crossing : Horizontal Directional Drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jack/bore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open trench	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Other (specify):</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

### 10. PROJECT DESCRIPTION

A. Describe the project in detail. Photographs of the project location and immediate surrounding area should be included.

- Include any structures (e.g., rip-rap, culverts, or channel clearing) that will be placed, built, or completed in or near the stream, river, or lake.
- Specify the type and volume of materials that will be used.
- If water will be diverted or drafted, specify the purpose or use.

Enclose diagrams, drawings, plans, and/or maps that provide all of the following: site specific construction details; the dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; an overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, and where the equipment/machinery will enter and exit the project area.

The RCD is the sponsoring agency for permits required for the Levee Maintenance Project in Sonoma Creek and Petaluma River Watersheds to authorize thirty-two (32) participating landowners to complete maintenance and stabilization of existing levees. The goal of this Project is to complete ongoing repairs needed to protect properties from flooding and stabilizing levees. Proposed activities would occur discontinuously along tidal levees within the Petaluma River and Sonoma Creek Watersheds. Mechanical dredging would be conducted using long-reach excavators or drag lines working from the top of existing levees, and dredged material would be excavated on the outboard side of the levee at the extreme reach of the available equipment to avoid damage to the levee toe. Dredged material will be placed on the levee. Under the Army Corps of Engineers Regional General Permit (RGP 6), participating landowners may dredge up to four (4) cubic-yards of material per linear-foot of levee, not to exceed 10,000-cubic-yards or 2,500-linear-feet per parcel per year. However, based on historical maintenance, we anticipate less than 50,000 cubic yards total dredge volume over the term of the permit and an average of nine landowners completing maintenance each year.

*Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

Long-reach excavators and/or drag lines

*Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).

Yes     No (*Skip to box 11*)

D. Will the proposed project require work in the wetted portion of the channel?

Yes (*Enclose a plan to divert water around work site*)

No

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

### 11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

Under the Army Corps of Engineers Regional General Permit RGP 6, participating landowners under this Project may dredge up to four (4) cubic-yards of material per linear-foot of levee, not to exceed 10,000-cubic-yards or 2,500-linear-feet per parcel per year. Per NMFS consultation, total dredging volumes should not exceed 150,000 cubic yards in any given year which totals about 1,190 cubic yards per parcel per year. We anticipate less than 50,000 cubic yards over the permit term.

Continued on additional page(s)

B. Will the project affect any vegetation?  Yes (Complete the tables below)  No

Vegetation Type	Temporary Impact	Permanent Impact
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)

Continued on additional page(s)

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

Yes (List each species and/or describe the habitat below)  No  Unknown

Please see attached list of species.

Continued on additional page(s)

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

Biological opinion from USFWS and informal consultation letter from NMFS.

Continued on additional page(s)

E. Has a biological study been completed for the project site?

Yes (Enclose the biological study)  No

*Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.*

F. Has a hydrological study been completed for the project or project site?

Yes (Enclose the hydrological study)  No

*Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.*

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

### 12. MEASURES TO PROTECT FISH, WILDLIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

Environmental work windows (mostly June-November) and other measures such as dredging thresholds have been developed to avoid and minimize potential impacts to the environment. Required water quality measures will include restricting the time of year activities can occur; no excavation will occur within 10 feet of the toe of the levee on the waterborne side of the levee; no discharge material will consist of unsuitable material (e.g. trash, debris, etc.) and material discharged must be free from toxic pollutants in toxic amounts.

Continued on additional page(s)

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

Environmental work windows and other measures such as dredging thresholds have been developed to avoid and minimize potential impacts to the environment. In addition to the measures above, please refer to attached conditions in USFWS BO and informal consultation letter from NMFS.

Continued on additional page(s)

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

Mitigation for this project has been completed. Under an agreement approved by the Army Corps, the applicant, EPA, and USFWS, the applicant was required to mitigate for disturbance created by levee maintenance by the construction of 71 acres of wetland in association with the Tolay Creek Restoration Project located south of the Highway 121/37 intersection in Southern Sonoma County, California. All agencies agreed that the mitigation was to mitigate for levee maintenance activities in perpetuity. The mitigation acreage was derived by determining the maximum annual acreage of wetland disturbed by levee maintenance activity. This disturbed acreage was then multiplied by five, based on an assumption that the disturbed area would take five years to recover. This acreage yielded the required 71 acres of mitigation.

Continued on additional page(s)

### 13. PERMITS

List any local, state, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

- |    |   |   |  |
|----|---|---|--|
| A. | ACOE RGP 6  | <input checked="" type="checkbox"/> Applied | <input type="checkbox"/> Issued            |
| B. | SF RWQCB 401 Water Quality Certification-Waiver   | <input type="checkbox"/> Applied            | <input checked="" type="checkbox"/> Issued |
| C. | BCDC Permit-Currently being amended   | <input type="checkbox"/> Applied            | <input checked="" type="checkbox"/> Issued |
| D. | Unknown whether <input type="checkbox"/> local, <input type="checkbox"/> state, or <input type="checkbox"/> federal permit is needed for the project. (Check each box that applies) |   |  |

Continued on additional page(s)

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

### 14. ENVIRONMENTAL REVIEW

<p>A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), California Endangered Species Act (CESA) and/or federal Endangered Species Act (ESA)?</p>			
<p><input type="checkbox"/> Yes (Check the box for each CEQA, NEPA, CESA, and ESA document that has been prepared and enclose a copy of each)</p> <p><input checked="" type="checkbox"/> No (Check the box for each CEQA, NEPA, CESA, and ESA document listed below that will be or is being prepared)</p>			
<p><input checked="" type="checkbox"/> Notice of Exemption</p> <p><input type="checkbox"/> Initial Study</p> <p><input type="checkbox"/> Negative Declaration</p> <p><input type="checkbox"/> THP/ NTMP</p>	<p><input type="checkbox"/> Mitigated Negative Declaration</p> <p><input type="checkbox"/> Environmental Impact Report</p> <p><input type="checkbox"/> Notice of Determination (Enclose)</p> <p><input type="checkbox"/> Mitigation, Monitoring, Reporting Plan</p>	<p><input type="checkbox"/> NEPA document (type): _____</p> <p><input type="checkbox"/> CESA document (type): _____</p> <p><input type="checkbox"/> ESA document (type): _____</p>	
<p>B. State Clearinghouse Number (if applicable)</p>			
<p>C. Has a CEQA lead agency been determined?</p>		<p><input type="checkbox"/> Yes (Complete boxes D, E, and F)      <input checked="" type="checkbox"/> No (Skip to box 14.G)</p>	
<p>D. CEQA Lead Agency</p>			
<p>E. Contact Person</p>		<p>F. Telephone Number</p>	
<p>G. If the project described in this notification is part of a larger project or plan, briefly describe that larger project or plan.</p> <p>N/A</p> <p style="text-align: right;"><input type="checkbox"/> Continued on additional page(s)</p>			
<p>H. Has an environmental filing fee (Fish and Game Code section 711.4) been paid?</p> <p><input checked="" type="checkbox"/> Yes (Enclose proof of payment)      <input type="checkbox"/> No (Briefly explain below the reason a filing fee has not been paid)</p>			
<p>Note: If a filing fee is required, the Department may not finalize a Lake or Streambed Alteration Agreement until the filing fee is paid.</p>			

### 15. SITE INSPECTION

<p>Check one box only.</p> <p><input type="checkbox"/> In the event the Department determines that a site inspection is necessary, I hereby authorize a Department representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant the Department such entry.</p> <p><input checked="" type="checkbox"/> I request the Department to first contact (insert name) <u>Kara Heckert</u>  at (insert telephone number) <u>(707) 794-1242</u> to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.</p>
---

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

16. DIGITAL FORMAT

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

Yes (Please enclose the information via digital media with the completed notification form)

No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, the Department may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless the Department has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

Kara Heckert

Signature of Applicant or Applicant's Authorized Representative

10/10/2012

Date

Kara Heckert

Print Name

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Applicant Name: Southern Sonoma County RCD

Project Title: Levee Maintenance Project

### ATTACHMENT D

#### Routine Maintenance

If the applicant is notifying the Department to obtain an agreement for routine maintenance activities, Section I must be completed and the information and documents described in Sections II and III must be submitted with the notification.

#### I. REGULARLY RE-OCCURRING MAINTENANCE ACTIVITIES

These are generally activities designed to maintain channel capacity. Check each box that applies:

Sediment removal:

- In and around bridges, culverts, storm drain outlets, and/or water diversion inlets
- Stream channel bottom
- Pond or lake
- Marina basin
- Other: Dredging from adjacent channels and wetlands

Clearing trash and debris

Removing fallen trees

Removing dead (not dormant) trees and shrubs

Vegetation:

Limbing and/or trimming of branches and tree limbs

Vegetation removal under high power lines

Mowing levee slopes and stream banks

Mowing within stream and floodway channels

Removing emergent (e.g., bulrush and cattails) or other near water vegetation with:

hand tools

mechanical vegetation cutters and shredders

heavy equipment (soil disturbance)

chemicals

NOTIFICATION OF LAKE OR STREAMBED ALTERATION  
ATTACHMENT D

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Removing vegetation from the **upper half** of the bank with:

- hand tools
- mechanical vegetation cutters or shredders
- heavy equipment (soil disturbance)
- chemicals

Removing vegetation from the **lower half** of bank with:

- hand tools
- mechanical vegetation cutters or shredders
- heavy equipment (soil disturbance)
- chemicals

Removing vegetation within the channel with:

- hand tools
- mechanical vegetation cutters and shredders
- heavy equipment (soil disturbance)
- chemicals

Removing invasive, non-native plants with:

- hand tools
- mechanical vegetation cutters and shredders
- heavy equipment (soil disturbance)
- chemicals

Other: \_\_\_\_\_

Debris and brush pile burning

Burning levees

Minor erosion repair:

Repair at existing erosion control sites

New erosion repair

Revegetation with local, native plant species

NOTIFICATION OF LAKE OR STREAMBED ALTERATION  
ATTACHMENT D

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Chemical application:

Herbicides

Rodenticides

Insecticides

Minor bridge work:

Reinforcing pilings

Reinforcing aprons

Bridge painting (access and falsework)

Materials to be used for reinforcement: \_\_\_\_\_.

Other: \_\_\_\_\_.

Other: \_\_\_\_\_.

Other: \_\_\_\_\_.

**II. MAP OR MAPBOOK**

Maps must be of sufficient detail to assist in locating maintenance sites and should include the following:

- A. The applicant's jurisdictional boundaries
- B. All watercourses within the jurisdictional boundaries where maintenance will occur
- C. A key to identify each watercourse and the maintenance activities and location (e.g., bridges, water control diversions, and large scale maintenance) of those activities that are likely to occur

**III. SPECIAL STATUS SPECIES LOCATIONS**

A drawing, diagram, or map that shows the applicant's jurisdictional boundaries and the locations within that area where special status species are known to exist.



California Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Bay Delta Region  
2825 Cordelia Road, Suite 100  
Fairfield, CA 94534  
(707) 428-2002  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

*EDMUND G. BROWN, Jr., Governor*  
*CHARLTON H. BONHAM, Director*



June 19, 2018

Kara Heckert  
Sonoma Resource Conservation District  
1221 Farmers Lane, Suite F  
Santa Rosa, CA 95405

Dear Kara:

**Extension of Lake or Streambed Alteration Agreement, Notification No. 1600-2012-0364-R3, Sonoma RCD Levee Maintenance**

The California Department of Fish and Wildlife (CDFW) received your request to extend Lake or Streambed Alteration Agreement (Agreement) and extension fee, for the above referenced agreement. CDFW hereby grants your request to extend the Agreement expiration from December 31, 2017 to December 31, 2022. All other conditions in the original Agreement remain in effect.

Copies of the original Agreement and this letter must be readily available at project worksites and must be presented when requested by a CDFW representative or other agency with inspection authority.

If you have any questions regarding this letter, please contact James Hansen, Environmental Scientist at (707) 576-2869 or by email at [James.Hansen@Wildlife.ca.gov](mailto:James.Hansen@Wildlife.ca.gov).

Sincerely,

Craig J. Weightman  
Environmental Program Manager  
Bay Delta Region

cc: California Department of Fish and Wildlife  
Lieutenant Jones  
Wildlife Officer Esquivel

FOR DEPARTMENT USE ONLY

Date Received	Fee Enclosed	Approved?	Date Approved	Expiration Date
6-1-2017	\$ 562. <sup>00</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6-15-18	12-31-2022



J# 4069  
SRCD

STATE OF CALIFORNIA  
DEPARTMENT OF FISH AND WILDLIFE  
**REQUEST TO EXTEND**  
**LAKE OR STREAMBED ALTERATION AGREEMENT**

James Hansen  
K. Jones  
Wch Swamy  
Wdn Esquivel



Complete EACH field and attach additional pages if necessary. Please refer to the fee schedule and submit the correct fee with extension request.

**1. APPLICANT REQUESTING EXTENSION**

If the applicant is a business, agency, or utility, please include the name of the applicant's representative, who should be an employee of the applicant.

Name	Kara Heckert		Fish & Wildlife
Business/Agency	Sonoma Resource Conservation District		
Street Address	1221 Farmers Lane, Suite F		JUN 01 2017
City, State, Zip	Santa Rosa, CA 95405		
Telephone	707-569-1448	Fax: 707-569-0434	Napa
Email	Contact Kari Wester at kwester@sonomarc.org		

**2. PROJECT INFORMATION**

Agreement number	1600-2012-0364-R3
Original expiration date	December 31, 2017
New expiration date requested	December 31, 2022

Specify: 1) the work that has been completed; 2) the work that needs to be completed; and 3) the amount of time needed to complete the work.

1) Dredging work that has been completed since the issuance of the existing RMA to date is as follows: In 2013 no maintenance was conducted due to obtaining the permit too late in the season to do work. In 2014 under RCD permits 2 landowners completed work on 2 parcels for an estimated 3,467 cubic yards of material dredged. In 2015 under RCD permits 3 landowners completed work on 5 parcels for an estimated 9,467 cubic yards of material dredged. In 2016 under RCD permits, no landowners completed maintenance. The 2017 maintenance season has not yet started but we are anticipating 7 landowners doing maintenance on a total of 8 parcels for an estimated 13,133 cubic yards of material dredged. More detailed information on annual work is included in the Annual Reporting Notifications that have been submitted annually to the CDFW under our existing permit.

Continued on additional page(s)

# REQUEST TO EXTEND LAKE OR STREAMBED ALTERATION AGREEMENT

## 2. PROJECT INFORMATION, continued.

Specify the reason(s) for the extension request

During the late 1800s the tidelands bordering San Pablo Bay were "reclaimed" for farm land. Levees were constructed to keep out the bay waters and the lands were drained and allowed to dry out, rain water flushed out the salts from the land and crops were planted. Currently, these lands are either private or publically owned and support local agricultural operations, infrastructure (i.e. roads) and important habitat and the levees require ongoing maintenance to prevent these lands from flooding.

In order to maintain the levees, landowners are required to obtain permits from some, or all, of the following regulatory agencies: the U.S. Army Corps of Engineers (with consultation from the National Marine Fisheries Service and U.S. Fish and Wildlife), County, Department of Fish and Wildlife, Regional Water Quality Control Board, Bay Conservation and Development Commission and the State Lands Commission. Often, obtaining permits can be a lengthy and costly process. For example, receiving an individual permit for levee maintenance could take approximately 2 years to complete and can cost the landowner thousands of dollars. One way to save the landowner time and money, and to streamline the time spent by the regulatory agencies reviewing the permit applications, is for the RCD to administer one permit issued by each regulatory agency for levee maintenance activities being completed by numerous landowners.

Continued on additional page(s)

**Note: The Department may not process this extension request until the extension fee has been received.**

## 3. SIGNATURE

I hereby certify that to the best of my knowledge the information in this extension request ("request") is true and correct and that I am authorized to sign this request as, or on behalf of, the applicant. I understand that if any information in this request is found to be untrue or incorrect, the Department may suspend processing this request. I understand also that if any information in this request is found to be untrue or incorrect, I and/or the applicant may be subject to civil or criminal prosecution.



Signature of Applicant or Applicant's Authorized Representative

5/30/17

Date

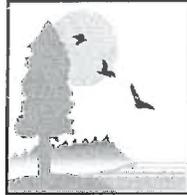
Kara Heckert

Print Name

**Note: If approved, a copy of this form must be available at the work site with the original agreement.**

**CALIFORNIA STATE LANDS COMMISSION**

100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825-8202



*Established in 1938*

**AUG 30 2018**

**JENNIFER LUCCHESI, Executive Officer**  
**(916) 574-1800 Fax (916) 574-1810**  
*California Relay Service TDD Phone 1-800-735-2929*  
*from Voice Phone 1-800-735-2922*

**Contact Phone: (916) 574-0204**  
**Contact Fax: (916) 574-1925**

File Ref. No.: PRC 6675.9

Kari Wester, Project Manager  
Sonoma Resource Conservation District  
1221 Farmers Lane, Suite F  
Santa Rosa, CA 95405

**Subject: General Lease – Dredging for Use of State Sovereign Land located in the Petaluma River, Novato Creek, San Pablo Bay, Sonoma Creek, Tolay Creek, North and East Branches of Tolay Creek, Napa Slough, Second Napa Slough, Third Napa Slough, Hudeman Slough, Steamboat Slough, Schell Slough, Railroad Slough, Rainbow Slough, and San Antonio Creek, in Marin and Sonoma Counties**

Dear Ms. Wester:

Enclosed is your fully executed lease, PRC 6675.9, authorizing the subject facilities.

Our Accounting Office will be notifying you regarding a refund due or balance outstanding on this project within ninety (90) days from the date of this letter.

The Commission appreciates your cooperation and patience in helping to complete this transaction. Please feel free to write or call if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mary Jo Columbus', is written over a horizontal line.

Mary Jo Columbus  
Public Land Management Specialist

Enclosure

RECORDED AT THE REQUEST OF  
AND WHEN RECORDED MAIL TO:  
STATE OF CALIFORNIA  
California State Lands Commission  
Attn: Title Unit  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825-8202

**STATE OF CALIFORNIA**  
**OFFICIAL BUSINESS**  
Document entitled to free recordation  
pursuant to Government Code Section 27383

SPACE ABOVE THIS LINE FOR RECORDER'S USE

A.P.N.: Various  
County: Sonoma and Marin

### LEASE NO. PRC 6675.9

This Lease consists of this summary and the following attached and incorporated parts:

Section 1	Basic Provisions
Section 2	Special Provisions Amending or Supplementing Section 1 or 3
Section 3	General Provisions
Exhibit A	Land Description
Exhibit B-1	Site and Location Map
Exhibit B-2	Site Map

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### SECTION 1

#### BASIC PROVISIONS

**THE STATE OF CALIFORNIA**, hereinafter referred to as Lessor acting by and through the **CALIFORNIA STATE LANDS COMMISSION** (100 Howe Avenue, Suite 100-South, Sacramento, California 95825-8202), pursuant to Division 6 of the Public Resources Code and Title 2, Division 3 of the California Code of Regulations, and for consideration specified in this Lease, does hereby lease, demise, and let to the **SONOMA RESOURCE CONSERVATION DISTRICT**, hereinafter referred to as Lessee, those certain lands described in Exhibit A hereinafter referred to as Lease Premises, subject to the reservations, terms, covenants, and conditions of this Lease.

**MAILING ADDRESS:** 1221 Farmers Lane, Suite F  
Santa Rosa, CA 95405

**LEASE TYPE:** General Lease – Dredging

**LAND TYPE:** Sovereign

**LOCATION:** In the Petaluma River, Novato Creek, San Pablo Bay, Sonoma Creek, Tolay Creek, North and East Branches of Tolay Creek, Napa Slough, Second Napa Slough, Third Napa Slough, Hudeman Slough, Steamboat Slough, Schell Slough, Railroad Slough, Rainbow Slough, and San Antonio Creek, Marin and Sonoma counties, as described in Exhibit A and as shown on Exhibit B-1 and B-2 (for reference purposes only) attached and by this reference made a part hereof.

**LAND USE OR PURPOSE:** Maintenance dredge a maximum of 150,000 cubic yards of material per year; up to 10,000 cubic yards of material per 2,500 linear feet of adjacent levee, per parcel, per year over the term of the lease in Marin and Sonoma Counties, and deposition of dredged materials at the adjacent levee crown and mechanically compressed, or at a U.S. Army Corps of Engineers designated disposal site.

**TERM:** 5 years; beginning August 1, 2018; ending July 31, 2023, unless sooner terminated as provided under this Lease.

**CONSIDERATION:** No monetary consideration is due for the lease because it is for the public use and benefit, there is no commercial benefit from the dredging and the dredged material may not be sold. Subject to modification by Lessor as specified in Paragraph 2 of Section 3 – General Provisions.

**LIABILITY INSURANCE:** N/A

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## SECTION 2 SPECIAL PROVISIONS

**BEFORE THE EXECUTION OF THIS LEASE, ITS PROVISIONS ARE AMENDED,  
REVISED, OR SUPPLEMENTED AS FOLLOWS:**

1. Prior to the start of any dredging activities on the Lease Premises, Lessee shall submit to Lessor copies of all permits and authorizations from agencies having jurisdiction over the dredging on the Lease Premises.
2. Prior to the start of any dredging activities on the Lease Premises, Lessee shall submit to Lessor copies of all landowner agreements.
3. Lessee is authorized during the term of this Lease to deposit up to 10,000 cubic yards of dredged materials per 2,500 linear feet of adjacent levee, per parcel, per year, but not to exceed a maximum of 150,000 cubic yards of material per year over the term of the lease for 25 Marin and Sonoma

County landowners. Dredged material to be disposed at the adjacent levee crown and mechanically compressed, or at the U.S. Army Corps of Engineers approved disposal sites.

4. Lessee agrees that disposal of any materials dredged from the Project area at any other receiver site(s) not specified herein shall require Lessor's prior written consent.
5. In performing the dredging, the Lessee will abide by best management practices to control turbidity to protect marine resources and habitats from excessive siltation in the general vicinity of the project.
6. Lessee acknowledges that material dredged from the Lease Premises is the property of the State of California and shall not be sold, and that Lessee is not authorized to dredge within the Lease Premises for purposes of commercial resale, environmental mitigation credits or other private benefit without Lessor's prior written consent.
7. Lessee agrees that printed material, such as handouts and signs or other types of printed notices installed to provide notification of the public use and benefit of the activities as set forth herein shall contain and reasonably display a statement acknowledging the California State Lands Commission as having contributed lands for such activities.
8. Any vehicles, equipment, or machinery to be used on the Lease Premises are limited to those which are directly required to perform the authorized use and shall not include any vehicles, equipment, or machinery that may cause damage to the Lease Premises or lands subject to Lessor's jurisdiction.
9. All vessels, equipment, machinery, tools or other property moved onto or within the Lease Premises or lands subject to Lessor's jurisdiction shall remain the property of the Lessee and/or its authorized contractors. Such property shall be promptly and properly removed by Lessee, at its sole risk and expense.
10. Lessor does not accept any responsibility for any damages to any property, including any vehicles, equipment, machinery, or tools within the Lease Premises or lands subject to Lessor's jurisdiction.
11. No vehicle or equipment refueling, maintenance, or repairs will be permitted within the Lease Premises or lands subject to Lessor's jurisdiction.
12. All waste material and debris created by Lessee shall be entirely removed from the Lease Premises and lands subject to Lessor's jurisdiction.
13. Lessee acknowledges that the land described in Exhibit A of this Lease is subject to the Public Trust and is presently available to members of the public for recreation, waterborne commerce, navigation, fisheries, open space, and any other recognized Public Trust uses. Lessee also agrees that any proposed dredging activities and subsequent use of the Lease Premises shall not unreasonably interfere with or limit Public Trust rights, and any temporary interference or limitation of Public Trust rights or public access shall only be to the extent necessary to protect public health and safety during dredging activities authorized by Lessor, or when imminent threats to public health and safety are present.

14. Should Lessee desire to continue its Project beyond the expiration of this lease, Lessee shall submit to Lessor no later than one (1) year prior to the expiration of this lease an application and minimum expense deposit for a new lease for the continued use of the Lease Premises.

In the event of any conflict between the provisions of Section 2 and Section 3 of this Lease, the provisions of Section 2 shall prevail.

## SECTION 3

### GENERAL PROVISIONS

#### 1. GENERAL

These provisions are applicable to all leases, permits, rights-of-way, easements, or licenses or other interests in real property conveyed by the State Lands Commission.

#### 2. CONSIDERATION

##### (a) Categories

##### (1) Royalty

Lessee shall pay the rent or royalty as stated in this Lease to Lessor without deduction, delay, or offset, on or before the beginning date of this Lease and on or before each anniversary of its beginning date during each year of the Lease term.

##### (2) Non-Monetary Consideration

If the consideration to Lessor for this Lease is the public use, benefit, health, or safety, Lessor shall have the right to review such consideration at any time and set a monetary rental if the State Lands Commission, at its sole discretion, determines that such action is in the best interest of the State. Dredged material may not be sold.

##### (b) Penalty and Interest

Any installments of rental accruing under this Lease not paid when due shall be subject to a penalty and shall bear interest as specified in Public Resources Code Section 6224 and the Lessor's then existing administrative regulations governing penalty and interest.

#### 3. BOUNDARIES

This Lease is not intended to establish the State's boundaries and is made without prejudice to either party regarding any boundary claims which may be asserted presently or in the future.

#### 4. LAND USE

##### (a) General

Lessee shall use the Lease Premises only for the purpose or purposes stated in this Lease and only for the operation and maintenance of the improvements expressly authorized in this Lease. Lessee shall commence use of the Lease Premises within ninety (90) days of the beginning date of this Lease or within ninety (90) days of the date set for construction to commence as set forth in this Lease, whichever is later. Lessee shall notify Lessor within ten (10) days after commencing the construction of authorized improvements and within sixty (60) days after completing them. Lessee's discontinuance of such use for a period of ninety (90) days shall be conclusively presumed to be an abandonment.

##### (b) Continuous Use

Lessee's use of the Lease Premises shall be continuous from commencement of the Lease until its expiration.

##### (c) Conservation

Lessee shall not violate any law or regulation whose purpose is to conserve resources or to protect the environment. Violation of this section shall constitute grounds for termination of the Lease. Lessor, by its executive officer, shall notify Lessee, when in his or her opinion, Lessee has violated the provisions of this section and Lessee shall respond and discontinue the conduct or remedy the condition within 30 days.

##### (d) Toxics

Lessee shall be fully responsible for any hazardous wastes, substances, or materials as defined under federal, State, or local law, regulation, or ordinance that are manufactured, generated, used, placed, disposed, stored, or transported on the Lease Premises during the Lease term and shall comply with and be bound by all applicable provisions of such federal, State, or local law, regulation or ordinance dealing with such wastes, substances, or materials. Lessee shall notify Lessor and the appropriate governmental emergency response agency(ies) immediately in the event of any release or threatened release of any such wastes, substances, or materials.

##### (g) Enjoyment

Subject to the provisions of paragraph 5 (a) (2) below, nothing in this Lease shall preclude Lessee from excluding persons from the Lease Premises when their presence or activity constitutes a material interference with Lessee's use and enjoyment of the Lease Premises as provided under this Lease.

##### (h) Discrimination

Lessee in its use of the Lease Premises shall not discriminate against any person or class of persons on the basis of race, color, creed, religion, national origin, sex, age, or handicap.

#### 5. RESERVATIONS, ENCUMBRANCES, AND RIGHTS-OF-WAY

##### (a) Reservations

(1) Lessor expressly reserves all natural resources in or on the Lease Premises, including but not limited to timber and minerals as defined under Public Resources Code Sections 6401 and 6407, as well as the right to grant leases in and over the Lease Premises for the extraction of such natural resources; however, such leasing shall be neither inconsistent nor incompatible with the rights or privileges of Lessee under this Lease.

(2) Lessor expressly reserves a right to go on the Lease Premises and all improvements for any purposes associated with this Lease or for carrying out any function required by law, or the rules, regulations, or management policies of the State Lands Commission. Lessor shall have a right of reasonable access to the Lease Premises across Lessee owned or occupied lands adjacent to the

Lease Premises for any purpose associated with this Lease.

- (3) Lessee agrees to allow the State, the State's easement holders, permittees or lessees to enter upon the Leased Lands in order to conduct authorized activities; provided that such parties shall provide Lessee with reasonable advance notice of their entry on the Leased Lands and the contemplated activities while on the Leased Lands. The State shall require such parties to indemnify, defend and hold Lessee harmless from and against any loss, cost, charge, cause of action or other liability of any kind whatsoever that arises out of such parties activities on, in or associated with the Leased Lands.
- (4) Lessor expressly reserves to the public an easement for convenient access across the Lease Premises to other State-owned lands located near or adjacent to the Lease Premises and a right of reasonable passage across and along any right-of-way granted by this Lease; however, such easement or right-of-way shall be neither inconsistent nor incompatible with the rights or privileges of Lessee under this Lease.
- (5) Lessor expressly reserves the right to lease, convey, or encumber the Lease Premises, in whole or in part, during the Lease term for any purpose not inconsistent or incompatible with the rights or privileges of Lessee under this Lease.

**(b) Encumbrances**

This Lease may be subject to pre-existing contracts, leases, licenses, easements, encumbrances, and claims and is made without warranty by Lessor of title, condition, or fitness of the land for the stated or intended purpose.

**6. RULES, REGULATIONS, AND TAXES**

(a) Lessee shall comply with all applicable laws, regulations and rules of the United States, the State of California and counties or cities now or hereafter enacted or promulgated, including, without limitations, all applicable provisions of the Public Resources Code, the California Administrative Code, and the Statutes of California, regardless of which agency or government body may have jurisdiction with respect to enforcement. Lessee also agrees that in its employment practice hereunder, it shall not discriminate against any person because of race, color, religion, sex, ancestry, national origin physical disability, sexual orientation, AIDS or AIDS related condition(s), marital status or age.

(b) Lessee understands and agrees that a necessary condition for the granting and continued existence of this Lease is that Lessee obtains and maintains all permits or other entitlements.

(c) Lessee accepts responsibility for and agrees to pay any and all possessory interest taxes, assessments, user fees or service charges imposed on or associated with the leasehold interest, improvements or the Lease Premises, and such payment shall not reduce rental due Lessor under this Lease and Lessor shall have no liability for such payment.

(d) In accepting this Lease, Lessee understands that the interest created herein may be subject to a possessory interest tax imposed by a local or county tax assessor. Any such possessory interest tax imposed shall not reduce any royalty due hereunder and payment of the tax shall be the liability of the Lessee.

**7. INDEMNITY**

(a) Lessor shall not be liable and Lessee shall indemnify, hold harmless, and, at the option of Lessor, defend Lessor, its officers, agents, and employees against and for any and all liability, claims, damages or injuries of any kind and from any cause, arising out of or connected in any way with the issuance, enjoyment or breach of this Lease or Lessee's use of the Lease Premises except for any such liability, claims, damage or injury solely caused by the negligence of Lessor, its officers, agents and employees.

(b) Lessee shall notify Lessor immediately in case of any accident, injury, or casualty on the Lease Premises.

**8. INSURANCE**

(a) Lessee shall obtain and maintain in full force and effect during the term of this Lease comprehensive general liability insurance and property damage insurance, with such coverage and limits as may be reasonably requested by Lessor from time to time, but in no event for less than the sum(s) specified, insuring Lessee and Lessor against any and all claims or liability arising out of the ownership, use, occupancy, condition, or maintenance of the Lease Premises and all improvements.

(b) The insurance policy or policies shall name the State of California, its officers, employees and volunteers as insureds as to the Lease Premises and shall identify the Lease by its assigned number. Lessee shall provide Lessor with a certificate of such insurance and shall keep such certificate current. The policy (or endorsement) must provide that the insurer will not cancel the insured's coverage without thirty (30) days prior written notice to Lessor. Lessor will not be responsible for any premiums or other assessments on the policy. The coverage provided by the insured (Lessee) shall be primary and non-contributing.

(c) The insurance coverage specified in this Lease shall be in effect at all times during the Lease term and subsequently until all of the Lease Premises have been either accepted as improved, by Lessor, or restored by Lessee as provided elsewhere in this Lease.

(d) Workers Compensation: Lessee shall at all times in any and all of its operations hereunder and any works in and upon

the Leased Lands, carry full and complete workers compensation insurance covering all of its employees.

**9. SURETY BOND**

(a) Lessee shall provide a surety bond or other security device acceptable to Lessor, for the specified amount, and naming the State of California as the assured, to guarantee to Lessor the faithful observance and performance by Lessee of all of the terms, covenants, and conditions of this Lease.

(b) Lessor may require an increase in the amount of the surety bond or other security device to cover any additionally authorized improvements, alterations or purposes and any modification of consideration.

(c) The surety bond or other security device shall be maintained in full force and effect at all times during the Lease term and subsequently until all of the Lease Premises have been either accepted by Lessor, or restored by Lessee as provided elsewhere in this Lease.

(d) Said bond shall require the surety to give at least 120 days written notice of its intention to cease acting as guarantor. If a surety gives notice of its intention to cease acting as a guarantor, the Lessee shall provide to State within 30 days of such notice a replacement bond of equal value to become effective upon the expiration of the existing bond. Failure to provide such a replacement bond within the required time shall constitute a default entitling State to levy against the entire amount of the existing bond. Lessee agrees that in no event shall the amount of the bond be construed as a limitation on its liability. This requirement shall be separate from any other bonding provisions of the Public Resources Code and the regulations of the State of California or any other State, local or federal requirement.

**10. ASSIGNMENT, ENCUMBRANCING OR SUBLETTING**

(a) Lessee shall not either voluntarily or by operation of law, assign, transfer, mortgage, pledge, hypothecate or encumber this Lease and shall not sublet the Lease Premises, in whole or in part, or allow any person other than the Lessee's employees, agents, servants and invitees to occupy or use all or any portion of the Lease Premises without the prior written consent of Lessor, which consent shall not be unreasonably withheld. Employment of operators and/or subcontractors by Lessee shall not be considered a sublease or assignment of this Lease; provided, however, that Lessee shall first notify Lessor of any intended operator and/or subcontractors and obtain Lessor's approval of the use of an operator and/or subcontractor. In the event of any subcontracting, Lessee shall remain liable for the operator's and/or subcontractor's activities including the payments of royalties.

(b) The following shall be deemed to be an assignment or transfer within the meaning of this Lease:

(1) If Lessee is a corporation, any dissolution, merger, consolidation or other reorganization of Lessee or sale or other transfer of a percentage of capital stock of Lessee which results in a change of controlling persons, or the

sale or other transfer of substantially all the assets of Lessee;

(2) If Lessee is a partnership, a transfer of any interest of a general partner, a withdrawal of any general partner from the partnership, or the dissolution of the partnership.

(c) If this Lease is for sovereign lands, it shall be appurtenant to adjoining littoral or riparian land and Lessee shall not transfer or assign its ownership interest or use rights in such adjoining lands separately from the leasehold rights granted herein without the prior written consent of Lessor.

(d) If Lessee desires to assign, sublet, encumber or otherwise transfer all or any portion of the Lease Premises, Lessee shall do all of the following:

(1) Give prior written notice to Lessor;

(2) Provide the name and complete business organization and operational structure of the proposed assignee, sublessee, secured third party, or other transferee; and the nature of the use of and interest in the Lease Premises proposed by the assignee, sublessee, secured third party or other transferee. If the proposed assignee, sublessee, or secured third party is a general or limited partnership, or a joint venture, provide a copy of the partnership agreement or joint venture agreement, as applicable;

(3) Provide the terms and conditions of the proposed assignment, sublease, or encumbrance or other transfer;

(4) Provide audited financial statements for the two most recently completed fiscal years of the proposed assignee, sublessee, secured party or other transferee; and provide pro forma financial statements showing the projected income, expense and financial condition resulting from use of the Lease Premises; and

(5) Provide such additional or supplemental information as Lessor may reasonably request concerning the proposed assignee, sublessee, secured party or other transferee.

Lessor will evaluate proposed assignees, sublessees, secured third parties and other transferees and grant approval or disapproval according to standards of commercial reasonableness considering the following factors within the context of the proposed use: the proposed party's financial strength and reliability, their business experience and expertise, their personal and business reputation, their managerial and operational skills, their proposed use and projected rental, as well as other relevant factors.

(e) Lessor shall have a reasonable period of time from the receipt of all documents and other information required under this provision to grant or deny its approval of the proposed party.

(f) Lessee's mortgage or hypothecation of this Lease, if approved by Lessor, shall be subject to terms and conditions found in a separately drafted standard form (Agreement and Consent to Encumbrancing of Lease) available from Lessor upon request.

(g) Upon approval of an assignment by State the covenants and conditions contained herein shall apply to and bind the heirs, successors, executors, administrators and assigns of all of the parties hereto; and all parties hereto shall be jointly and severally liable hereunder.

(h) Upon the express written assumption of all obligations and duties under this Lease by an assignee approved by Lessor, the Lessee may be released from all liability under this Lease arising after the effective date of assignment and not associated with Lessee's use, possession or occupation of or activities on the Lease Premises; except as to any hazardous wastes, substances or materials as defined under federal, state or local law, regulation, or ordinance manufactured, generated, used, placed, disposed, stored or transported on the Lease Premises.

(i) If the Lessee files a petition or an order for relief is entered against Lessee, under Chapters 7,9,11 or 13 of the Bankruptcy Code (11 USC Sect. 101, et seq.) then the trustee or debtor-in-possession must elect to assume or reject this Lease within sixty (60) days after filing of the petition or appointment of the trustee, or the Lease shall be deemed to have been rejected, and Lessor shall be entitled to immediate possession of the Lease Premises. No assumption or assignment of this Lease shall be effective unless it is in writing and unless the trustee or debtor-in-possession has cured all defaults under this Lease (monetary and non-monetary) or has provided Lessor with adequate assurances (1) that within ten (10) days from the date of such assumption or assignment, all monetary defaults under this Lease will be cured; and (2) that within thirty (30) days from the date of such assumption, all non-monetary defaults under this Lease will be cured; and (3) that all provisions of this Lease will be satisfactorily performed in the future.

## 11. DEFAULT AND REMEDIES

### (a) Default

The occurrence of any one or more of the following events shall immediately and without further notice constitute a default or breach of the Lease by Lessee:

- (1) Lessee's failure to make any payment of rental, royalty, or other consideration as required under this Lease;
- (2) Lessee's failure to obtain or maintain liability insurance or a surety bond or other security device as required under this Lease;
- (3) Lessee's vacation or abandonment of the Lease Premises (including the covenant for continuous use as provided for in paragraph 4) during the Lease term;

- (4) Lessee's failure to obtain and maintain all necessary governmental permits or other entitlements;
- (5) Lessee's failure to comply with all applicable provisions of federal, state or local law, regulation or ordinance dealing with hazardous waste, substances or materials as defined under such law;
- (6) Lessee's Failure to commence to construct and to complete construction of the improvements authorized by this Lease within the time limits specified in this Lease; and/or
- (7) Failure of the Lessee to comply with any provisions of this Lease or with the laws, regulations, or rules applicable thereto shall immediately and without further notice constitute a default or breach of the Lease by Lessee.

(b) Lessee's failure to observe or perform any other term, covenant, or condition of this Lease or when such failure shall continue for a period of thirty (30) days after Lessor's giving written notice; however, if the nature of Lessee's default or breach under this paragraph is such that more than thirty (30) days are reasonably required for its cure, then Lessee shall not be deemed to be in default or breach if Lessee commences such cure within such thirty (30) day period and diligently proceeds with such cure to completion.

### (c) Remedies

In the event of a default or breach by Lessee and Lessee's failure to cure such default or breach, Lessor may at any time and with or without notice do any one or more of the following:

- (1) Re-enter the Lease Premises, remove all persons and property, and repossess and enjoy such premises;
- (2) Terminate this Lease and Lessee's right of possession of the Lease Premises. Such termination shall be effective upon Lessor's giving written notice and upon receipt of such notice, Lessee shall immediately surrender possession of the Lease Premises to Lessor;
- (3) Maintain this Lease in full force and effect and recover any rental, royalty, or other consideration as it becomes due without terminating Lessee's right of possession regardless of whether Lessee shall have abandoned the Lease Premises; and/or
- (4) Exercise any other right or remedy which Lessor may have at law or equity.

## 12. INDEPENDENT SITE ASSESSMENT

Lessor may at any time during the Lease term require Lessee to conduct at its own expense and by a contractor approved by Lessor an independent environmental site assessment or

inspection for the presence or suspected presence of hazardous wastes, substances or materials as defined under federal, State or local law, regulation or ordinance manufactured, generated, used, placed, disposed, stored, or transported on the Lease Premises during the term of the Lease. Lessee shall provide the results of the assessment or inspection to Lessor and the appropriate governmental response agency(ies) and shall further be responsible for removing or taking other appropriate remedial action regarding such wastes, substances or materials in accordance with applicable federal, state or local law regulation or ordinance.

**13. QUITCLAIM**

Lessee shall, within ninety (90) days of the expiration or sooner termination of this Lease, execute and deliver to Lessor in a form provided by Lessor a good and sufficient release of all rights under this Lease. Should Lessee fail or refuse to deliver such a release, a written notice by Lessor reciting such failure or refusal shall, from the date of its recordation be conclusive evidence against Lessee of the termination of this Lease and all other claimants.

**14. HOLDING-OVER**

After expiration or earlier termination of lease, there is no holdover provision. Activities on premises shall constitute trespass without the express consent of the Lessor.

**15. ADDITIONAL PROVISIONS**

**(a) Waiver**

(1) No term, covenant, or condition of this Lease and no default or breach of any such term, covenant or condition shall be deemed to have been waived, by Lessor's acceptance of a late or nonconforming performance or otherwise, unless such a waiver is expressly acknowledged by Lessor in writing.

(2) Any such waiver shall not be deemed to be a waiver of any other term, covenant or condition of any other default or breach of any term, covenant or condition of this Lease.

**(b) Time**

Time is of the essence of this Lease and each and all of its terms, covenants or conditions in which performance is a factor.

**(c) Notice**

All notices required to be given under this Lease shall be given in writing, sent by U.S. Mail with postage prepaid, to Lessor at the offices of the State Lands Commission and the Lessee at the address specified in this Lease. Lessee shall give Lessor notice of any change in its name or address.

**(d) Consent**

Where Lessor's consent is required under this Lease its consent for one transaction or event shall not be deemed to be a consent to any subsequent occurrence of the same or any other transaction or event.

**(e) Changes**

This Lease may be terminated and its term, covenants, and conditions amended, revised, or supplemented only by mutual written agreement of the parties.

**(f) Successors**

The terms, covenants, and conditions of this Lease shall extend to and be binding upon and inure to the benefit of the heirs, successors, and assigns of the respective parties.

**(g) Joint and Several Obligation**

If more than one Lessee is a party to this Lease, the obligations of the Lessees shall be joint and several.

**(h) Captions**

The captions of this Lease are not controlling and shall have no effect upon its construction or interpretation.

**(i) Severability**

If any term, covenant or condition of this Lease is determined by a court of competent jurisdiction to be invalid, it shall be considered deleted and shall not invalidate any of the remaining terms, covenants and conditions.

**(j) Record Keeping and Audits**

(1) Lessee shall prepare and maintain accurate records of its operations under this Lease. On or before the 15<sup>th</sup> day of the month following the lease year, Lessee shall provide to State a detailed statement (hereinafter "Dredging Report") of the amount of Dredged Materials and copies of reports or contracts with the dredging operator substantiating the volume of Dredged Materials and placement of Dredged Materials.

(2) At the request of the State, the Lessee shall provide additional reasonable information to State to assist it in interpreting and evaluating the contents of Lessee's Dredging Report.

(3) All Dredging Reports and royalty statements shall be subject to audit by State. Upon reasonable advance notice to the Lessee from State, Lessee shall make available to State, during business hours, Lessee's books, records, calculations and other materials that are directly related to the Leased Lands and any other land joined with the Leased Lands under Lessee's plan of operation and the contents of its Dredging Reports.

(4) Lessee waives any rights or objections it may have and consents to the examination, inspection and audit of the books and records of Lessee and any other party associated with the dredging activities.

(5) Lessee shall, within 30 days of the State's request, provide copies of all data arising from Lessee's operation on the Leased Lands including, but not limited to, surveys of the Leased Lands conducted by or for



Lease No. PRC 6675.9

This Lease shall become effective only when approved by and executed on behalf of the State Lands Commission of the State of California and a duly executed copy has been delivered to Lessee. The submission of this Lease by Lessor, its agent or representative for examination by Lessee does not constitute an option or offer to lease the Lease Premises upon the terms and conditions contained herein, or a reservation of the Lease Premises in favor of Lessee. Lessee's submission of an executed copy of this Lease to Lessor shall constitute an offer to Lessor to lease the Lease Premises on the terms and conditions set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the date hereafter affixed.

LESSEE(S):

SONOMA RESOURCE CONSERVATION DISTRICT

By: Valerie O

Title: Executive Director

Date: 6/18/18

LESSOR:

STATE OF CALIFORNIA STATE LANDS COMMISSION

By: [Signature]  
Chief

Title: Land Management Division

Date: AUG 30 2018

ATTACH NOTARY ACKNOWLEDGEMENT

Execution of this document was authorized by the California State Lands Commission on

6/21/18  
(Month Day Year)

Notary Certificate Attached

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

### California All-Purpose Acknowledgement

State of California }  
County of Sonoma } SS.

On June 15<sup>th</sup> 2018 before me Gabe Carroll Notary Public

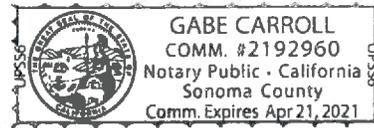
personally appeared Valerie Minkoa Quinto

Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(ies), and that by ~~his~~/her/~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Gabe Carroll notary public (Seal)

#### Optional

*Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.*

#### Description of the Attached Document:

Title of Type of Document: \_\_\_\_\_

Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

## EXHIBIT A

PRC 6675.9

### LAND DESCRIPTION

All those tide and submerged lands lying in the bed of San Pablo Bay, Petaluma River, San Antonio Creek, Novato Creek, Sonoma Creek, Toley Creek, Napa Slough, Second Napa Slough, Third Napa Slough, Hudeman Slough, Steamboat Slough, Schell Slough and Railroad Slough, situated in Marin and Sonoma Counties, State of California and adjacent to the following Southern Sonoma Resource Conservation District (SSRCD) parcels of land described in:

- 1) Corporation Grant Deed recorded July 31, 2002 as Document No. 2002114861, Official Records of Sonoma County (2-S);
- 2) Grant Deed recorded September 20, 2002 as Document No. 20022142697, Official Records of Sonoma County (3-S);
- 3) Grant Deed recorded September 29, 1999 as Document No. 1999121677, Official Records of Sonoma County (3-S);
- 4) Grant Deed recorded March 21, 1979 in Book 3537, Page 446, Official Records of Sonoma County (4-R);
- 5) Grant of Easement recorded October 13, 2005 as Document No. 2005152954, Official Records of Sonoma County (4-R);
- 6) Grant Deed recorded September 11, 2003 as Document No. 2003191003, Official Records of Sonoma County (6-F);
- 7) Individual Grant Deed recorded November 6, 1989 as Document No. 89106236, Official Records of Sonoma County (6-F);
- 8) Grant Deed recorded September 13, 1988 as Document No. 88076989, Official Records of Sonoma County (7-B);
- 9) Grant Deed recorded September 22, 1992 as Document No. 1992 0117385, Official Records of Sonoma County (7-B);
- 10) Quit Claim Deed recorded May 21, 2008 as Document No. 2008046807, Official Records of Sonoma County (8-K);
- 11) Quit Claim Deed recorded June 15, 2007 as Document No. 2007068223, Official Records of Sonoma County (9-T);
- 12) Quit Claim Deed recorded June 14, 2001 as Document No. 2001078080, Official Records of Sonoma County (11-H);
- 13) Grant Deed recorded February 13, 2013 as Document No. 2013015147, Official Records of Sonoma County (12-A);
- 14) Grant Deed recorded April 14, 2010 as Document No. 2010-0018596, Official Records of Sonoma County (13-C);

- 15) Gift Deed recorded July 10, 2008 as Document No. 2008063150, Official Records of Sonoma County (13-C);
- 16) Corporation Grant Deed recorded December 31, 1975 as in Book 3033, Page 217 Official Records of Sonoma County (14-C);
- 17) Individual Grant Deed recorded October 23, 1992 as Document No. 1992 0132458, Official Records of Sonoma County (15-J);
- 18) Quit Claim Deed recorded June 12, 2012 as Document No. 2012055851, Official Records of Sonoma County (17-M);
- 19) Quit Claim Deed recorded June 12, 2012 as Document No. 2012055852, Official Records of Sonoma County (17-M);
- 20) Quit Claim Deed recorded June 12, 2012 as Document No. 2012055853, Official Records of Sonoma County (17-M);
- 21) Grant Deed recorded November 15, 2005 as Document No. 2005169315, Official Records of Sonoma County (17-M);
- 22) Grant Deed recorded December 22, 1997 as Document No. 97-073948, Official Records of Marin County (18-R);
- 23) Grant Deed recorded April 10, 1967 in Book 2120, Page 406, Official Records of Marin County (18-R);
- 24) Grant Deed recorded April 26, 1968 in Book 2207, Page 85, Official Records of Marin County (18-R);
- 25) Grant Deed recorded April 10, 1967 in Book 2120, Page 392, Official Records of Marin County (18-R);
- 26) Trust Transfer Deed recorded November 29, 2006 as Document No. 2006147894, Official Records of Sonoma County (19-B);
- 27) Individual Grant Deed recorded November 21, 1997 as Document No. 1997 0108428, Official Records of Sonoma County (20-C);
- 28) Grant Deed recorded January 27, 2005 as Document No. 2005011513, Official Records of Sonoma County (21-L);
- 29) Grant Deed recorded July 27, 1956 in Book 1489, Page 285, Official Records of Sonoma County (21-L);
- 30) Corporation Grant Deed recorded September 25, 1991 as Document No. 91-061381, Official Records of Marin County (23-R);
- 31) Quit Claim Deed recorded October 31, 2000 as Document No. 2000114497, Official Records of Sonoma County (24-H);
- 32) Grant Deed recorded January 25, 2011 as Document No. 2011007795, Official Records of Sonoma County (25-M);
- 33) Grant Deed recorded October 7, 2014 as Document No. 2014071231, Official Records of Sonoma County (26-Y);

- 34) Grant Deed recorded April 19, 1982 as Document No. 82020350, Official Records of Sonoma County (26-Y);
- 35) Quitclaim Deed recorded December 9, 2016 as Document No. 2016114116, Official Records of Sonoma County (26-Y);
- 36) Grant Deed recorded July 7, 1995 as Document No. 1995 0054810, Official Records of Sonoma County (28-M);
- 37) Grant Deed recorded April 19, 1982 as Document No. 82020350, Official Records of Sonoma County (30-T);
- 38) Correction Quitclaim Deed recorded December 27, 2016 as Document No. 2016119191, Official Records of Sonoma County (30-T);
- 39) Grant Deed recorded July 8, 2005 as Document No. 2005097730, Official Records of Sonoma County (31-M);
- 40) Grant Deed recorded November 5, 2008 as Document No. 2008099991, Official Records of Sonoma County (32-P).

EXCEPTING THEREFROM any portion lying landward of the ordinary high water mark of the banks of said river, bay, creeks and sloughs.

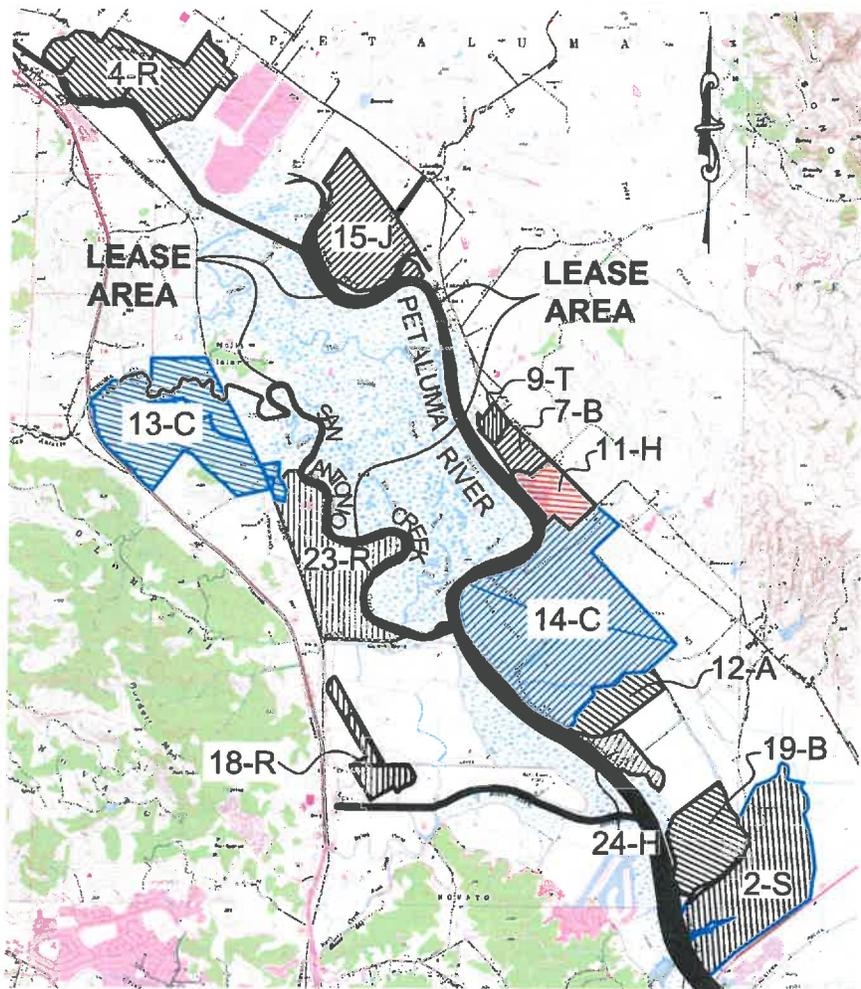
**END OF DESCRIPTION**

Prepared 06/14/2018 by the California State Lands Commission Boundary Unit



NO SCALE

### SITE



### SRCD Parcels No.:

- 2-S - APN 068-130-013
- 4-R - APN 068-010-034  
APN 017-170-001
- 7-B - APN 068-110-026, 27
- 9-T - APN 068-060-038
- 11-H - APN 068-110-025
- 12-A - APN 068-120-012
- 13-C - APN 019-360-001  
APN 125-130-04, 05, 06
- 14-C - APNs 068-120-001, 002
- 15-J - APN 068-020-001, 002
- 18-R - APNs 125-190-24, 54, 70
- 19-B - APR 068-130-001, 008
- 23-R - APN 125-160-13
- 24-H - APN 068-120-015

PETALUMA RIVER, SAN ANTONIO AND NOVATO CREEKS

NO SCALE

### LOCATION



MAP SOURCE: USGS QUAD

### Exhibit B-1

PRC 6675.9  
 SONOMA RESOURCE  
 CONSERVATION DISTRICT  
 DREDGING LEASE  
 MARIN & SONOMA  
 COUNTIES

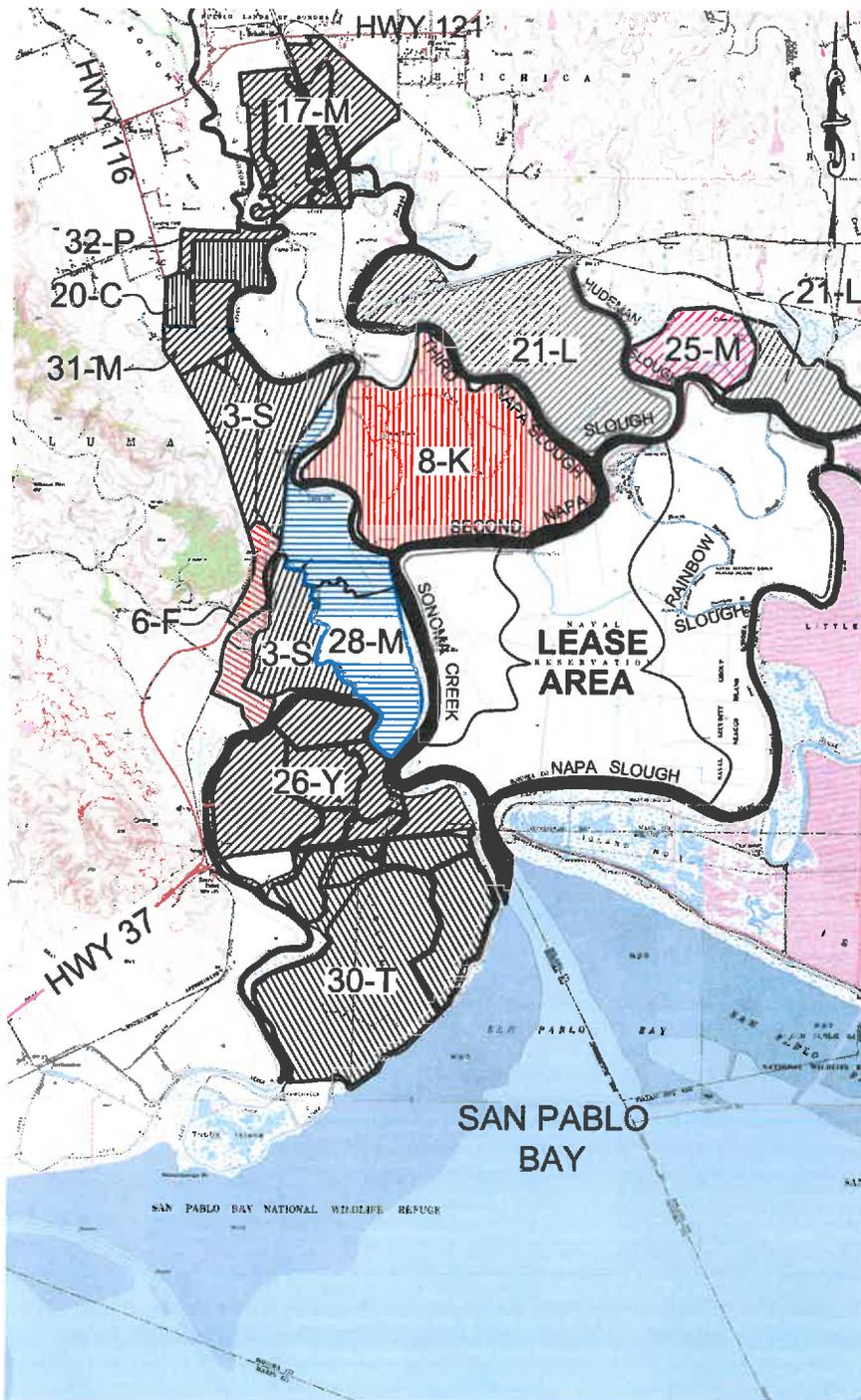


SITE

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

NO SCALE

# SITE



## SRCD Parcels No.:

- 3-S - APN 128-491-040  
APN 142-122-001  
APN 128-491-011
- 6-F - APN 068-190-021, 022  
APN 142-122-004
- 8-K - APNs 128-491-013, 014, 015
- 17-M - APNs 128-471-003, 004, 015  
APNs 128-471-007, 014  
APN 128-471-006  
APN 135-012-005
- 20-C - APN 128-491-056
- 21-L - APNs 128-491-005, 006, 007  
APN 128-491-016
- 25-M - APN 128-491-041
- 26-Y - APNs 068-190-005, 007, 008, 009  
APNs 068-190-013, 015, 017  
APN 068-180-008
- 28-M - APNs 128-491-022, 023
- 30-T - APNs 068-180-003, 004, 005, 006  
APN 068-180-007  
APNs 068-180-011, 013, 017, 020
- 31-M - APN 128-491-059
- 32-P - APN 128-471-017

█ - LEASE AREA

SAN PABLO BAY, SONOMA CREEK, TOLEY CREEK, NAPA SLOUGH,  
SECOND NAPA SLOUGH, THIRD NAPA SLOUGH,  
HUDEMAN SLOUGH, STEAMBOAT SLOUGH,  
SCHELL SLOUGH AND RAILROAD SLOUGH.

## Exhibit B-2

PRC 6675.9  
SONOMA RESOURCE  
CONSERVATION DISTRICT  
DREDGING LEASE  
MARIN & SONOMA  
COUNTIES