Initial Study

Mitigated Negative Declaration

Green Oaks Restoration Project

March 2021

STATE OF CALIFORNIA

DEPARTMENT OF PARKS AND RECREATION

SANTA CRUZ DISTRICT

303 BIG TREES PARK ROAD

FELTON, CA 95018

MITIGATED NEGATIVE DECLARATION

PROJECT: **GREEN OAKS RESTORATION PROJECT**

LEAD AGENCY: California State Parks

AVAILABILITY OF DOCUMENTS: The Initial Study for this Mitigated Negative Declaration is available for review at:

- Santa Cruz District Headquarters
  California State Parks
  303 N Big Trees Park Road,
  Felton, CA 95018
- Año Nuevo State Park
  1 New Years Creek Rd.
  Pescadero CA 94060
- Felton Branch Library
  6121 Gushee St,
  Felton, CA 95018

PROJECT DESCRIPTION:

The Green Oaks Restoration Project will reestablish the natural hydrology and enhance the ecosystem functions of the former Steele Ranch property, a 235-acre portion of Año Nuevo State Park. The project will use the natural topography of the landscape to enhance aquatic and terrestrial habitat for wildlife, while reducing the level of future intervention required from State Parks staff to maintain this habitat.

State Parks proposes to implement this project by focusing on the following features:

- Lower the man-made berm surrounding the eastern, perennial pond. This will intermittently re-activate a historic tributary to Green Oaks Creek.
- Lower the pond berm in two phases, over two years, to minimize impacts to the San Francisco Garter Snake (SFGS) and California Red Legged Frog (CRLF) population. A phased approach will allow for SFGS and CRLF to use un-impacted habitat for refugia during the separate work phases.
- Re-use berm material to selectively fill existing agricultural ditches while leaving specified areas unfilled to act as open water adjacent to upland meadow, expanding SFGS and CRLF habitat.

- Remove sections of the East-West road that bisects the property to allow natural sheet flow across the landscape

- Improve drainage features on the Northern Boundary road (easement) by installing appropriately sized culverts and low rock ford crossings

Additional project work will include:

- Remove trash and abandoned infrastructure including irrigation systems and power poles.

- Remove and spread existing compost and chip piles.

- Remove and maintain low presence of exotic plants species within the footprint of the project.

A copy of the Initial Study is attached. Questions or comments regarding this Initial Study/Mitigated Negative Declaration may be addressed to:

Ryan Diller
Environmental Scientist
California State Parks
Ryan.Diller@parks.ca.gov

Mailing Address:
303 N Big Trees Park Road
Felton, CA 95018

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR or California State Parks) has independently reviewed and analyzed the Initial Study and Draft Mitigated Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR, as lead agency, also confirms that the project mitigation measures detailed in these documents are feasible and will be implemented as stated in the Negative Declaration.

_____ _____

Date

District Superintendent

_____ _____

Date

Environmental Coordinator

This page is intentionally left blank

Contents

This page is intentionally left blank.

1 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the Green Oaks Restoration Project at Año Nuevo State Park, San Mateo County, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 et seq., and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 et seq.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, a Mitigated Negative Declaration may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND conforms to the content requirements under CEQA Guidelines §15071.

1.2 LEAD AGENCY

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is DPR. The contact person for the lead agency regarding specific project information is Ryan Diller.

Questions or comments regarding this Initial Study/Mitigated Negative Declaration should be submitted to:

Ryan Diller
California Department of Parks and Recreation
Santa Cruz District
303 Big Trees Park Road
Felton, CA 95018
Ryan.Diller@parks.ca.gov
Include “Green Oaks Restoration Project” on the subject line
Fax Number: (831-335-8999)

Submissions must be in writing and postmarked or received by fax or email no later than May 10th, 2021. The originals of any faxed document must be received by regular mail within ten working days following the deadline for comments, along with proof of successful fax transmission. Email or fax submissions must include full name and address. All comments will be included in the final environmental document for this project and become part of the public record.

1.3 Purpose and Document Organization

The purpose of this document is to evaluate the potential environmental effects of the Green Oaks Restoration Project at Año Nuevo State Park. Mitigation measures have been incorporated into the project to eliminate any potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

- Chapter 1 - Introduction.
  - This chapter provides an introduction to the project and describes the purpose and organization of this document and provides a brief summary of findings.

- Chapter 2 - Project Description.
  - This chapter describes the reasons for the project, scope of the project, and project objectives.

- Chapter 3 - Environmental Setting, Impacts, and Mitigation Measures.
  - This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist. Mitigation measures are incorporated, where appropriate, to reduce potentially significant impacts to a less than significant level.

- Chapter 4 - Mandatory Findings of Significance.
  - This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans, as identified in the Initial Study.

- Chapter 5 - Summary of Mitigation Measures.
  - This chapter summarizes the mitigation measures incorporated into the project as a result of the Initial Study.

- Chapter 6 - References.
  - This chapter identifies the references and sources used in the preparation of this IS/MND.

- Chapter 7 - Report Preparation
  - This chapter provides a list of those involved in the preparation of this document.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document contains the Environmental (Initial Study) Checklist that identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project.

Based on the IS and supporting environmental analysis provided in this document, the proposed Green Oaks Restoration Project would result in less than significant impacts for the following issues: aesthetics, agricultural resources, air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, tribal and cultural resources, utilities and service systems, and wildfire. The project would result in less than significant impacts with mitigation for biological resources.

In accordance with §15064(f) of the CEQA Guidelines, a MND shall be prepared if the proposed project will not have a significant effect on the environment after the inclusion of mitigation measures in the project. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, after the incorporation of mitigation measures, the proposed project would have a significant effect on the environment.

2 PROJECT DESCRIPTION

2.1 INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the Green Oaks Restoration Project at Año Nuevo State Park, located in San Mateo County, California. The proposed project would restore the natural hydrology of the former Steele Ranch property, raising the seasonal groundwater table to support wet meadow and riparian habitat. The project will maintain current habitat and create additional seasonal and perennial open water with enhanced adjacent upland habitat for the benefit of California Red Legged Frogs (CRLF) and San Francisco Garter Snakes (SFGS).

2.2 PROJECT LOCATION

Figure 1. Project location in the greater Bay Area

Año Nuevo State Park (ANSP) is in San Mateo County near the border with Santa Cruz County. ANSP is approximately 25 miles south of Half Moon Bay and 25 miles north of Santa Cruz. ANSP consists of approximately 1,313 acres of natural upland and coastal habitat with multiple developed areas to provide access and facilities to visitors. The Green Oaks Restoration Project will focus on the former Steele Ranch property, transferred to State Parks ownership in 2013. The project site includes approximately 235 acres of former agricultural property located on the coastal plain between Highway 1 and the Pacific Ocean. Elevations range from approximately 140 feet on the eastern edge of the property near Highway 1 to an elevation of 40 feet at the southwestern edge of the property along Green Oaks Creek. A tributary of Green Oaks Creek flows through the site along a broad historic swale that was ditched to support agricultural use of the site.

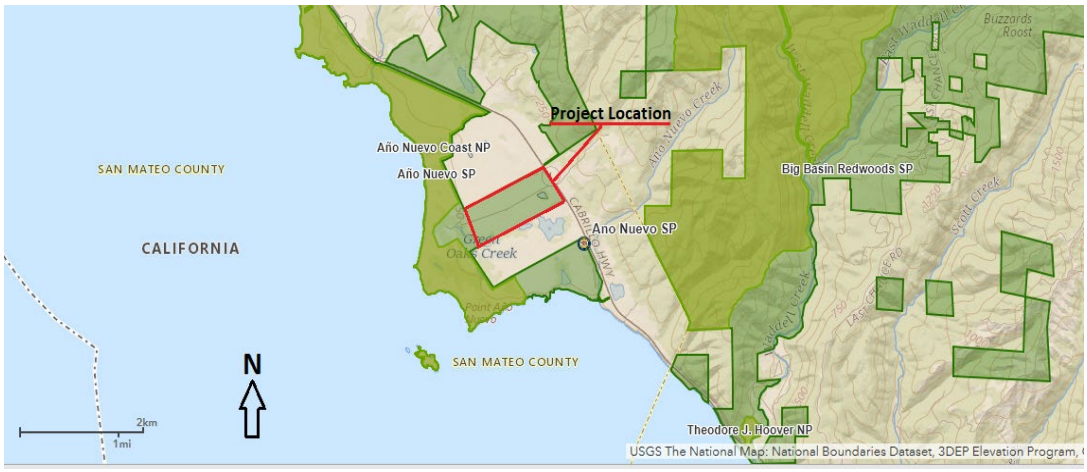


Figure 2. Project location within Año Nuevo State Park

2.3 Background and Need for the Project

The San Mateo Resource Conservation District (SMRCD) is working with the California Department of Parks and Recreation (DPR) to restore the natural hydrology and enhance the ecosystem functions of the former Steele Ranch property, a 235-acre portion of Año Nuevo State Park on a coastal bluff just west of Highway 1. The coastal plain of much of San Mateo County has been intensively farmed and modified. The Green Oaks Restoration Project presents an opportunity to restore these degraded habitats that once supported coastal prairie, scrub, and riparian communities that in turn supported a variety of wildlife species, several of which are federally protected, including the California red-legged frog (*Rana draytonii*) and the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*).

The project area contains a tributary of Green Oaks Creek and has been heavily modified through intensive agricultural activities and modifications to the hydrologic network to store and use irrigation water for farming. The most distinctive modifications on the property that affect the hydrology are the constructed ponds and an associated system of ditches that collected, retained, and conveyed water around the site for irrigation use and general drainage. These water supply and drainage systems were enhanced through a system of diversions, pipes, and pumps that at one time brought additional water to the parcel from a system of diversions and small storage ponds on Green Oaks Creek upstream and to the east of Highway 1.

Agricultural use of the property ended in 2005. The agricultural practices included row crop production, pond construction to store irrigation water, excavation of ditches to drain former wet meadows, development of access roads, and development of a complex water management system to store, move, and utilize water for crop production. A key part of this water system is an approximately 4.4-acre pond on the eastern edge of the property, that is surrounded by man-made berms and holds water year-round. The access road, which bisects the property from east to west, runs adjacent to the northern berm of the pond. The pond historically stored water that was released into the ditches excavated throughout the property for irrigation use. Portions of the ditches, prior to the acquisition by State Parks, were regularly maintained by the farmers to create locations where water was pumped for irrigation. Past landowners planted hedgerows of Monterey cypress and blue gum eucalyptus around the property for privacy screening and wind protection.

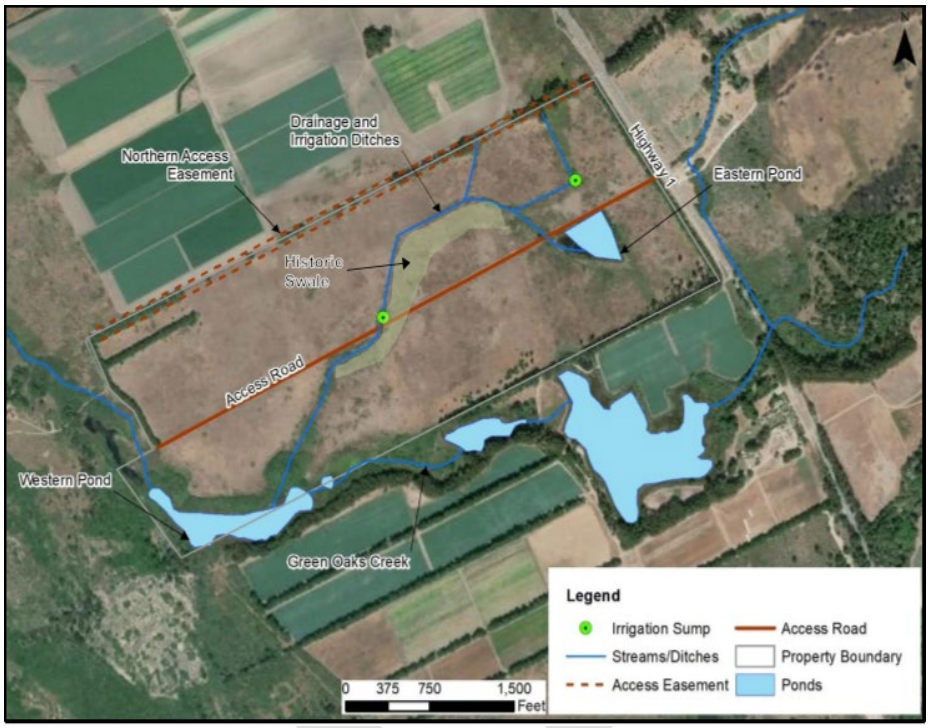


Figure 3. Aerial of Green Oaks Project area with key site features.

The eastern pond, and several other ponds within ANSP, provide ideal habitat conditions for two species, protected under State and Federal laws, known to occur at the site. The California red-legged frog (CRLF) requires seasonally inundated, slow moving water bodies to breed and carry out part of its life cycle and therefore is entirely dependent upon habitats similar to the conditions found in the eastern pond. Adults forage in slow moving water and riparian areas and use upland areas adjacent to these habitats to overwinter before returning to slow moving water and ponds to breed. The San Francisco garter snake (SFGS) prefers open, sunny upland habitats adjacent to densely vegetated ponds, similar to conditions found along the western margin of the eastern pond. They hide and nest in rodent burrows, and feed primarily on CRLF and Pacific tree frog (*Pseudacris regilla)* adults, which occur in the eastern pond and elsewhere on the site where there is standing water or seasonal ponds.

The eastern pond provides important habitat for all three of these species because it includes a mix of open water, areas of dense emergent vegetation, densely vegetated upland areas, and drier upland areas consisting primarily of coyote brush (*Baccharis pilularis*) and grasses (Photo 1). The presence of all these habitat types in close proximity to each other is important to support the various life stages of both predator and prey species. Of particular importance is the presence of some degree of open water, which, over time, tends to disappear as the emergent vegetation encroaches from the margins.

Photo 1. View of the eastern pond looking southeast from the northwest portion of the berm. Note the open water area fringed by emergent wetland vegetation consisting primarily of bulrush and cattail.

In 2009, the consulting firm PBS&J finalized the Habitat Management Plan (HMP) for the Steele Ranch mitigation site. The HMP contains multiple recommendations for enhancing the habitat value of the site by decreasing sediment transport and erosion while increasing the total wetland area. Their study found that the current agricultural ditches convey water rapidly off the site and recommended filling in portions of the ditches. This will (1) raise the groundwater table, thereby increasing the total area of hydric soils found on site, and (2) create areas of open water adjacent to upland, expanding potential CRLF and SFGS habitat.

2.4 PROJECT OBJECTIVES

State Parks' primary mission is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

To achieve this mission, State Parks owns properties throughout California and manages each property based on the unique characteristics of the site. In the case of the Green Oaks parcel, which is part of the 1,313-acre ANSP, ownership of the property was transferred to State Parks under an agreement to specifically manage the site to protect and enhance habitat for SFGS, CRLF and Pacific treefrog (PTF), the latter two being prey species of SFGS.

Based on the history associated with acquiring the site and the mission of State Parks, the primary goal identified for the Green Oaks Restoration Project has been identified as follows:

Use the natural hydrology of the landscape to enhance aquatic habitat and terrestrial wildlife, while creating a self-sustaining system requiring minimal future intervention.

2.4.1 PRIMARY PROJECT OBJECTIVES

- Restore, to the extent feasible, the natural sheet flow of water on the landscape and raise the seasonal groundwater table to support historic wet meadow and riparian wetland habitats,
- Enhance habitat for native flora and fauna with a specific focus on CRLF and SFGS given their Federal and State listing, and
- Reduce or eliminate, where feasible, the need for human intervention and maintenance of the habitats.

2.4.2 SECONDARY PROJECT OBJECTIVES

- Remove infrastructure, where feasible, including berms, large mounds, or other visual impediments,
- Provide opportunities, where practical, for low impact agriculture that does not impact the natural landscape or result in significant impacts to the natural hydrology,
- Improve the visual aesthetics of the site, and
- Develop a restoration plan for the project site that allows for future incorporation of management activities on the property that are consistent with the plans for the Conservation and Carbon Farm Plan to allow for agriculture.

2.5 PROJECT DESCRIPTION

Based on the primary and secondary objectives, the Green Oaks Restoration Project will address the following features.

2.5.1 EASTERN POND

Restore passive hydrologic connectivity between the eastern perennial pond and the surrounding meadow by lowering the elevation of the berms that impound the water feature. Water depth within the pond will remain adequate to provide suitable breeding for CRLF and prey base for SFGS. Lowering and widening these berms will improve upland basking habitat for SFGS.

In consultation with U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) the project was designed in two phases to reduce the potential for and magnitude of impacts to individual CRLF and SFGS. USFWS recommended a two phased project due to lessons learned from the treatment of invasive Spartina in the San Francisco (SF) bay. The restoration of salt marsh through large scale chemical treatment of hybrid Spartina patches appeared to lead to the severe decline of Clapper Rail numbers in the SF Bay area through large scale habitat loss in a single season. Because SFGS are seen most frequently near the open water of the eastern pond, a phased approach allows for half of the favored habitat to remain as refugia. See Sheets C5 and C6 of the attached 100% Draft Engineering Design for the Phase 1 and Phase 2 areas of pond embankment lowering and Sheet C9 for typical cross sections of the proposed work (Appendix A).

PHASE 1:

Complete removal of the eastern portion of the berm to allow for a smooth transition from the adjacent terrain into the pond, as shown in cross section on Sheet C9. The slope would range from 2%-4% to allow for positive drainage into the pond while limiting grading, and preserving existing vegetation on the slopes leading into the pond. Material removed from the Phase 1 portion of the berm would be used to plug or fill ditches elsewhere on the property or in the Park.

Given the presence of golden wattle (*Acacia longifolia)*, a non-native invasive tree, and the likelihood the surface material of the berm is holding a significant seedbank from this species, the upper 8 to 12 inches of the berm will be removed first, following clearing and grubbing, and placed in the bottom of the proposed fill. This will limit the extent of seed germination.

A temporary pond overflow area will be constructed along the southern margin of the pond. To protect against erosion, the area will be graded to create a broad, shallow area for overflow when pond water surface elevations exceed the berm height. A natural, biodegradable, erosion control fabric will be installed to protect the area as vegetation becomes established. As shown on Sheet C5, the proposed overflow area will be adjacent to an existing low, wetland area dominated by tule (*Schoenoplectus acutus*). This pre-established wetland will be enhanced by increased flows from the spillway while also reducing the risk of erosion to adjacent upland habitat. This discrete tule wetland will be protected during construction to limit disturbance to the vegetation and soils.

PHASE 2:

Lower the remainder of the pond berm to match elevations from Phase 1. A portion of the removed material will be used to widen the berm area, increasing available upland habitat for SFGS. The final berm elevation was selected to retain existing open water areas by maintaining an adequate water depth to preclude cattail (*Typha latifolia*) and tule colonization.

The existing pond top of berm width averages approximately 20 feet. Phase 2 includes widening the top of the berm to between 40 and 60 feet. This is intended to increase the amount of basking and refuge habitat available to SFGS, and compensate for loss of the portion of the berm removed in Phase 1.

A permanent overflow area will be constructed adjacent to the Phase 1 overflow area(see Sheets C6 and C9). The temporary Phase 1 overflow area will not be re-disturbed during Phase 2. The final overflow area will be protected with natural, biodegradable, erosion control fabric and planted with low growing, wetland vegetation and other native species.

2.5.2 AGRICULTURAL DITCH NETWORK

Restore natural sheet flow conditions and reactivate the historic shallow swale that drains the meadow into Green Oaks Creek by selectively re-using pond berm material to fill in portions of the agricultural ditch network. This would raise the seasonal groundwater table and create a mosaic of open water and upland across the landscape to benefit SFGS and their prey.

Fill significant portions of the existing ditch network with earth removed from the eastern pond berm during Phase 1. See Sheet C3 and C4 of the attached 100% Draft Engineering Drawings for specific locations where ditches will be filled. A typical detail of how the ditches will be filled is shown on Sheet C7 and C8.

Expand designated areas of open water to create larger open water habitat in irregular shapes to maximize edge habitat. Where proposed open water areas do not occur adjacent to upland terrace areas, the excavated material from the expanded ponds will be used to create localized upland areas adjacent to the open water areas. These features are not intended to obstruct overland flow paths or to concentrate overland flow and will be limited in scope and extent.

Plug the artificial ditch where it transitions back to a broad shallow swale within an existing willow thicket, as shown in sheet C3. This will include a series of log check dams that will reduce the risk of the swale head cutting under elevated surface flows.

3 TYPES OF DITCH TREATMENT:

Filled: Place and compact fill in the ditch so that the elevation of the fill matches adjacent grade (Sheets C3, C4, C7 and C8). The fill will come from the material removed from the eastern pond Phase 1 berm removal, from material removed when the ditch was constructed or maintained in the past, or from material excavated from an adjacent Open Water Enhancement Area.

Mounded: Fill and mound periodic, short segments of the ditch with the fill extending above adjacent grade (Sheet C10). This will limit the potential for the ditch to concentrate and recapture surface flow if significant settling occurs. Mounded areas will occur approximately every 100 feet and be approximately 25 feet long. The fill placed at the downstream end of

each Open Water Enhancement Areas will also be mounded to further limit surface water capture in areas that are expected to hold water into late spring (Sheet C11).

Open Water Enhancement Areas (OWEA): Create six OWEAs by leaving portions of the existing ditch network unfilled, creating small areas of ponded water to increase habitat for CRLF and SFGS. Expand these areas by grading the ditch banks to slopes that vary between 3:1 and 6:1. This will create variability and expand the area of impounded water (Sheet C11). Construct a plug at the downstream end of the OWEA by following protocols detailed in "Mounded" ditch treatment. The length of the OWEAs varies by location and is dependent upon the slope of the existing ditch. The length was established by extending a zero slope profile upstream from the downstream extent of the feature. The feature ends where the zero slope profile intersects the existing bed of the ditch. The ditch will be filled upstream of this point. The depth of the feature will typically vary between 3 and 5 feet throughout the project area, depending on location.

2.5.3 Non-Natural Infrastructure

Enhance the natural park aesthetic by removing existing man-made features from the site.

Road Removal:

Decommission the access road that bisects the property in the east-west direction. This will be conducted in two phases to reflect the phased removal of the eastern pond berm.

Phase 1:

Decommission segments of the road west of the eastern pond. Where the road is elevated relative to the adjacent meadow, grade segments of the road to match the adjacent meadow. Rip and scarify remaining portions of the road to a depth of 8" to promote vegetation establishment.

Where the road crosses the historic swale (Sheets C3 and C7), the decommissioned road will receive a treatment of natural, biodegradable erosion control fabric to limit erosion and reduce the likelihood of a concentrated flow path forming where the restored swale crosses the road.

Phase 2:

Decommission the road from the eastern pond to approximately 400 feet west of the eastern project boundary at Highway 1, using the same techniques outlined above. Maintain a short segment of road adjacent to Highway 1 to allow for State Park staff access.

Miscellaneous

Remove culverts, propane tanks, electrical systems, pipes, and other debris from the site and dispose of at an appropriate landfill. The manure pile (Sheet C4) and wood chip pile (Sheet C5) will be spread in upland areas or along the upland portion of the decommissioned road at locations identified by State Parks staff.

2.5.4 VEGETATION

Shift the dominant vegetative cover from non-native, ruderal species to a mosaic of native riparian and coastal prairie species by raising the groundwater table via actions discussed in sections 2.5.1 and 2.5.2 combined with active management of invasive species.

Reactivation of the natural swale is expected to make conditions favorable for native vegetation and unfavorable for many non-native species. DPR will continue to manage invasive plants within the park unit. State Park staff will lead revegetation work during and following construction of the two phases of the project, as outlined in the Green Oaks Conservation Plan (in preparation).

As part of the project, State Parks staff will plant native willow cuttings along OWEAs to rapidly establish shoreline cover and overhanging vegetation along the open water margins.

2.5.5 NORTHERN ACCESS ROAD

Improve water quality conveyed from northern access road by installing on-site features to coincide with recent road improvements designed to prevent flooding and gullying along the road.

Fill ditches, as shown on Sheet C4, which extends to the Northern access road. This will limit the risk that the culverts would be backwatered by the ditch fill. The existing ditches that originate from the Northern access road would remain in those locations with the filled areas forcing water from the road onto the adjacent meadow surface.

2.6 PROJECT REQUIREMENTS

Under the CEQA guidelines, the Department of Parks and Recreation (DPR) is in a unique role as both the Lead Agency and a Trustee Agency. The Lead Agency is a public agency that has the primary responsibility for carrying out or approving a project and for implementing CEQA. A Trustee Agency is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. DPR takes this distinction with responsibility to ensure that its actions protect both cultural and natural resources on all projects.

However, DPR is also the project proponent. Because of its unique role as Lead Agency, Trustee Agency as well as the project proponent, DPR's resources professionals take a prominent and influential role during the project conceptualization, design and planning process consistent with Section 15004(b)(1) of CEQA. Their early involvement during the planning process enables environmental considerations to influence project programming and design. This approach permits DPR under CEQA Section 15065(b)(1), to incorporate project modifications prior to the start of the public review process of the environmental document, to avoid impacts to a point where clearly no significant effect on the environment would occur.

As part of its effort to avoid impacts, DPR also maintains a list of Project Requirements that are included in project design to reduce impacts to resources. From this list, standard project requirements are assigned, as appropriate to all projects. For example, projects that include ground-disturbing activities, such as trenching would always include standard project requirements addressing the inadvertent discovery of archaeological artifacts. However, for a

project that replaces a roof on a historic structure, ground disturbance would not be necessary; therefore, standard project requirements for ground disturbance would not be applicable and DPR would not assign it to the project.

DPR also makes use of specific project requirements. DPR develops these project requirements to address project impacts for projects that have unique issues but do not typically standardize these for projects statewide. As part of the Initial Study review process, DPR has identified the following Standard and Specific Project Requirements that apply to the project to ensure that impacts remain less than significant:

Table 1. Standard Project Requirements (SPR)

Air Quality
AIR 1-- Emissions of Fugitive Dust and Ozone ❖ During dry, dusty conditions, all active construction areas will be lightly sprayed with water to reduce dust without causing runoff. ❖ All trucks or light equipment hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard. ❖ All trucks hauling soil or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard. ❖ All construction-related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements. ❖ Trucks and other transport equipment will limit idling time whenever possible. ❖ Potential dust producing actions will be suspended if sustained winds exceed 25 mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads. The project bio monitor will measure wind speed. ❖ Earth or other material that has been transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed
Biological Resources
BIO 1-- General Requirements ❖ Prior to the start of on-site construction activities, a DPR-approved biologist will conduct a survey of the project area for sensitive species. ❖ Prior to the start of on-site construction activities, the project manager and a DPR- approved biologist, will determine the minimum area required to complete the work and define the boundaries of the work area with flagging or fencing on the ground, as appropriate. ❖ To prevent the spread of noxious weeds, all construction vehicles and equipment will enter and leave the project site free of soil, vegetative matter or other debris that could contain weed seeds. ❖ At the discretion of a DPR-approved biologist, project activities will be monitored to ensure that impacts to sensitive species are minimized. ❖ A DPR-approved biologist will review and approve all locations used for staging/storage of vehicles, equipment, and/or materials used during the project.

BIO 2-- Plants

- No state or federally listed rare or endangered species will be cut, pruned, pulled back, removed or damaged in any way.
- Prior to the start of on-site construction activities and when the plants are in a phenological stage conducive to positive identification (i.e., usually during the blooming period for the species), a DPR-approved biologist will conduct surveys for special-status plant species throughout the project area.
- Best Management Practices (BMPs) to avoid creation of dust will be employed during all construction activities within 50 feet of special status plant species occurrences.
- If special status plant species are discovered within 50 feet of the project area, a DPR-approved biologist will flag and fence these locations during construction activities to avoid impacts.
- To maintain genetic integrity, only plant stock collected within the local area will be used for re-vegetation in the project area.
- The contractor will employ BMPs for erosion control to avoid runoff of project-related sediments, vehicle fluids, and other liquids into special plant communities.

BIO 3-- Wildlife

- Vegetation clearing shall occur between September and February to avoid disturbances to nesting birds.
- If work is required during the nesting season (March-August), a DPR approved biologist will conduct a survey to identify nests within the project area. The survey will be conducted no more than 7 calendar days prior to the beginning of construction.
- If nests are located within 100 (songbirds), 250 (passerines), or 500 (accipiters) feet of the project area, no construction will occur within the buffer distance for each type of bird until the young have fledged, as determined by a DPR-approved biologist.
- Prior to the start of on-site construction activities, a DPR Environmental Scientist will train on-site construction personnel on the life history of commonly occurring wildlife, work constraints, and any other pertinent information related to the species.
- Immediately prior to the start of work each morning, a DPR-approved bio-monitor will conduct a visual inspection of the construction zone.
- If wildlife is found on the project site, work in the vicinity of the animal will be delayed until the species moves out of the site on its own accord, or is temporarily relocated by a DPR - approved bio-monitor.
- To prevent trapping of wildlife, all holes and trenches will be covered at the close of each working day with plywood or similar materials, or will include escape ramps constructed of earth fill or wooden planks; all pipes will be capped. A DPR-approved bio-monitor will inspect trenches and pipes for wildlife at the beginning of each workday. If a trapped animal is discovered, they will be released in suitable habitat away from the project area.
- All field staff will wear protective clothing and equipment while working with live animals and handling carcasses.
- Permitted biological monitors will be on site to avoid impacts to ESA listed species and other wildlife. The exact terms of the monitoring will be determined during permit acquisition and commenting periods from resources agencies.

Cultural Resources

CUL 1-- Pre-construction Surveys

- Pre-construction archaeological consultation will be completed prior to the start of any ground-disturbing activities and will determine specific areas to be avoided.
- Based on preconstruction testing, project design and/or implementation will be altered, as necessary, to avoid impacts to archaeological resources or reduce the impacts to a less than significant level, as determined in consultation with a DPR-qualified archaeologist.
- DPR will modify the project to ensure that construction activities will avoid cultural resources upon review and approval of a DPR-qualified cultural resources specialist.

CUL 2-- Monitoring

- A DPR qualified archaeologist will monitor all ground disturbing phases of this project at their discretion. Monitors will be present during ground-disturbing activities in areas of potential sensitivity.
- If a DPR-qualified cultural resources specialist discovers previously undocumented cultural resources during project construction, work within 100 feet of the find will be temporarily halted until the archaeologist designs and implements appropriate treatments in accordance with the Secretary of the Interiors Standards and Guidelines for archaeological resource protection.
- If ground disturbing activities uncover intact cultural features (including but not limited to dark soil containing shellfish, bone, flaked stone, ground stone, or deposits of historic ash), when a DPR qualified cultural resources specialist is not on-site, Contractor will contact the DPR State Representative immediately and Contractor will temporarily halt or divert work within the immediate vicinity of the find until a DPR-qualified cultural resources specialist evaluates the find and determines the appropriate treatment and disposition of the cultural resource.

CUL 3 -- Remains

- In the event that human remains were discovered, work would cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects would be left in place or returned to the point of discovery and covered with soil. The DPR Public Safety Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor would be responsible for notifying the appropriate Native American authorities.
- The local County Coroner should make the determination of whether the human bone is of Native American origin. In many of California's historic townsites and rural communities, discoveries have been made of non-Native American human bone including non-Anglo.
- If the coroner or tribal representative determines the remains represent Native American interment, the Native American Heritage Commission in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the site prior to determination
- If it is determined the find indicates a sacred or religious site, the site would be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office

and review by the Native American Heritage Commission/Tribal Cultural representatives would also occur as necessary to define additional site mitigation or future restrictions.

Geology and Soils

GEO 1-- Soil Protection

- ❖ No track-mounted or heavy-wheeled vehicles will be driven through the project impact areas during the rainy season to avoid compaction and/or damage to soil structure.

GEO 2-- Restoration

- ❖ DPR will develop a rehabilitation plan for the decommissioned road that includes using brush and trees removed from the alignment for bio-mechanical erosion control (bundling slash and keying it in to fall of the road, filling damaged road sections with soil and duff, constructing water bars, and replanting native trees and shrubs).
- ❖ The contractor will clearly block both ends of the decommissioned road and scatter its length with vegetative debris from Phase 1 or 2 of the eastern pond berm removal to discourage continued use and degradation of the decommissioned portion of the road.

Hazards and Hazardous Materials

HAZ 1-- Hazardous Materials Management

- ❖ Prior to the start of on-site construction activities, the Contractor will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.
- ❖ Depending on input from regulatory agencies, prior to the start of on-site construction activities, the Contractor may prepare a Spill Prevention and Response Plan (SPRP) as part of the Storm Water Pollution Prevention Plan (SWPPP) for Regional Water Quality Control Board approval to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan will include (but not be limited to);
  - ➢ a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur;
  - ➢ a list of items required in a spill kit on-site that will be maintained throughout the life of the project;
  - ➢ procedures for the proper storage, use, and disposal of any solvents or other chemicals used in the restoration process; and
  - ➢ identification of lawfully permitted or authorized disposal destinations outside of the project site.
- ❖ DPR will designate and/or locate staging and stockpile areas within project area to prevent leakage of oil, hydraulic fluids, etc. into the native vegetation and adjacent wetland.

HAZ 2-- Fire Protection

- Prior to the start of construction, the Contractor will develop a Fire Safety Plan for DPR approval. The plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CALFIRE) and local fire department(s).
- All heavy equipment will be required to include spark arrestors or turbo chargers (which eliminate sparks in exhaust) and have fire extinguishers on-site.
- Construction crews will park vehicles 50 feet from flammable material, such as dry grass or brush. At the end of each workday, construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.
- DPR personnel will have a State Park radio at the Park unit, which allows direct contact with CALFIRE and a centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.
- Under dry conditions, a filled water truck, fire engine, or filled backpack pump will be onsite during activities with the potential to start a fire.

Hydrology and Water Quality

HYD 1-- Regulatory Compliance

- Depending on input from regulatory agencies, prior to the start of construction involving ground-disturbing activities, the contractor may prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) for DPR approval that identifies temporary Best Management Practices (BMPs) (e.g., tarping of any stockpiled materials or soil; use of silt fences, straw bale barriers, fiber rolls, etc.) and permanent (e.g., structural containment, preserving or planting of vegetation) for use in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, repaving, or other ground-disturbing activities. The SWPPP will include BMPs for hazardous waste and contaminated soils management and a Spill Prevention and Control Plan (SPCP), as appropriate.
- The project will comply with all applicable water quality standards as specified in the Water Quality Control Plan for the Central Coast Basin, also called the Basin Plan.

HYD 2-- Surface Water Protection

- All heavy equipment parking, refueling, and service will be conducted within designated areas outside of the 100-year floodplain to avoid water course contamination.
- All construction activities will be suspended during heavy precipitation events (i.e., at least 1/2-inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast.
- If construction activities extend into the rainy season (Oct.15th-April 30th) or if an un-seasonal storm is anticipated, the Contractor will properly winterize the site by covering (tarping) any stockpiled materials or soils and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.
- The contractor will install appropriate energy dissipaters at water discharge points, as appropriate.

Noise
NOI 1 -- Construction Noise Management ❖ Internal combustion engines used for project implementation will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for Project-related activities will utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields or shrouds, intake silencers, ducts, etc.) whenever necessary. ❖ Contractor will locate stationary noise sources and staging areas as far from potential sensitive noise receptors, as possible. If they must be located near potential sensitive noise receptors, stationary noise sources will be muffled or shielded, and/or enclosed within temporary sheds. ❖ Construction activities will generally be limited to 7am- 6pm, Monday – Saturday.
Traffic
TRA 1 – Access/Egress ❖ Prior to delivery and/or removal of project-related equipment or materials that could impede or block access to driveways, cross streets, street parking, or HWY 1, the Contractor will coordinate with the local jurisdictions to develop and implement traffic control measures.

Table 2. Project Specific Requirements (PSR) and Mitigation Measures (MM)

Aesthetic and Visual Resources (AES)
❖ Do not alter viewscapes to expose structures or undesirable views along scenic highways or scenic viewing locations. ❖ Maximize the use of salvaged mature vegetation to reduce the time of re-growth. ❖ Re-habilitate and remove all construction related impacts to pre-project or better than pre-project conditions.
Special Status Plants (SSP)
❖ Rare plant surveys of the proposed disturbance areas will be conducted by a qualified botanist for the plant species that have the potential to occur within the project site. Surveys shall be done in accordance with CNPS's Botanical Survey Guidelines (CNPS 2001), CCDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CCDFW 2018), and USFWS's Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 1996). If present, special-status plant populations will be flagged and if possible avoided during construction. If the populations cannot be avoided during construction a plan will be developed for approval by the Department and CCDFW which will include transplanting the plant population.

Western Pond Turtle (WPT)

- Prior to and within 48 hours of the planned start of construction, a focused survey for WPT shall be conducted by a CCDFW-approved biological monitor to determine if they are in the area. If these species are found, the CCDFW shall be notified immediately to determine the correct course of action and construction activities shall not begin until approved by the CCDFW.
- In the event WPT are found in the project area, the Permittee shall exercise measures to avoid direct injury to them as well as avoid areas where they are observed to occur. If a WPT is observed, it shall be left alone to move out of the area on its own. If it does not move on its own, it can be relocated by the biological monitor or the qualified biologist to at least 100-meters away from project location to a suitable habitat.

Nesting Birds (NBS)

- Conduct preconstruction surveys and implement minimization and avoidance measures in suitable habitat for nesting bird species, if present.
- To the extent feasible, vegetation removal activities shall not occur during the bird breeding season of February 15 through August 31.
- If vegetation removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds.
- Preconstruction surveys will be conducted no more than two weeks prior to the start of work from February 15 – August 31.
- If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CCDFW, and will be based to a large extent on the nesting species and its sensitivity to disturbance. The buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

San Francisco Dusky Footed Wood Rat (SFD)

- The removal of trees and large shrubs shall be minimized to the maximum extent practicable and shall be limited to those areas within or directly adjacent to the project footprint.
- Tree removal or construction activities with potential to disturb suitable habitat for dusky-footed woodrat (riparian scrub) shall only occur after a biologist conducts a pre-construction survey for woodrat nests within the woody riparian habitats to be removed and adjacent riparian habitat. If any woodrat nest is identified outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the next. No construction activities will occur within the exclusion zones. Exclusion zone radii for active nests will be 50 feet, if possible. Exclusion zones will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the nest. If a nest is identified within the disturbance footprint, then nest relocation procedure will be determined by the biologist, in consultation with CCDFW.

American Badger (ABR)

- ❖ Pre-construction surveys shall be conducted in any grassland habitat within the project footprint for active badger dens. If a badger den is identified within the proposed disturbance footprint, exclusion zones around each den entrance will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No construction activities will occur within the exclusion zones. Exclusion zone radii for active dens will be at least 50 feet. Exclusion zones will be demarcated with staking and flagging that encircles each den or entrance but does not prevent access to the den by a badger.

Open Water (OWR)

- ❖ All contractors working in a capacity that could increase the potential for adverse water quality impacts shall receive training regarding the environmental sensitivity of the site and need to minimize impacts. Contractors shall be trained in implementation of stormwater BMPs for protection of water quality.
- ❖ No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into open water habitat and/or waters of the State. Any of these materials placed within or where they may enter waters shall be removed immediately. When operations are completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into adjacent waters.
- ❖ During construction the contractor shall not dump any litter or construction debris within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- ❖ Any excavation necessary shall be completed from outside of wetlands, where feasible, by using an excavator or backhoe tractor, thereby limiting the driving of heavy equipment across wetlands.
- ❖ Prohibit vehicular and equipment refueling 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by the RCD and/or consulting biologist. Maintain spill prevention and cleanup equipment in refueling areas.

Wetlands (WTL)

- ❖ Construction activities nearby or within aquatic habitats should be limited to the maximum extent feasible.
- ❖ Any aquatic habitat that does not fall within the construction footprint should be flagged and avoided.
- ❖ Work within waters should be conducted during the dry season, when water is not flowing, to the extent possible.
- ❖ Worker environmental awareness training should be conducted for all construction crews and contractors. The education training should be conducted prior to starting work on the project and upon the arrival of any new worker. The training should include: locations of sensitive areas; possible fines for violations; environmental permits and regulatory

compliance requirements including all relevant avoidance and mitigation measures, and required actions should sensitive species be encountered. Additional training should be conducted as needed, including morning "tailgate" sessions to update crews as they advance into sensitive areas for projects with multiple work areas. In addition, a record of all personnel trained during the project should be maintained for compliance verification.

Mitigation Measures- California Red-Legged Frog (CRLF)

- All biological monitors for the project shall be approved by USFWS prior to commencement of project activities. The biological monitors and qualified biologists shall have the responsibility and authority of stopping the proposed project if any crews or personnel are not complying with the avoidance and minimization measures, best management practices, or any permits.
- Biological monitor(s) and/or qualified biologists shall be on the project site while initial ground-disturbing activities (excavation) or pond draining activities take place. A Service-approved biologist will be on-call during all project activities in the event a San Francisco garter snake or California red-legged frog is discovered, or for any other assistance relating to the avoidance and minimization measures.
- Prior to project activities, a biological monitor shall clearly mark/flag or erect temporary construction fencing to designate the work area and to delineate the areas that shall be avoided. Flagging and or temporary construction fencing shall be removed immediately after the completion of construction work. Excavation spoils shall be placed in a containment area away from the wetted ditch until surveys are complete. The area where spoils will be placed shall be surveyed for CRLF. If burrows are present in this area, Permittee shall hand excavate burrows until the burrow terminates or until a maximum depth of 30 centimeters. If CRLF are found, they will be relocated by an approved biologist working under the FWS and CCDFW take authorization.
- Any vehicle or equipment parked on site overnight shall be inspected by the biological monitor before it is moved to ensure that CRLF and/or SFGS have not moved under the vehicle. Any parking areas shall be checked in advance by the biological monitor or qualified biologist.

Mitigation Measures- San Francisco Garter Snake (SFGS)

- Prior to and within 48 hours of the planned start of project activities, a focused survey for SFGS using agency approved protocol shall be conducted by a USFWS-approved biological monitor to determine if they are in the area. If SFGS are found, the USFWS shall be notified immediately to determine the correct course of action and proposed project shall not begin until approved by the USFWS.
- Activities that result in ground disturbance will occur May 1–October 30 (active season). Vegetation will be cut to 3 inches in height. Once the ground is visible, a visual survey for SFGS will be conducted by the biologist prior to additional ground disturbance. Field crews will install solid exclusion fencing if the work is in areas of known species presence. If work needs to occur during the inactive period (November 1– April 30) and is located in an area of known occupancy, flag and avoid any burrows by at least 10 feet wherever possible. If any burrows cannot be avoided by this distance, a biologist will inspect following activities to determine whether the burrow has been collapsed. If a burrow is collapsed, the biologist shall make efforts to open the burrow.

- ❖ Prior to conducting non-native plant removal or treatments (e.g. spraying with herbicide, cutting, pulling, digging out), the permittee shall make every reasonable attempt to ensure that SFGS are not hidden within the plant or residual plant matter to be treated.
- ❖ The USFWS approved biological monitor shall walk roads cleared for vehicle access each morning prior to vehicle traffic to ensure San Francisco garter snakes are not in the road. Vehicles shall not drive at speeds greater than 5 miles per hour within the project area and drivers shall observe the road for San Francisco garter snakes. If a San Francisco garter snake is found on the road, the vehicle operator shall stop, and the San Francisco garter snake shall be allowed to leave on its own volition, or (if authorizations are in place from CCDFW and USFWS) be moved to an approved location.

2.7 PROJECT IMPLEMENTATION

Construction of Green Oaks Restoration Project would begin in the Summer/Fall 2022, break between Winter/Spring 2022/2023 and be completed Summer/Fall 2023. The order of activities would include:

1. Delineate project impact area and perform surveys for sensitive flora and fauna
2. Install BMPs
3. Establish access, equipment staging area, and stockpile areas
4. Clear and grub vegetated areas within project footprint
5. Remove Eucalyptus trees and process logs for check dams
6. Perform Phase 1 eastern pond embankment removal
7. Begin filling, mounding and creating open water habitat in agricultural ditch network
8. Install log grade check dams at downstream extent of project area
9. Fill ditches coming from Northern Access Road and install facilitative drainage features
10. Remove miscellaneous non-natural infrastructure
11. Perform Phase 1 of road removal
12. Winterize project site, re-vegetate Phase 1 disturbance areas, de-mobilize
13. Monitor and document Phase 1 work overwinter
14. Summer 2022, re-establish project impact area and survey for sensitive flora and fauna
15. Install BMPs
16. Re-establish access, equipment staging area, and stockpile areas
17. Perform Phase 2 of eastern pond embankment removal
18. Finish filling, mounding and creating open water habitat in agricultural ditch network
19. Adjust Northern Access Road ditch fill, if necessary, based on over winter monitoring
20. Perform phase 2 of road removal
21. Remove any remaining non-natural infrastructure
22. De-mobilize equipment, install erosion control BMPs, re-vegetate disturbed areas
23. Monitor and document site over winter

All appropriate permitting will be completed before any of the project activities are conducted.

2.8 Visitation to Año Nuevo State Park and Reserve

Visitation to ANSP is concentrated during the elephant seal breeding season, November - March. The area where the project will occur is closed to public use. These are the visitation numbers for the Park and Reserve.

Fiscal Year	# of Visitors
15/16	192,981
16/17	104,497

2.9 Consistency with Local Plans and Policies

Work performed as a part of the Green Oaks Restoration Project will occur entirely within Año Nuevo State Park and does not conflict with local plans or policies of neighboring communities or San Mateo County. This Project is consistent with the Año Nuevo SP General Plan and EIR (2008) as well as the Steele Ranch Habitat Management Plan (2009).

2.10 Discretionary Approvals

The project also requires approval from the following government agencies:

- Central Coast Regional Water Quality Control Board (Clean Water Act 401) (including SWPPP)
- California Department of Fish and Game (Lake and Streambed Alteration Agreement 1602) (Memorandum of Understanding – Research and Recovery of San Francisco garter snake)
- U.S. Army Corps of Engineers (Clean Water Act 404)
- California Coastal Commission (Coastal Development Permit)
- U.S. Fish and Wildlife Service [Biological Opinion and 10(a)(1)(A) Recovery Permit]

Additional internal document reviews include compliance with Public Resources Code § 5024, and Sea-level Rise evaluation. DPR will acquire all necessary reviews and permits prior to implementing any project components requiring regulatory review.

2.11 Related Projects

Future planned projects performed within the Green Oaks parcel of Año Nuevo State Park would occur under a separate CEQA document.

3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1.	Project Title:	Green Oaks Restoration Project
2.	Lead Agency Name & Address:	California Department of Parks and Recreation
3.	Contact Person & Phone Number:	Ryan Diller -(831) 234-1189
4.	Project Location:	Año Nuevo State Park
5.	Project Sponsor Name & Address:	California Department of Parks and Recreation Santa Cruz District 303 N Big Trees Park Road Felton, CA 95018
6.	General Plan Designation:	This parcel was acquired after completion of General Plan (2008)
7.	Zoning:	Resource Management
8.	Description of Project:	Re-active historic Green Oaks Creek floodplain by lowering berm around eastern pond and strategically placing spoils in agricultural ditch network, leaving some areas as open water habitat.
9.	Surrounding Land Uses & Setting:	Agricultural fields border the project to the north, east and south. Año Nuevo Natural Reserve shares the project's Western boundary.
10.	Approval Required from Other : Public Agencies	Refer to Section 2.10

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☒ Mandatory Findings of Significance	☐ None

DETERMINATION

On the basis of this initial evaluation:

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

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐

_____ _____

Environmental Coordinator Date

3.1 ENVIRONMENTAL ISSUES

I. AESTHETICS

ENVIRONMENTAL SETTING

The Green Oaks Restoration Project is located on the former Steele Ranch property consisting of approximately 235 acres of former agricultural land located on the coastal plain between Highway 1 and the Pacific Ocean. Highway 1 is officially designated as a State Scenic Highway starting from south of Half Moon Bay to the Santa Cruz/San Mateo county line.

The Green Oaks parcel of ANSP is completely obscured from Hwy 1 by a hedgerow of Monterey cypress on its eastern border. Hedgerows of blue gum eucalyptus, Monterey pine, and Monterey cypress further block potential views into the property from the north and south. These hedgerows were planted by the landowner prior to DPR acquisition in 2013.

Land surrounding the project site to the north, east, and south consists of agricultural fields. Some fields have hedgerows blocking public view while others do not. The ocean is not visible from this part of the highway.

Except as provided in Public Resources Code Section 21099, would the project:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

a) *Would the Project have a substantial adverse effect on a scenic vista?*

This project would not have substantial adverse effects on scenic resources. The current hedgerow of Monterey cypress completely blocks the view of the property from all vantage points along Hwy 1. The project is not adding any infrastructure to the landscape and is removing anthropogenic features. Post-project, the landscape will appear more natural than it did pre-project.

During the project, all work done with heavy equipment will be behind the hedgerow of cypress trees and will not be visible from Hwy 1. Compliance with **PSR AES 1** protects the cypress hedgerow from any impacts during project implementation.

CONCLUSION: No Impact

b) *Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

The project has been designed to avoid impacts to trees within the state scenic highway view shed. There are no prominent rock outcroppings or historic buildings within the projects impact area.

CONCLUSION: No impact

c) *Would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings?*

Implementing **PSR AES 1** avoids impacts to the existing screening along Hwy 1 and preserves the visual character of the site. During project construction, the site will be cleared for access and egress of heavy equipment. However, this impact is temporary in nature and is obscured from public view. Following revegetation, the view shed will be improved by the removal of abandoned infrastructure and the expansion of riparian habitat throughout the site.

CONCLUSION: No impact

d) *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

The project proposes to remove old, derelict infrastructure from the site and there is no plan to add any object that would produce substantial light or glare.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT –N/A
PROJECT SPECIFIC REQUIREMENT – AES 1
MITIGATION MEASURE – N/A

II. AGRICULTURAL AND FOREST RESOURCES

ENVIRONMENTAL SETTING

The Green Oaks parcel of Año Nuevo State Park, formerly known as Steele Ranch, was used for row crop agriculture until 2005. SamTrans acquired the property from the California Coastal Conservancy (CCC) to use as a mitigation site for a Bay Area Rapid Transit (BART) station being constructed in known SFGS habitat near San Francisco International Airport. While the property was owned by CCC, an agricultural easement was established that allowed restricted farming activities and prevented future developments. DPR, CDFW and USFWS, as a part of the Steele Ranch Habitat Management Plan (HMP), agreed to restrict farming activities to 45-acres on the eastern side of the property as outlined in Exhibit 3 of the HMP. The agreement also created a 250 foot buffer around the existing pond and all ditches where no agriculture can take place.

The California Department of Conservation (DOC), Office of Land Conservation, maintains a statewide inventory of farmlands. These lands are mapped by the Division of Land Resource Protection as part of the Farmland Mapping and Monitoring Program (FMMP). The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. Important farmlands are divided into the following categories based on their suitability for agriculture:

Prime. Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland. Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.

Farmland of Local Importance. Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing. Land on which the existing vegetation is suited to the grazing of livestock.

Urban and Built Up Land. Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel.

Other. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres.

Based on data from the FMMP (2018), the project area is classified as Grazing Land.

Would the project:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Convert Prime Farmland, Unique Farmland, or farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined in PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forestland or conversion of forestland to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☒

DISCUSSION

a) Would the project Convert Prime Farmland, Unique Farmland, or farmland of Statewide Importance (Farmland) to non-agricultural use?

The project area is comprised of Grazing Land as designated by the FMMP and there will be no work done to convert farmland to non-agricultural use. The 45-acre eastern portion of the property outlined in the HMP is still available for agricultural use in the form of grazing.

Conclusion: No impact

b) Would the project Conflict with existing zoning for agricultural use or a Williamson Act contract?

The project site is zoned for Resource Management (RM) by the San Mateo County Planning and Building Department and there are no parcels within or adjacent to the project site that are subject to the Williamson Act.

Conclusion: No impact

c) Would the project Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production?

The project is not located in a forest or zoned for timberland production.

Conclusion: No impact

d) Would the project Result in the loss of forestland or conversion of forestland to non-forest use?

The project area is not in forestland and would not covert any forestland.

Conclusion: No impact

e) Would the project involve other changes in the existing environment, which, due to their location or nature could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?

The project proposes to fill in the agricultural ditch network that currently exists on the landscape to raise the groundwater table and create a more mesic environment. Post-project, soils will stay wet longer into the summer, likely increasing growth of potential forage plant species for grazing. There will be no conversion of any farmland to non-agricultural because of this project.

Conclusion: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

III. AIR QUALITY

ENVIRONMENTAL SETTING

The project area is located along the southern edge of San Mateo County and lies within the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is considered a nonattainment area for ozone and particulate matter air quality standards.

The BAAQMD has adopted published CEQA Guidelines (May 2017) to help lead agencies assess a project air quality impacts. These guidelines establish a Threshold of Significance (emissions per day) that a project's emissions may not exceed without mitigation. The guidelines define when an air quality analysis is necessary, the type of analysis to employ, and mitigation measures to use when emissions are considered significant.

Table 3. Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors

Pollutant/Precursor	Daily Average Emissions (lb/day)
ROG	54
NOX	54
PM10	82*
PM2.5	54*

* Applies to construction exhaust emissions only. Notes: CO = carbon monoxide; lb/day = pounds per day; NOX = oxides of nitrogen; PM2.5 = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM10 = respirable part

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☒

DISCUSSION

a) *Would the Project Conflict with or obstruct implementation of the applicable air quality plan?*

The project proposes to enhance the habitat quality of a fallow field and create more suitable habitat for endangered species. **SPR AIR 1** states that all components of project implementation will follow federal, state, and local regulations related to stationary and area sources of air pollutants. In addition, the project would not impair or conflict with implementation of San Mateo County's General Plan and Local Coastal Program, or the applicable BAAQMD air quality planning documents including the 2017 Clean Air Plan. Therefore, because the proposed project would be consistent with the applicable planning policies and would comply with all applicable regulations for sources of air pollutants, the proposed Project would not obstruct or conflict with applicable air quality plans and would have no impact.

CONCLUSION: No impact

b) *Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

The BAAQMD's CEQA Guidelines specify that any project in and of itself is not likely to be the source of significant air quality emissions. However, each project can cumulatively add to the Bay Area's emission, potentially compiling with other adverse air quality impacts to reach a nonattainment of standards. If a project's influence on the collective air quality impact is substantial, then the projects' emissions would be considered significant.

This project's impacts to air quality will be based upon emissions released during construction since there will be no "operational" impacts when the project is finished. The project has been designed to be implemented in 2 phases to address concerns related to special status species including SFGS and CRLF. This phased construction approach also splits up the amount of work done each day and each year, further reducing potential impacts from construction based emissions.

As mentioned in the above settings, the BAAQMD CEQA Guidelines provide guidance on when an air quality analysis is necessary for a given project. For construction related air quality concerns, a project's air quality impacts can be compared to the screening criteria determined for

different land use types. Because open space restoration projects inherently do not create air quality issues, the BAAQMD does not specify an exact land use type which matches entirely with the Green Oaks Restoration Project. The City Park land use type is the most relatable criteria to this restoration project. Furthermore, constructing a city park for public use would intrinsically be more impactful to air quality than a restoration project, as it is adding infrastructure, impervious surfaces, and parking thus adding an operational air quality component from vehicle access. Thus, comparing the Green Oaks Restoration Project to the City Park screening criteria is a conservative approach to ensure that the project will not produce significant air quality impacts during construction.

The BAAQMD CEQA Guidelines state that when comparing the attributes of the proposed project with the applicable Screening Criteria listed in Chapter 3 of their Guidelines; if all of the Screening Criteria are met, construction of the proposed project would result in a less-than-significant impact to air quality. If not, then construction emissions need to be quantified to establish a less than significant impact to air quality. The construction-related screening size for a City Park is 67 acres. Based on BAAQMD CEQA Guidelines, if the Green Oaks Restoration Project's impact area is less than 67 acres, then an air quality analysis is not necessary.

Table 4. Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size
City park	2613 acres (ROG)	600 acres	67 acres (PM10)

The project will impact an approximately 30 acre area, well under the construction-related screening size of 67 acres. Thus, the construction related air quality impacts do not need to be quantified and are below the threshold of significance.

CONCLUSION: No Impact

c) *Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

As defined in the BAAQMD's CEQA Guidelines, project-level emissions that are below the mass emissions thresholds are considered to be less than cumulatively considerable. As described above, the Green Oaks Restoration Project's construction-related screening size is 30 acres, rendering the project's contribution to cumulative impacts below the threshold of significance.

Conclusion: No impact

d) *Would the Project expose sensitive receptors to substantial pollutant concentrations?*

There are no sensitive receptors nearby that could by effected by construction related emissions.

CONCLUSION: No impact

e) *Would the Project result in other emissions such as those leading to odors adversely affecting a substantial number of people?*

Any odors that could be produced in the form of gas/diesel emissions or excavated soils would be short-term and temporary and would not affect a substantial number of people.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – AIR 1
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

IV. BIOLOGICAL RESOURCES

ENVIRONMENTAL SETTING

The project site is located on a coastal terrace on the southern end of San Mateo County approximately 9 miles south of the community of Pescadero. The coastal terrace is relatively level and gradually slopes toward Green Oaks Creek except where the project area is bisected by historic irrigation and drainage ditches. The area had been row-crop farmed for many years and these ditches are vestiges of the farming that occurred here in the past. The ditches are deeply incised and support relatively dense willow riparian vegetation. Properties surrounding the project site on two sides are in private ownership and are used for agriculture such as grazing or flower and vegetable farming.

PLANT COMMUNITIES

The proposed project area had been tilled frequently until 2005 and the vegetation has only recently begun to reestablish. The most stable vegetation assemblages on the site are planted trees. These include Monterey cypress (*Hesperocyparis macrocarpa*) hedgerows found on the southeast and northwest borders of the parcel; blue gum eucalyptus (*Eucalyptus globulus*) stands, found on the north and southeast borders, and a golden wattle (*Acacia longifolia*) stand, found along the northern edge of the eastern pond. The natural vegetation found on the site can be assigned to a variety of CNPS alliances which are discussed below, however they all are changing rapidly and most have a large component of non-native species.

Although most of the parcel has been recently farmed, those areas that were not tilled and have an ample water supply have recovered to the point where they support what can be characterized as natural vegetation that can be classified using the CNPS Manual of California Vegetation. Portions of the vegetation described here were first surveyed in 2013 by DPR as part of an initial resource inventory (see Table 5). Additional CNPS rapid assessment surveys were conducted by DPR in 2017.

Table 5 provides a summary of the acreage of each vegetation type mapped within the Green Oaks parcel. A more complete discussion of the structure, dominant species, current condition, disturbance ecology and other considerations of these vegetative communities is provided below.

Table 5. Vegetative Communities (CNPS Alliances) within the Green Oaks Restoration Project Area

Alliance	Total Acres	Percent
Arroyo Willow Thickets	14.2	6.0
Coastal Brambles	7.22	3.1
Mock Heather Scrub	0.79	0.3
Eucalyptus Stands	2.52	1.1
Hardstem Bulrush Marshes	2.6	1.1
Monterey Cypress Stands	2.24	1.0
Soft Rush Marshes	1.72	0.7
Slough Sedge Swards	6.62	2.8
Wild Oats and Annual Brome Grasslands	197.2	83.9
Total Acreage	**235.11**	**100.0**

Acacia Longifolia Stand

While this is not a CNPS alliance, *Acacia longifolia* dominates this plant community which occurs on the northeastern edge of the eastern pond, and does not have a well-developed understory. Species from the surrounding Coastal Brambles and Coyote Brush Scrub, including arroyo willow (*Salix lasieolepis*), California blackberry (*Rubus ursinus*), and poison oak (*Toxicodendron diversilobum*), California coffee-berry (*Frangula californica*) and coyote brush (*Baccharis pilularis var. consanguinea*) can be found on the edges. There is no herbaceous understory.

Arroyo Willow Thickets

This plant community occurs along existing irrigation and drainage ditches. In the northwest, the cover of arroyo willow (*Salix lasieolepis*) is discontinuous, forming small patches separated by herbaceous species. Arroyo willow is a wind dispersed early colonizer of bare wet soil and most of these plants likely were first established while the parcel was still being actively farmed. The understory of this plant community is dominated by California blackberry (*Rubus ursinus*), and poison oak, with California coffee-berry and coyote brush often bordering the willows. The herb layer is sparse, consisting primarily of creeping wild rye (*Elymus triticoides*) and slender willow herb (*Epilobium ciliatum*) along with mountain bog bulrush (*Scirpus microcarpus*), in wetter sites.

Coastal Brambles and Coyote Brush Scrub

This plant community occurs in a variety of patches on the parcel, but is most well developed around the eastern pond, and where the road in the center of the parcel crossed the primary drainage ditch. Coyote brush and California blackberry are co-dominant, and poison oak is often present. In the drier more open expression of this vegetation type around the eastern pond, common rush (*Juncus patens*) shares space with exotics such as summer mustard (*Hirschfeldia incana*), black mustard (*Brassica nigra*), and Andean pampas grass (*Cortadaria jubata*), along with exotic annual grasses such as brome fescue (*Festuca bromoides*), soft chess (*Bromus hordeaceous*), and ripgut brome (*Bromus diandrus*). In wetter settings Pacific aster

(*Symphyotrichum chilense*) functions as a subdominant, and poison hemlock (*Conium maculatum*) is a common exotic.

Eucalyptus Globulus Woodland

Likely planted as wind breaks or property line markers, blue gum have spread into the adjoining exotic annual grasslands. In what appears to be their original footprint, a shrub understory has developed, dominated by poison oak and California blackberry, with occasional California coffee-berry. The herb layer is suppressed by leaf litter and shading of the overstory trees, but can contain ripgut brome, bird's foot trefoil (*Lotus corniculatus*), bristly ox-tongue (*Helminthotheca echioides*), and curly dock (*Rumex crispus*).

Hardstem Bulrush Marshes

This plant community is restricted to the artificial impoundment (eastern pond) in the northeast third of the parcel. Due to the underlying geology of this area this feature retains a remarkably stable water level throughout the year. This has resulted in the development of a stable stand of Hardstem bulrush, or tule, (*Schoenoplectis acutus*) with open water and broadleaf cattail (*Typha latifolia*) mixed in. Floating aquatic plants include duckweed (*Lemna* sp.) and mosquito fern (*Azolla filiculoides*) with slender willow herb and stinging nettle (*Urtica dioica*) immediately adjacent on the shore.

Monterey Cypress Wind Rows

Monterey cypress (*Hesperocyparis macrocarpa*) stands that occur naturally within their native range are described in the Manual of California Vegetation; these sorts of planted wind rows are not. They represent a distinct vegetation type in the project area and occupy more area than others described here. They are also easy to characterize because they form nearly monotypic stands with only the occasional bedstraw (*Galium aparine*), sowthistle (*Sonchus oleraceus*) and ripgut brome individuals in their understory.

Soft Rush Marshes

There is a low lying wet swale to the south and east of the impoundment that is dominated by coast rush (*Juncus hesperius*), openings between the clumps of rush are bristly ox-tongue, slender willow herb, California blackberry, Italian rye grass (*Festuca perennis*), and meadow barley (*Hordeum brachyantherum*). Other characteristic species here are common velvet grass (*Holcus lanatus*), small bract sedge (*Carex subbracteata*), and bull thistle (*Cirsium vulgare*).

Slough Sedge Swards

This vegetation type occurs primarily in the southwestern corner of the parcel adjacent to the well-developed Arroyo willow Thickets. It is dominated by slough sedge (*Carex obnupta*) with occasional woody species such as California wax myrtle (*Morella californica*), coyote brush and arroyo willow. This habitat intergrades with Arroyo Willow Thickets and so shares some of its characteristic understory species such as mountain bog bull rush. Stinging nettle, water parsley (*Oenanthe sarmentosa*) and coast rush are also found here.

Wild Oat and Annual Brome Grasslands

The majority of the parcel can best be described as belonging to this alliance, although the composition of the annual dominated grassland differs significantly depending on elevation and soil moisture. Past farming practices and soil type also play a role. In the westernmost portion of the grassland the dominant species is Italian rye grass, with a significant component of spring vetch (*Vicia sativa*). Large swaths of the more xeric grassland are dominated by ripgut brome

and brome fescue. In the more mesic portions of the grassland there is a greater abundance of bristly ox-tongue, curly dock, hairy cats ear (*Hypochaeris radicata*) and California bur clover (*Medicago polymorpha*). Common to all of the grasslands are large patches of Bermuda buttercup (*Oxalis pes-caprae*), Italian thistle (*Carduus pycnocephalus*), and scattered stands of poison hemlock, common mustard (*Brassica rapa*) and jointed charlock (*Raphanus sativus*).

Figure 4. Map of Green Oaks parcel depicting the major vegetation alliances

Table 6. Plant List from 2013 Property Survey

Status	Scientific Name	Common Name	Lifeform	Abundance
	Acacia longifolia	Golden wattle	Tree	uncommon
	Achillea millefolium	Yarrow	Perennial	rare
	Anagallis arvensis	Scarlet pimpernel	Annual	rare
	Artemisia douglasiana	California mugwort	Perennial	uncommon
	Avena barbata	Slim oat	Annual	uncommon
	Baccharis douglasii	Marsh baccharis	Perennial	common
	Baccharis pilularis ssp.consanguinea	Coyote brush	Shrub	uncommon
	Brassica rapa	Common mustard	Annual	common

Status	Scientific Name	Common Name	Lifeform	Abundance
	Bromus catharticus var. catharticus	Rescue grass	Annual	common
	Bromus diandrus	Ripgut brome	Annual	abundant
	Cardamine oligosperma	Idaho bittercress	Annual	uncommon
	Carduus pycnocephalus	Italian thistle	Annual	uncommon
	Carex obnupta	Slough sedge	Perennial	rare
	Carex subbracteata	Small bract sedge	Perennial	uncommon
	Chenopodium album	Lambs quarters	Annual	rare
	Chlorogalum pomeridianum	Amole	Perennial	rare
	Cirsium vulgare	Bull thistle	Perennial	common
	Conium maculatum	Poison hemlock	Perennial	uncommon
	Erigeron sumatrensis	Tropical horseweed	Annual	uncommon
	Cortaderia jubata	Andean pampas grass	Perennial	common
	Hesperocyparis macrocarpa	Monterey cypress	Tree	common
	Cyperus eragrostis	Tall cyperus	Perennial	uncommon
	Elymus glaucus ssp. glaucus	Blue wild rye	Perennial	uncommon
	Elymus triticoides	Beardless wild rye	Perennial	uncommon
	Epilobium ciliatum	Slender willow herb	Perennial	common
	Erigeron canadensis	Horseweed	Annual	common
	Erodium moschatum	Whitestem filaree	Annual	rare
	Eucalyptus globulus	Blue gum	Tree	uncommon
	Frangula californica	California coffeeberry	Shrub	uncommon
	Geranium sp.			common
	Helminthotheca echioides	Bristly ox-tongue	Annual	abundant
	Hirschfeldia incana	Mustard	Perennial	uncommon
	Holcus lanatus	Common velvetgrass	Perennial	abundant
	Hordeum brachyantherum	Meadow barley	Perennial	uncommon
	Horkelia californica	California horkelia	Perennial	rare
	Hypochaeris radicata	Hairy cats ear	Perennial	common
	Juncus effusus	Pacific rush	Perennial	uncommon
	Juncus hesperius	Coast or bog rush	Perennial	rare
	Juncus patens	Common rush	Perennial	uncommon
	Juncus phaeocephalus	Brown headed rush	Perennial	rare
	Festuca perennis	Italian rye grass	Perennial	abundant
	Lotus corniculatus	Bird's foot trefoil	Perennial	uncommon
	Lupinus arboreus	Coastal bush lupine	Shrub	rare
	Madia sativa	Coastal tarweed	Annual	common
	Medicago polymorpha	California burclover	Annual	abundant
	Myoporum laetum	Ngaio tree	Tree	rare
	Navarretia squarrosa	Skunkweed	Annual	rare
	Oenanthe sarmentosa	Water parsley	Perennial	uncommon

Status	Scientific Name	Common Name	Lifeform	Abundance
	Oenothera elata spp. hookeri	Hairy evening primrose	Perennial	rare
	Oxalis pes-caprae	Bermuda buttercup	Perennial	abundant
	Phalaris aquatica	Harding grass	Perennial	common
	Phalaris californica	Canarygrass	Perennial	rare
	Pinus radiata	Monterey pine	Tree	uncommon
	Plantago coronopus	Cut leaf plantain	Annual	abundant
	Plantago lanceolata	Ribwort	Perennial	uncommon
	Populus trichocarpa	Black cottonwood	Tree	rare
	Pseudognaphalium luteoalbum	Jersey cudweed	Annual	uncommon
	Pseudognaphalium stramineum	cottonbatting plant	Perennial	rare
	Raphanus sativus	Jointed charlock	Annual	abundant
	Rubus armeniacus	Himalayan blackberry	Shrub	rare
	Rubus ursinus	California blackberry	Vine	uncommon
	Rumex acetosella	Sheep sorrel	Perennial	common
	Rumex crispus	curly dock	Perennial	abundant
	Rumex salicifolius	Willow leaved dock	Perennial	uncommon
	Salix lasiolepis	Arroyo willow	Tree	common
	Sambucus racemosa var. racemosa	Red elderberry	Shrub	rare
	Schoenolplectus acutus	Hardstem bulrush	Perennial	uncommon
	Scirpus microcarpus	Mountain bog bulrush	Perennial	rare
	Scrophularia californica	California bee plant	Perennial	uncommon
	Senecio minimus	Coastal burnweed	Annual	rare
	Senecio vulgaris	Common groundsel	Annual	uncommon
	Sonchus asper	Spiny sowthistle	Annual	uncommon
	Spergularia rubra	Purple sand spurry	Annual	uncommon
	Symphyotrichum chilense	Pacific aster	Perennial	common
	Toxicodendron diversilobum	Poison oak	Vine	rare
	Trifolium subterraneum	Subterranean clover	Annual	uncommon
	Typha latifolia	Broadleaf Cattail	Perennial	uncommon
	Urtica dioica	Stinging nettle	Perennial	uncommon
	Veronica persica	Bird's eye speedwell	Annual	uncommon
	Vicia sativa	Spring vetch	Annual	common
	Festuca myuros	Rattail fescue	Perennial	abundant

Not Native

Native

Cal-IPC listed as invasive

Included on the CNPS Inventory of rare and endangered plants

Collected by Environmental Scientists Tim Hyland and Tim Reilly for DPR, developed with Calfora.

Animal Species

The project area supports a diverse assortment of animal species. Table 7 provides a summary of animal species documented within Año Nuevo State Park by DPR.

Table 7. Summary of Common Animal Species in Año Nuevo

Species	Common Name
Sylvilagus bachmani	Brush Rabbit
Procyon lotor	Raccoon
Odocoileus hemionus	White-tailed Deer
Peromyscus maniculatus	Deer Mouse
Reithrodontomys megalotis	Harvest Mouse
Didelphis virginiana	Opossum
Canis latrans	Coyote
Neotoma fuscipes	Dusky-footed Woodrat
Peromyscus californicus	California Deermouse
Puma concolor	Mountain Lion
Lynx rufus	Bobcat
Taxidea taxus	American Badger
Herpetofauna	**Common Name**
Batrachoseps attenuatus	California slender salamander
Bufo boreas halophilus	California toad
Pseudacris regilla	Pacific treefrog
Rana draytonii	California red-legged frog
Actinemys marmorata	Southwestern pond turtle
Sceloporus occidentalis bocourtii	Coast Range fence lizard
Elgaria multicarinata multicarinata	California alligator lizard
Lampropeltis getula californiae	California kingsnake
Pituophis catenifer catenifer	Pacific gophersnake
Crotalus oreganus oreganus	Northern Pacific rattlesnake

Birds	Common Name
Numenius phaeopus	Whimbrel
Numenius americanus	Long-billed Curlew
Limosa fedoa	Marbeld Godwit
Larus californicus	California Gull
Larus occidentalis	Western Gull
Pelecanus occidentalis	Brown Pelican
Phalacrocorax auritus	Double-crested Cormorant
Ardea herodias	Great Blue Heron
Buteo jamaicensis	Red-tailed Hawk
Bueto lineatus	Red-shouldered Hawk
Accipiter cooperii	Cooper's Hawk
Circus cyaneus	Northern harrier
Falco sparverius	American Kestrel
Cathartes aura	Turkey Vulture
Callipepla californica	California Quail
Zenaida macroura	Mourning Dove
Zonotrichia leucophrys	White-crowned Sparrow
Charadrius alexandrinus nivosus	Western Snowy Plover
Apthelocoma californica	Western Scrub-Jay
Corvus brachyrynchos	American Crow
Sturnella neglecta	Western Meadowlark
Agelaius phoeniceus	Red-winged Blackbird
Hirundo rustica	Barn Swallow
Freshwater Fish	**Common Name**
Eucyclogobius newberryi	Tidewater goby
Onchorhynchus mykiss	Steelhead – Central ESU
Invertebrates	**Common Name**
Danaus plexippus	Monarch butterfly

Special Status Plant and Animal Species

The Green Oaks Restoration Project area supports or could support several special status animal species. Currently, no special status plant species have been documented within the project area. These include species that have been listed as threatened, endangered, or of other special status under one or more of the following:

- **Federal Endangered Species Act**: listed or proposed for listing as threatened or endangered;
- **California Endangered Species Act**: listed or candidates for listing;
- **Fully Protected Species**: listed under California Fish and Wildlife Code;
- **Species of Special Concern**: species of special concern on the special animals list (CDFW 2019);
- **Bird Species of Conservation Concern**: species identified by the USFWS as being of conservation concern;
- **California Native Plant Society**: plants that are rare, threatened or endangered in California (Lists 1B, 2, 3, 4);
- **Western Bat Working Group**: species ranked as 'high' on the Regional Priority Matrix;
- **California Environmental Quality Act (CEQA)**: other species that meet the definition of rare or endangered under CEQA, including those that are not listed but known to be very rare or declining;
- **USFWS's Information for Planning and Conservation (IPaC) database**: provides access to data from the USFWS and other government sources.

Special Status Plants

Several data sources were used to determine likelihood of presence and potential impacts to special status species from project activities. Species were obtained from the California Natural Diversity Data Base (CNDDB) output for special-status species, Western Bat Working Group, USFWS's IPaC database, Calfora's Observation Hotline, knowledge of regional biota, surveys and observations made in the field. The potential for each species to occur in the project area was evaluated based on species needs, habitat and existing conditions.

The central coast and the landscape surrounding the project site has a remarkably diverse flora. The elevational gradient, underlying geology, varied topography, and relatively stable climate over geologic time has contributed to a high degree of endemism. Given the stressors on this flora from, invasive exotic plants, development, agriculture, and changing disturbance regimes, many plants are rare or threatened. Table 8 is a compilation of special status plants known from the area that are considered rare by a variety of organizations and occur near the project site. The likelihood of each to occur on the project site has been evaluated based on known habitat preferences, distribution, and conditions found at the site. Those plants that have at least a possibility of occurring at the site are discussed in more detail below.

Table 8. Special Status Plant Species Known From the Vicinity of the Project

SPECIES	COMMON NAME	STATUS*	PROBABILITY IN PROJECT AREA	RATIONALE
Abronia umbellata ssp. *umbellata*	Pink sand-verbena	SLC	Unlikely	No suitable habitat
Argrostis blasdalei	Blasdale's bent grass	CNPS List 1B	Unlikely	Repeatedly tilled
Amsinckia lunaris	bent-flowered fiddleneck	CNPS List 1B	Unlikely	Repeatedly tilled
Arabis blepharophylla	coast rock cress	CNPS List 4, SLC	Unlikely	No suitable habitat
Astragalus nuttallii var. *nuttallii*	Nuttall's milk-vetch	CNPS List 4	Unlikely	No suitable habitat
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	CNPS List 1B, SLC	Unlikely	No suitable habitat
Castilleja exserta ssp. *latifolia*	purple owl's-clover	SLC	Unlikely	Repeatedly tilled
Chorizanthe cuspidata var. *cuspidata*	San Francisco Bay spineflower	CNPS List 1B	Unlikely	No suitable habitat
Cirsium andrewsii	Franciscan thistle	CNPS List 1B	Possible	Remnant habitat
Corethrogyne leucophylla	branching beach aster	CNPS List 3	Unlikely	No suitable habitat
California macrophyllum	round-leaved filaree	CNPS List 2	Possible	Remnant habitat
Erysimum ammophilum	coast wallflower	CNPS List 1B	Unlikely	No suitable habitat
Erysimum franciscanum	San Francisco wallflower	CNPS List 4	Unlikely	No suitable habitat
Extriplex californica	California saltbush	SLC	Possible	Remnant habitat
Fritillaria agrestis	stinkbells	CNPS List 4	Unlikely	Repeatedly tilled
Grindelia hirsutula var. *maritima*	San Francisco gumplant	CNPS List 1B	Unlikely	Repeatedly tilled

SPECIES	COMMON NAME	STATUS*	PROBABILITY IN PROJECT AREA	RATIONALE
Horkelia cuneata ssp. *sericea*	Kellogg's horkelia	CNPS List 1B	Unlikely	Repeatedly tilled
Horkelia marinensis	Point Reyes horkelia	CNPS List 1B	Unlikely	Repeatedly tilled
Lasthenia macrantha ssp. *macrantha*	perennial goldfields	CNPS List 1B	Unlikely	Repeatedly tilled
Leptosiphon grandiflorus	large-flowered linanthus	CNPS List 4	Unlikely	Repeatedly tilled
Lotus formosissimus	harlequin lotus	CNPS List 4	Unlikely	Repeatedly tilled
Microseris paludosa	marsh microseris	CNPS List 1B	Unlikely	Repeatedly tilled
Perideridia gairdneri ssp. *gairdneri*	Gairdner's yampah	CNPS List 4	Unlikely	Repeatedly tilled
Piperia michaelii	Michael's rein orchid	CNPS List 4	Unlikely	No suitable habitat
Plagiobothrys chorisianus v. *chor.*	Choris's popcorn-flower	CNPS List 1B, SLC	Unlikely	Repeatedly tilled
Potentilla hickmanii	Hickman's cinquefoil	CNPS List 1B, SE, FE	Unlikely	Repeatedly tilled
Ranunculus lobbii	Lobb's aquatic buttercup	CNPS List 4	Possible	Habitat present
Stebbinoseris decipiens	Santa Cruz microseris	CNPS List 1B	Unlikely	Repeatedly tilled
Trifolium buckwestiorum	Santa Cruz clover	CNPS List 1B	Unlikely	No suitable habitat

***Status Codes:** SE = State Endangered; FE = Federal Endangered; CNPS List 1B = Plants rare, threatened, or endangered in California and elsewhere; CNPS List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere; CNPS List 3: = Plants about which we need more information; CNPS List 4 = Plants of limited distribution, a watch list; SLC= USFWS Species of Local Concern

Special Status Animals

There are many special status wildlife species that occur within ANSP. Table 9 provides a comprehensive list of those species that occur, or for which potential habitat exists, within Año Nuevo State Park. Table 10 provides listed wildlife species, that are likely to occur and a description of their habitat. For those species that are known to inhabit ANSP, potential impacts are noted in Table 10.

Migratory birds (including eggs and chicks) are protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) administered by the USFWS (Division of Migratory Bird Management). Most bird species occurring within California fall under the protection of the MBTA except those species that belong to the families not listed in any of the four treaties, such as European starling (*Sturnus vulgaris*). Nesting birds are also protected under California Fish and Game Code §3503, which prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712; MBTA) and the California Fish and Wildlife Code Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird; Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls); Section 3511 prohibits the take or possession of fully protected birds; and Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA.

Table 9. Known and Potential Special Status Wildlife Species in Año Nuevo State Park

Type	Species	Common Name	Status	Probability In ANSP
AMPHIBIANS	*Rana draytonii*	California red-legged frog	FT, CSC, CP	Present
	Ambystoma californiense	California tiger salamander	FT, SC, CP	Unlikely
BIRDS	*Gavia immer*	Common loon	CSC	Present
	Pelecanus occidentalis californicus	California Brown Pelican	FE, SE, CFP	Present
	Phalacrocorax auritus	*Double-crested cormorant	CSC	Present
	Ardea herodias	*Great blue heron	Local Concern	Present
	Nycticorax nycticorax	Black-crowned night heron	Local Concern	Present-r
	Histrionicus histrionicus	Harlequin duck	FSC, CSC	Present-r
	Accipiter cooperi	Cooper's hawk	CSC	Present-r
	Accipiter striatus	Sharp-shinned hawk	CSC	Present
	Aquilla chrysaetos	Golden eagle	CSC, CFP	Present
	Circus cyaneus	Northern harrier	CSC	Present

Type	Species	Common Name	Status	Probability In ANSP
BIRDS (con't)	*Elanus caeruleus*	White-tailed kite	CFP	Present
	Falco columbarius	Merlin	CSC	Present
	Falco peregrinus anatum	American peregrine falcon	SE, CFP	Present
	Haliaeetus leucocephalus	Bald Eagle	CE, FT (FPD), CFP, CSC	Unlikely
	Pandion haliaetus	Osprey	FCS, ST, CFP	Present-r
	Laterallus jamaicensis coturniculus	California black rail	FT, CSC	Unlikely
	Charadrius alexandrinus nivosus	Western Snowy Plover	CSC	Present
	Numenius americanus	Long-billed curlew	CSC	Present
	Larus californicus	California gull	FE, SE, CFP	Present
	Sterna antillarum browni	California least tern	CSC	Unlikely
	Sterna elegans	Elegant tern	FT, SE, CFP	Present
	Brachyramphus marmoratus	Marbled murrelet	FT, SE	Present
	Cerorhinca monocerata	Rhinoceros auklet	CSC	Present
	Asio otus	Short-eared owl	CSC	Present-r
	Asio flammeus	Long-eared Owl	CSC	Unlikely
	Cypseloides niger	Black swift	CSC	Present
	Chaetura vauxi	Vaux's swift	SE	Present
	Empidonax trailii	Willow flycatcher	FSC, CSC	Unlikely
	Lanius ludovicianus	Loggerhead shrike	CSC	Present
	Progne subis	Purple Martin	ST	Present-r

Type	Species	Common Name	Status	Probability In ANSP
BIRDS (con't)	*Riparia riparia*	Bank swallow	CSC	Present
	Dendronica petechia brewsteri	Yellow warbler	FSC, CSC	Present
	Geothlypis trichas sinuosa	Saltmarsh common Yellowthroat	FSC, CSC	Present
	Agelaius tricolor	Tricolored blackbird	ST	Present
MAMMALS	*Corynorhinus townsendii townsendii*	Townsend's western big-eared bat	WBWG, CSC	Potential
	Antrozous pallidus	Pallid bat	WBWG, CSC	Potential
	Myotis evotis	Long-eared myotis	FSC	Potential
	Myotis thysanodes	Fringed myotis	WBWG	Potential
	Myotis volans	Long-legged myotis	WBWG	Potential
	Eumops perotis	Western mastiff bat	WBWG, CSC	Potential
	Bassiriscus astutus	Ringtail	CFP	Potential
	Taxidea taxus	American badger	CSC, Local Concern	Present
	Mirounga angustirostris	Northern elephant seal	FPS, MMPA	Present
	Zalophys californianus	California sea lion	MMPA	Present
	Eumetopias jubatus	Stellar's (Northern) sea lion	FT	Present
REPTILES	*Actinemys marmorata*	Western pond turtle	FSC, CSC	Potential
	Phrynosoma coronatum frontale	California horned lizard	FSC, CSC, CP	Potential
	Thamnopsis sirtalis tetrataenia	San Francisco garter snake	FE, (FPD), CSC	Present

Type	Species	Common Name	Status	Probability In ANSP
FISHES	*Onchorynchus kisutch*	Coho salmon – Central California coast ESU	FT, SE	Present
	Onchorynchus mykiss	Steelhead – Central California coast ESU	FT	Present
	Eucyclogobius newberryi	Tidewater goby	FE, (FPD), CSC	Present
INVERTEBRATES	*Danaus plexippus*	Monarch butterfly	Local concern	Present
	Speyeria adiaste adiaste	Unsilvered fritillary butterfly	FSC	Unlikely
	Cicindela hirticollis gravida	Hairy-necked tiger beetle	FSC	Unlikely
	Tryonia imitator	California brackish water snail	FSC	Potential

*Status Codes: FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate for listing; FPD = Federal Proposed for Delisting; FSC = Federal Species of Concern; SE = State Endangered; ST = State Threatened; CFP = California Fully Protected; CP = California Protected; CSC = California Species of Special Concern; MMPA = Marine Mammal Protection Act; r = rare; ? = unable to find documentation; MNBMC = Fish and Wildlife Service's Migratory Nongame Birds of Management Concern. Information Sources: CNDDB, 2005; California State Parks Natural Resources Baseline Condition Assessment, FY 2001/02; Año Nuevo State Park Website

Table 10. Special Status Animal Species Within Año Nuevo SP and their Habitats

Species and Common Name	Status	Habitat and Description
California Red-Legged Frog (*Rana draytonii*)	Federal Threatened species and California Species of Special Concern. The 2002 recovery plan recommends protecting existing populations by restoring and creating habitat through improving quality and connectivity of aquatic and upland habitats as a recovery action (USFWS 2002). The project area is within designated critical habitat. The conservation needs identified for this recovery unit are to "protect existing populations, protect habitat connectivity, control non-native predators, (and) reduce water diversions to ensure adequate flows." CRLF historical range reached from California to Baja California and Mexico but has since reduced from 70 of its original range to 28 counties in California. Most of this reduction is from loss of habitat from urban encroachment, hydrological changes from water diversions, agriculture, and intensive livestock grazing.	California red-legged frog is a pond-dwelling amphibian that generally lives in the vicinity of permanent aquatic habitats including livestock ponds and pools in perennial streams. Optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep (>2.3 feet), still, or slow-moving water. Inhabits streams, springs, ponds, marshes, sloughs, lakes, reservoirs, riparian corridors, blackberry thickets, grasslands, and oak savannas. They occur in aquatic sites that usually retain water through mid-summer. Adult aquatic habitat often has emergent or shoreline vegetation and water depths of at least 70 cm. Breeding habitat is characterized as the shallow (25 – 50 cm deep) vegetated margins of ponds or stream pools. They can move overland far from water during the winter rainy season. While in upland habitats, the frogs are usually under cover of objects or in small burrows and recesses in banks. Radio-tagged animals have moved in one season between aquatic sites that were up to 2800 m apart, but in many cases individuals remain within 50 m of water. They can occupy upland areas for as long as 60 consecutive days. Therefore, habitat connectivity and protection of upland habitat surrounding wetlands is important.
Golden Eagle (*Aquilla chrysaetos*)	Fully Protected Species (CCDFW S 3511), CSC while nesting and wintering, Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) as amended	During the non-breeding season, the golden eagle inhabits open habitats such as grasslands, savannahs, scrub and oak woodlands. They usually nest on cliffs but they may also build nests in trees or other structures.
White Tailed Kite (*Elanus caerulus*)	Fully Protected Species (CCDFW S 3511)	White-tailed kites typically nest in trees near a water source and may occur in suburban areas with adjacent open areas with abundant prey.
Western Snowy Plover -Pacific Coast Population (*Charadrius alexandrinus nivosus*)	Federally threatened, Bird of Conservation Concern, California Species of Concern, Audubon watch list: red. Critical Habitat has been designated and a Recovery Plan is completed however, the project area is not within Critical Habitat.	Common resident and nester on sandy beaches. A small with light brown and white colorations and a pointed bill and slate colored legs. Breeders have black bar across forehead. The project area does not include habitat for plovers. Plovers are found wintering nearby at Gazos Creek Beach, 2 miles north, although nesting has not been documented there. Plovers are generally not found away from sandy beaches. Therefore, the project will have no impact on this species.
California Brown Pelican (*Pelicanus occidentalis californicus*)	Nesting and communal roost sites are FE, with critical habitat not designated. A recovery plan was completed in 1983. Delisted in 2008. Also, CA Fully Protected Species.	Nesting colonies are located from the Channel Islands going south, with most nesting in Mexico. In California, most nest on West Anacapa Island. Communal roosts occur on Año Nuevo Island and occasionally on Año Point. Therefore not within or near the project Area, no impact.
Tricolored blackbird (*Agelaius tricolor*)	State Threatened	Suitable foraging and nesting habitat for tricolored blackbird is present in emergent vegetation within aquatic and riparian habitats.

Species and Common Name	Status	Habitat and Description
Dusky-footed woodrat (*Neotoma fuscipes*)	California Species of Concern	Dusky-footed woodrats are generally found in dense chaparral, oak and riparian woodland, and mixed conifer forest habitats that have a well-developed understory. They favor brushy habitat or woodland with a live oak component. They are highly arboreal, and thick-leaved trees and shrubs are important habitat components for the species (Williams et al. 1992). Suitable habitat is found within the project Area.
American badger (*Taxidea taxus*)	California Species of Concern	Badgers inhabit open areas with friable soils within woodland, grassland, savannah and desert habitats. Suitable habitat for this species is present within the upland habitat.
Northern Elephant Seal (*Mirounga angustirostris*)	Federally protected under the Marine Mammal Protection Act (MMPA). State protected by CCDFW as a Fully Protected Species. Both state and federal protections prohibit all forms of take, including harassment.	Elephant Seals are found year round at Año Nuevo, they can move inland somewhat but have never been documented as far inland as the project area. No impact.
California Sea Lion (*Zalophus californianus*)	Federally protected under the MMPA	Observed onshore infrequently and not away from the sandy beach, therefore not within the project area. No impact.
Stellar's Sea Lion (*Eumentopias jubatus*)	Federally threatened	Observed offshore infrequently and always near the sandy beach, therefore not within the project area. No impact.
Western Pond Turtle (Actinemys *marmorata*)	California Species of Concern, Federal Species of Concern	Inhabits a broad range of aquatic habitats including ponds, slow-moving streams, and man-made canals and reservoirs. The highest densities are found in suitable aquatic sites that also have available aquatic and shoreline basking areas such as downed logs. Hatchlings (i.e. individuals through their first year of activity) require shallow water habitat with relatively dense submergent or short emergent vegetation in which to forage. Turtles use upland grasslands in the vicinity of aquatic habitats for egg-laying, hibernation, and aestivation. Habitat exists for WPT but they have not been documented to occur on the Green Oaks parcel.
San Francisco garter snake (*Thamnophis sirtalis tetrataenia)*	Federally Endangered since 1967, State Endangered since 1971, The Recovery Plan calls out the Año Nuevo population.	SFGS are endemic to the San Francisco Peninsula and their range is highly restricted. Current sites range from Mori Point to just south of the Santa Cruz County line. Although the snake mostly occupies the grasslands of the Santa Cruz Mountains, including the Upper Crystal Springs Reservoir, the population also extends east to the San Francisco Airport. This snake is mostly found near aquatic features such as lakes, ponds, marshes, ephemeral ponds, and sloughs (USFWS 1985). Many of these aquatic features have been lost due to intense urbanization, habitat loss, and degradation. Suitable habitat exists and SFGS have been documented at the Project Area.
Steelhead - Central California Coast ESU (*Onchorhynchus mykiss*)	The Central California Coast Evolutionarily Significant Unit (ESU) was listed as threatened in 1997 by the National Marine Fisheries Service. ESUs are reproductively isolated and have distinct genetic, life history and ecological traits, but are not different enough from other units to be considered subspecies.	Breeding habitats have water depths 6 – 24 inches, and substrate composed of mostly gravel or mixtures of gravel with sand and cobble. Spawning occurs at water temperatures from 39 to 52°F and juveniles have the highest tolerance and prefer temperatures 45 to 60°F. Steelhead and resident rainbow trout cannot be distinguished in the field.

Species and Common Name	Status	Habitat and Description
	Only Gazos Creek at the northern edge of Año Nuevo supports a significant population. Critical habitat was designated in 2005 and includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County (NMFS 2005).	Adults are silver to dark with a faint red band down the sides and may have dark spots on the dorsal surface and tail. Juveniles have dark roundish-ovals down the sides.
Tidewater Goby (*Eucyclogobius newberryi*)	Federally Endangered, California Species of Concern	Occur in estuaries, lagoons and marshes of small coastal streams. They can inhabit areas up to 8 kilometers upstream from a lagoon. Usually found in water less than 1 meter deep and at salinities less than 12 parts per thousand, but they can occur in water 2 meters deep and at salinities ranging from 0 to 42 ppt. They are found in sluggish-moving waters, and can occur in stream reaches impounded by beaver dams. Areas with sandy substrate are used for breeding, and they also can be found on rock, mud and silt substrates. Although they are not known to inhabit marine environments, they are thought to disperse short distances in the ocean since extirpated lagoon populations have been recolonized when other populations occurred nearby. They are elongated fish with two dorsal fins, large pectoral fins and eyes oriented high on the head. Adults rarely exceed 5 cm. The anterior dorsal fin has a transparent section on the upper edge. The introduced yellowfin goby also occurs in central coastal California and is much larger: adults are 10 to 15 cm total length and can reach 25 cm total length. Other introduced gobies that occur in freshwater habitats of California are the shimofuri goby, shokihazi goby, and the chameleon goby. *E. newberryi* is distinguished from these species by having small scales that cannot be seen with the unaided eye and are partially embedded in the skin. The native arrow goby (*Clevelandia ios*) occurs in the same habitats as *E. newberryi*, but are more slender. No impact. Tidewater Gobies have been documented in Gazos Creek. Green Oaks Creek does not establish a lagoon and is unlikely to support this species. Additionally, the project area is not near the estuary.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

a) *Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The primary objectives of this project are to restore historic hydrology and therefore enhance habitat on site for the benefit of aquatic and terrestrial wildlife. However, construction will involve the permanent removal of existing surface vegetation and temporary soil disturbance which may provide suitable habitat for listed animal species. Table 10 summarizes the potential impacts to special status animal species and the discussion below describes potential impacts to listed plant species. The analysis was derived by overlaying project impact areas with suitable habitat for sensitive species. In addition to specific mitigation and minimization measures, any adverse impact from this project will be mitigated by the amount of beneficial habitat created.

Special-Status Plant Species

Table 8 above is a compilation of plant taxa known from the area that are considered rare. Those that have at least a possibility of occurring at the site are discussed in more detail below. While none of the taxa discussed below have been detected during multiple surveys conducted by DPR, they all have at least a marginal possibility of occurring on the project site. Therefore should they, or any other plant on the list above be detected prior to, or during the project, the area deemed important to their persistence will be delineated and no disturbance will occur within that area.

Etriplex californica

California salt bush is known from multiple occurrences within Año Nuevo State Park within less than a mile of the project site. It is a native perennial herb in the Chenopodeaceae family that occurs in habitats as diverse as Coastal Strand, Coastal Salt Marsh, Coastal Sage Scrub, and wetland-riparian. Its bloom period is from March to May and although its flowers are inconspicuous, the plant itself is distinctive. This species is most likely to occur on one of the farm roads due to its preference for open habitats.

Cirsium andrewsii

Franciscan thistle is known from one occurrence in the Franklin Pt. Quad. It is a native perennial herb in the Asteraceae family that is found in Mixed Evergreen Forest, Northern Coastal Scrub, and wetland-riparian habitats. Its bloom period is from March to July, and although superficially similar to bull thistle, the arrangement and shape of its leaves is distinctive in its rosette form. This species may occur in those areas of coastal scrub near ditch lines that were not tilled.

California macrophylla

Round leeved-filaree is known from the central coast due to a single collection in 1896 in Pescadero. This species is a native annual herb in the Geraniaceae family known from valley grasslands and foothill woodlands. Its bloom period is from March to May; it has conspicuous white flowers and round leaves unlike the exotic *Erodium* detected during DPR surveys. This species may occur near the Monterey cypress hedges where tillage was less frequent and severe.

Ranunculus lobbii

Lobb's aquatic buttercup is known from Butano State Park. This species is a native annual herb in the Ranunculaceae family known from Valley Grassland, Foothill Woodland, Redwood Forest, and Freshwater Wetlands. Its bloom period is from February to May. It has a small but distinctive white flower and may occur on the edges of the eastern pond or in the wetland at the southwestern most portion of the parcel.

The project will avoid impacts to the above-mentioned species by following **SPR BIO-2** and **PSR-SSP** which both detail the process of surveying for, marking, and establishing buffer zones around any special status plants found around the project impact area.

Special Status Wildlife Species

There are many special status wildlife species with the potential to occur in or immediately adjacent to the project area. Of these, five have Federal and/or State legal protection and two have been documented within the project area, as described in the Environmental Setting.

San Francisco Garter Snake (Thamnophis sirtalis tetraenia) and California Red-Legged Frog (Rana draytonii)

The two primary Special Status Species are the San Francisco garter snake (SFGS) and California red-legged frog (CRLF). The project area also occurs within CRLF critical habitat, as designated by U.S Fish and Wildlife Service.

The project has been specifically designed as a recovery action for the SFGS and will result in significantly improved breeding and foraging conditions for the CRLF. The creation of more open water areas, expanded Arroyo Willow Thicket, Slough Sedge Swards, Bull Rush Marshes along with the reactivation of the 12 acre swale will act as compensatory mitigation for any sensitive habitat temporarily lost during construction. All activities will result in improved foraging for SFGSs and more breeding habitat for CRLFs. However, the construction of the habitat enhancements does present the opportunity for direct impact to SFGS and CRLF and their habitat.

The eastern pond provides breeding habitat for CRLFs and they have been documented in the project area (USGS 2018). CRLF egg masses were observed by DPR staff during site visits.

The project area provides suitable habitat for SFGS and individuals have been found near the eastern pond (USGS 2018, USGS 2019). Extensive coverboard surveys for SFGS have been completed since 2013, and SFGS have only been documented near the eastern pond which provides habitat for SFGS prey and some basking space. There is plenty of vegetative cover and rodent burrows in the surrounding area for SFGS shelter. It is possible that SFGS could be encountered during project construction away from the eastern pond given the suitable habitat and nearby occurrences. In terms of design elements, the project has been designed in two phases to avoid impacting 100% of the known preferable habitat of SFGS during one year. The project will create more open water and wetland habitat that supports the favored prey of SFGS.

SPR-BIO-3 sets up the general protections for all wildlife found within the project site during construction. **PSR-OWH** and **PSR-WTL** develop additional avoidance measures that specifically protect both open water and wetlands, decreasing the likelihood of impacting any wildlife species found within those habitat types. The mitigation measures, **MM-CRLF** and **MM-SFGS,** call for specially trained, USFWS approved biomonitors to be onsite at all times during construction. Approved biomonitors have the authority to completely halt or re-direct work if a SFGS or CRLF

is discovered or disturbed within the project area. **MM-CRLF** and **MM-SFGS** further outline daily focused surveys, buffer zones, stockpiling procedures, speed limit restrictions, worker environmental awareness training, and relocation protocol. These mitigation measures would minimize injury or mortality of individual SFGS and CRLF. Prior to construction, DPR would obtain all necessary permits and authorizations from regulatory agencies to enable relocation of individual SFGS and CRLF.

Injury or mortality of CRLF or SFGS may occur during project construction due to impacts from equipment or personnel but the above-mentioned mitigation measures and project requirements ensure that any adverse effects to SFGS and CRLF are less than significant. In the long-term, the net effect of the project on SFGS and CRLF will be beneficial. The expansion of freshwater marsh breeding and foraging habitat will increase the carrying capacity for both species within the project area.

Other Special Status Wildlife Species

The project area contains blue-gum and cypress hedgerows adjacent to open scrubland and an extensive wetland, providing nesting habitat and foraging conditions for many special-status wildlife species. Special status species with the potential to occur within the project footprint are discussed below.

Golden Eagle (Aquilla chrysaetos)

Golden eagles have not been documented from the project area or within 1 mile of the project area (CCDFW 2019). The upland grassland habitat provides suitable foraging habitat and there is suitable nesting habitat along the edges of the parcel within the blue-gum and Monterey cypress hedgerows. Biological monitors will follow **PSR-NBS** regarding nesting bird surveys. There will be no impact to this species during project implementation.

White Tailed Kite (Elanus caerulus)

White tailed kites have not been documented from the project area or within 1 mile of the project area (CCDFW 2019). The upland grassland habitat provides suitable foraging habitat and there is suitable nesting habitat for Kites in the edges of the project area within the blue-gum and Monterey cypress hedgerows. Biological monitors will follow **PSR-NBS** regarding nesting bird surveys. There will be no impact to this species during project implementation.

Tricolored blackbird (Agelaius tricolor)

Tricolored blackbirds have not been documented from the project area or within 1 mile of the project area (CCDFW 2019). Biological monitors will follow **PSR-NBS** regarding nesting bird surveys. There will be no impact to this species during project implementation.

Dusky-footed woodrat (Neotoma fuscipes)

Woodrat nests have been observed within the vegetation along the berm of the eastern pond within the project area. Before and during vegetation removal, biological monitors will employ **PSR-SFD** which outlines the protocol for surveying, marking, and either avoiding or relocating woodrat nests. The impact to woodrats will be less than significant.

American badger (Taxidea taxus)

Badgers are uncommon, however they have been documented near the project area and suitable habitat for this species is present within the upland habitat. **PSR-ABR** outlines protocol for surveying, delineating, and avoiding badger dens. There will be no impact to American badgers.

Western Pond Turtle (Actinemys marmorata)

Though pond turtles have not been observed in the project area, the eastern pond and associated upland grassland provide suitable habitat for this species. Western pond turtles have been documented at Rancho del Oso several miles to the south of the project area. **PSR-WPT** outlines measures to survey and avoid impacts to western pond turtles. While turtles may be found within the pond, construction activities are focused on removing material from the surrounding berm. There will be no impact directly to the open water habitat within the eastern pond. There will be no impact to western pond turtles.

Steelhead - Central California Coast ESU (Onchorhynchus mykiss)

Green Oaks Creek consists of about 3.7 miles of channel draining a watershed of approximately three-square miles. The creek has several dams in its lower reach. A 1978 DFG survey report noted, “Green Oaks Creek has little value in its present condition to the anadromous fishery resource” (DFG 1978e). Steelhead are found in Gazos creek at the north edge of ANSP, more than 3 miles away from Green Oaks creek. The artificial channel that will be filled in has an intermittent connection to Green Oaks creek and does not support any steelhead population. There will be no impact to steelhead.

Regulatory Consultation

As mentioned above, the proposed project was developed purely as a habitat enhancement action with a focus to improve habitat for SFGS and CRLF. The proposed restoration and enhancement activities were developed with and guided by discussions with USFWS and CDFW. All conservation measures specific to this project and identified in any USFWS Biological Opinion (in progress) will be implemented during project construction. Restoration activities will contribute to the overall enhancement of habitat for SFGS and CRLF within San Mateo County and objectives of this project align with recovery actions outlined in the SFGS Recovery Plan that concludes restoration of upland, riparian, and aquatic habitat is needed to aid in the recovery of SFGS and CRLF (USFWS 1985). The creation of expanded habitat acts as additional compensatory mitigation for any temporary impacts to existing habitat during construction.

Biologists also reviewed CDFW's California Natural Diversity Data Base (CNDDB) (CDFW 2019); USFWS' Information for Planning and Consultation (IPaC) Trust Resources Report for San Mateo County (USFWS 2019), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2019), and the USFWS National Wetlands Inventory to assist with development of Avoidance and Minimization Measures to be incorporated into the project as Standard Project Requirements and Project Specific Requirements.

Mitigation measures for potential impacts during construction activities are derived, in part, from the avoidance and minimization measures to reduce impacts to listed species on several regional projects including Butano Creek Floodplain Enhancement, Butano Creek Reconnection Project, Quiroste Valley Cultural Preserve Vegetation Management Project, Butano Farms Snake Enhancement Project, and those provided in PG&E's Bay Area Operations and Maintenance Habitat Conservation Plan. Integration of the Standard Project Requirements, Project Specific Requirements and Mitigation Measures listed in Tables 1 and 2 for Special Status Plant and Wildlife Species would reduce and minimize impacts to these species to a less than significant level.

The project impact area is within known ESA listed habitat and so incidental take must be considered. Even with project designs built around sensitive species recovery and incidental take, DPR must pursue formal consultation from USFWS under the ESA. As a state agency, DPR does not have the authority to ask for consultation from USFWS pursuant to Section 7. However, the projects impact area is within "waters of the U.S" as defined in CFR 328.3 and so the Army Corps of Engineers will assume the role as the lead federal agency and will initiate Section 7 consultation with USFWS. Informal consultation has already begun between DPR, Army Corps, and USFWS. The end result of the consultation will be a Biological Opinion that will include a jeopardy determination, conservation recommendations and reporting requirements. DPR will follow all recommendations provided in the BO provided by USFWS.

Conclusion: Less than significant with mitigation

b) *Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Several acres of sensitive habitat will be affected as a result of this project however, the habitat enhancement actions of the project will create more habitat than is impacted. There will be expanded areas of open water, Arroyo Willow thicket, Slough Sedge Swords, along with the reactivation of the 12 acre swale. Through raising the water table, emergent wetlands will become abundant and ultimately will act as compensatory mitigation for any sensitive habitat temporarily disturbed during construction.

The project has been specifically designed as a recovery action for the SFGS and will significantly improved breeding and foraging conditions for the CRLF as well. Both species are dependent on the sensitive habitat types outlined above. The project would not have any permanent adverse effect on any sensitive or riparian natural communities.

Below, each of the sensitive habitat types present on the Green Oaks parcel are evaluated for the potential impact due to implementation of these habitat enhancement actions.

Arroyo Willow Thickets

This vegetation type is considered a sensitive natural community. The project is designed to avoid removing arroyo willow. Less than 0.5 acre of this habitat will be removed during construction and this removal will be offset by the expansion of seasonal wetlands, increasing breeding habitat for CRLF and PTF. It is anticipated that 1.6 acres of this habitat type will be created by plugging the drainage ditches and impounding water in expanded basins. As part of this project, willows sprigs will be placed around the edges of all the open water enhancement areas to assist with willow colonization.

Hardstem Bulrush Marshes

This plant assemblage is considered a sensitive natural community. Approximately 1.2 acres of a total cover of 2.6 acres will be impacted by the project by lowering the berm around the eastern pond's impoundment. Depending on the availability of water, this area will likely recover. It is anticipated that a much greater acreage of this habitat type will be created by plugging the drainage ditches and impounding water in expanded basins.

Soft Rush Marshes

This plant community is considered a sensitive natural community. None of this habitat will be negatively impacted by the project. It is the goal of this project to enhance this habitat by increasing the inundation period of these low lying areas and therefore increasing their extent and suitability for breeding for PTFs, one of the favored prey for the SFGS.

Slough Sedge Swards

This is a sensitive natural community. It will not be adversely impacted by the project. The increase in availability of water later in the season by eliminating drainage ditches will likely benefit this habitat downstream of the project.

Table 11. Impacted habitat and the proposed mitigation

Temporarily Impacted Habitat	Proposed Compensatory Mitigation
0.26 acres of riparian willows (11,550 sq. ft.)	1.6 acres (70,400 sq.ft.) of willow planting/ sprigging around newly created open water
1.20 acres Hardstem bulrush marsh (34,600 sq. ft.)	0.794 acres of Hardstem bulrush marsh will be created
	~1 acre Soft Rush Marsh enhanced
	12 acres of historic swale re-activated by plugging and filling the irrigation ditches

Impacts to any of the sensitive plant communities mentioned above will be avoided or minimized by implementing **SPR-Bio 1 and 2** for plant surveys, invasive species, monitoring, staging, and **PSR-OWR** and **WTL** for open water and wetland protections.

Conclusion: Less than significant

c) *Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?*

Waters and wetlands are considered sensitive habitat types. The term “wetland” has technical meaning under specific laws and regulations. The wetland features at the proposed project site would be classified as wetlands under the following existing applicable state and federal laws:

- Environmental Protection Agency and Army Corps of Engineers jurisdiction through Section 404 of the federal Clean Water Act. Site analysis indicates that the eastern pond is both hydrologically and ecologically connected to the adjacent Water of the US, Green Oaks Creek. As such, the eastern pond is not considered to be an isolated water or wetland.
- California Coastal Commission jurisdiction through the California Coastal Act of 1976 and the federal Coastal Zone Management Act for state wetlands within the coastal zone. The existing pond, wetland and riparian habitats meet all three wetland criteria (plants, hydrology, and soils) and, as such, will be subject to regulation under the Coastal Act.
- State Water Resources Control Board and San Francisco Regional Water Quality Control Board (RWQCB) through the 1969 Porter-Cologne Water Quality Control Act and Section 401 of the federal Clean Water Act. The existing eastern pond meets all three wetland criteria (plants, hydrology, and soils) and is ecologically and hydrologically connected to Green Oaks Creek. As such, the pond, associated irrigation ditches, wetland and riparian margins will be regulated through the RWQCB.

Approximately 1.5 acres of wetland and riparian habitat will be temporarily impacted during the construction phase of the Green Oaks Restoration Project. The project will expand the wetland habitat surrounding the eastern pond and re-activate the historic swale that runs through the property. Any impacts to federally protected wetlands defined by state and federal laws will be avoided or minimized by implementing **SPR-HYD 1 and 2, and PSR-OWR and WTL**.

Conclusion: Less than significant

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Based on surveys conducted by DPR, as well as the proposed project designs, construction of the Green Oaks Restoration Project will not interfere with the movement of any animals or impede the use of any nursery sites for native wildlife, including SFGS, CRLF, Western snowy plover, and steelhead. The project does not include any kind of permanent structures that would limit or bar the movement of animals.

Conclusion: No impact

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No specific local ordinances or policies apply to this project. The project will go through appropriate CEQA review and comply with all agency permitting requirements.

Conclusion: No impact

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project originates from and aligns with recommendations from the 2009 Habitat Management Plan developed for this site. There are no other Conservation Plans that apply to the project area.

Conclusion: No Impact

STANDARD PROJECT REQUIREMENT
BIO 1, 2, 3

PROJECT SPECIFIC REQUIREMENT
ABR, OWR, NBS, SFD, SSP, WPT, WTL

MITIGATION MEASURE
CRLF, SFGS

V. CULTURAL RESOURCES

ENVIRONMENTAL SETTING

The following section has been extracted from the *Historic Properties Survey Report and Finding of No Effect* (Hylkema 2020) that was prepared for this project in anticipation of a federal nexus triggered by the need to satisfy federal permits- which require consideration of potential effects to Historic Properties from project implementation. While meeting compliance mandates under Section 106 of the National Historic Preservation Act of 1966, the Cultural Resources synthesis presented here serves to meet the need for the CEQA Mitigated Negative Declaration associated with the State permitting and funding component of the work being done, in advance of the federal permit process. Therefore, the discussion below serves to provide a contextual summary of the region's prehistory and history to establish an understanding of the potential range of cultural resources that might be present within the Area of Potential Effects (APE), or Study Area, and their significance.

Prehistory:

The prehistory of the project area overlays a larger fabric of dynamic cultural transformations that began sometime over 12,000 years ago, during the late Pleistocene (the end of the Great Ice Age) when world sea level was lower, and people first arrived along the west coast of North America. Episodes of dramatic (even cataclysmic) environmental changes have led to the recognition of four major climatic shifts that have transpired during the time of human occupation. These changes define the Late Pleistocene, Early, Middle and Late Holocene epochs (we are in the Late Holocene, which began some 3,200 years ago).

Archaeological studies of the cultural prehistory of the Peninsular coast and Northern Monterey Bay, also referred to as the Santa Cruz Locality, have found that the majority of coastal sites studied thus far date from the Middle and Late Holocene, and represent adaptive strategies developed by ancestral Native Americans after the stabilization of sea level ca. 6000 years ago (Breschini 1983; Hildebrandt et al. 2009; Hylkema 1991; 2002; Jones et al 2007; Masters and Aiello 2007:35-51; Milliken et al 2007).

Within the Santa Cruz Locality, four general archaeological phases have been defined based on, a) changing combinations of artifact forms from temporally discrete archaeological sites, and b) proposed decreases in group mobility through time. These phases are the *Metcalf Phase* (ca. 10000-5500 B.P.), the *Sand Hill Bluff Phase* (ca. 5500- 3000 B.P.), the *Año Nuevo Phase* (ca. 3000-900 B.P.), and the *Bonny Doon Phase* (ca.900 B.P. to Spanish colonization) (Hylkema and Cuthrell 2013; Jones et al. 2007:137; Milliken et al. 2007:104).

Though absolute chronological boundaries are difficult to distinguish in this region, several general trends emerge from comparison of sites throughout the Santa Cruz Locality. One of the most noticeable diachronic changes in artifact composition is among combinations of projectile point forms and the source materials from which they were made. Also, greater use of *Olivella* shell beads and abalone pendants, which served as markers of wealth and group membership among peoples throughout Central California, gave a significant economic advantage to coastal groups like those who occupied the Año Nuevo region. The basic characteristic of the *Sand Hill Bluff, Año Nuevo, and Bonny Doon Phases* are presented below.

Sand Hill Bluff Phase (ca. 5500-3000 B.P.):

Several archaeological sites within the Santa Cruz Locality and San Francisco Peninsula dating to the Sand Hill Bluff Phase produced artifacts that suggest relatively high group mobility. Given that Franciscan chert sources are spatially restricted to the Santa Clara Valley and Monterey chert to the coastline around Año Nuevo Point, the distribution of these materials serve as markers of exchange and travel. Although locally available Monterey chert from the Año Nuevo source typically dominates chipped stone inventories in most Santa Cruz Locality sites through time, the regular occurrence of non- local lithic materials and the variety of point forms during the Sand Hill Bluff Phase indicates higher group mobility than in the subsequent Año Nuevo Phase, when lithic assemblages are comprised almost exclusively of Monterey chert and a few North Coast Range obsidians (Hylkema 1991).

Sand Hill Bluff Phase sites share similar mixes of corner and side-notched point forms, as well as the larger Rossi Square-stemmed type (defined by Jones and Hylkema 1988) and shouldered contracting-stemmed forms made from Monterey and Franciscan cherts. Points and bifaces of locally available chalcedony, opal, and quartz (Hylkema 2012), as well as of imported obsidian (sourced from the North Coast Ranges and eastern Sierra Nevada Mountains), are found regularly in sites throughout the interior Santa Clara Valley, the Scotts Valley basin, and along the coastlines of Santa Cruz and San Mateo Counties.

Other attributes of this temporal phase include the common occurrence of pebble choppers or hand axes made from andesitic and quartzitic cobbles, possibly used to split larger bones to extract marrow from larger prey species. Mixed assemblages of milling tools are evident, and although milling slab fragments are infrequent; numerous discoidal hand stones that often exhibit deliberately shaped shoulders and slightly beveled axial ends are regularly recovered. Sand Hill Bluff phase assemblages also include mortars and pestles, an indication of the increasing value of acorns and possibly other plant foods to the diet, as well as greater dependence upon storable food resources. (Hylkema 1991).

Also common during this phase are bi-pitted cobbles that were possibly used as anvils to split shellfish or as shell-meat tenderizers (these become increasingly common during the subsequent Año Nuevo Phase; Hylkema 1998). Distinctive discoidal stone fishing-net weights with wide notches appear as well. *Olivella* shells and beads are not very common in Sand Hill Bluff Phase sites, but thick rectangular L series (Jones et al. 2007:134-136), and whole-Olivella A series and “barrel” beads representative of this phase have been found (Hylkema 1991).

Año Nuevo Phase (ca. 3000 to 900 B.P.):

The Año Nuevo Phase saw a change in lithic materials, with bifaces and points made from Monterey chert (and less commonly from exotic obsidian) becoming the exclusive chipped stone source used throughout the coastal and interior upland zones of the Santa Cruz Mountains and Peninsular coast (Hylkema 1991; Milliken et al. 2007). This corresponded to a time of greater artifact diversity and social complexity among peoples living in the valleys and oak woodlands surrounding San Francisco Bay, where an increasing reliance on stored nut crops has been credited as key element leading to a greater level of social complexity and possibly to greater territorial circumscription, with a corresponding reduction in group mobility (Basgall 1987; Breschini 1983; Hylkema 2007; Milliken et al. 2007).

During this time, two economic spheres developed and interacted. While coastal communities maintained an older adaptive strategy of logistical foraging, people of the Bay Area developed leadership and membership institutions and permanent residential bases, as evidenced by the large cemeteries and expressions of monumentality such as massive mounded structures (Hylkema 2002; Leventhal 1993; Lightfoot and Luby 2002; Milliken et al 2007; Nelson 1909). Through these enduring institutions, the many Native American polities present at the time of Spanish colonization probably began to coalesce at this time (Hylkema 2007:397-420).

On the Peninsular coast, Año Nuevo Phase sites contain voluminous deposits of dietary shell (principally California mussel [*Mytilus californianus*]), as well as a variety of faunal remains including marine and terrestrial mammals as well as fish and birds. At sites near the project area dated to the Año Nuevo Phase, chipped stone artifacts were associated with large numbers of northern fur seal (*Callorhinus ursinus*). In contrast, coeval shell-rich upland sites are dominated by large numbers of deer bone elements with only a few fur seal bones. These bones, along with other seasonally diagnostic faunal elements, suggest a year-round presence in the uplands with regular visits to Año Nuevo for access to Monterey chert and fur seals. However, archaeological surveys indicate that the larger mortuary sites were situated on the coastal terraces rather than in the uplands (Hylkema 1991).

Regional sites also contain large quantities of Monterey chert debitage (Hylkema 1991; 2002; Hildebrandt et al. 2009). The distinctive dart known as the Año Nuevo Long-stemmed type (Jones and Hylkema 1988), along with long-stemmed preforms in various stages manufacture establish a pattern of staged point reduction sequences mimicked at nearly all other contemporaneous local coastal sites (Hylkema 1991). A virtual absence of Franciscan chert artifacts at coastal sites during the Año Nuevo Phase implies that the coastal cultures no longer accessed the Santa Clara Valley lithic source.

Along with Franciscan chert, notched point forms disappear during this phase. The Año Nuevo Long-stemmed point type defined by Jones and Hylkema (1988:163-186), with lesser numbers of large and small obsidian lanceolates from North Bay sources, dominate the projectile point styles nearly to the exclusion of all others forms for over 1500 years. Obsidian lanceolate's frequently pair with long-stem points.

On the coast, milling tool assemblages continued to include hand stones and milling slabs as well as mortars and pestles, an indication of the continued need to pursue a diversified nut and seed food harvesting strategy. Increasing numbers of grooved and edge-notched stone weights along with bone fishing gorges suggest a greater emphasis online fishing than during the previous *Sand Hill Bluff Phase*, but faunal data are currently lacking (see Gobalet 1992). Bone scapula saws, awls, and fragments of whale rib and abalone prying tools have been noted at several sites (Hylkema 1991; 2002).

Whole *Olivella* type A series beads and unmodified *Olivella* shells are present at most coastal sites in this phase (Hylkema 1991; 2002), reflecting their increased valuation among interior cultures, but shaped beads are nearly absent, with only a few *Olivella* type G series saucer beads recovered. Whole *Olivella* shells are also present in most sites, albeit in low numbers. It appears that the export of *Olivella* beads or whole shells to California's interior was one component of coastal peoples' economies during this time.

In sum, two distinct traditions developed during the *Año Nuevo Phase*. Peoples in the interior San Francisco Bay area (Berkeley Pattern) shifted toward greater reliance on stored food resources, and more pronounced social hierarchies developed. In contrast, peoples living near the coast continued to pursue more generalized subsistence strategies, and large, permanently

occupied sites are much less common here than in the vicinity of the Bay. Expressions of wealth and social hierarchy do not seem very apparent in coastal sites of the *Año Nuevo Phase*. However, unusually large obsidian lanceolate blades that may have been prestige items were found at several coastal sites (Hildebrandt et al. 2009; Hylkema 1991).

Bonny Doon Phase (ca. 900 B.P. to Spanish Colonization):

On the coast, many cultural attributes that characterized the *Año Nuevo Phase* remained constant between ca. 3000-900 B.P., but shortly thereafter changes in technology and social organization within the San Francisco Bay region resulted in increasing territorial circumscription. These changes are illustrated by the large number of historically documented tribal polities in the Santa Cruz Locality, including the Quiroste tribe that controlled the vicinity of the Butano Farms Mounds.

Within the greater San Francisco Bay area, a trend toward more complex social organization appears to have gained momentum after 1300 B.P. with the advent of the Middle/Late Transition (ca. 1100-900 B.P.) and the Late Period, also referred to as the Augustine Pattern (Fredrickson 1974:57-73). This was a time of cultural transition that replaced earlier artifact assemblages, particularly of *Olivella* shell beads and abalone pendants, with new types that served as markers of wealth and specialized social group membership (Bennyhoff and Hughes 1987; Groza 2002; Hughes 1994; Milliken et al. 2007; Hylkema 2002; 2007). Higher densities of these shells at coastal sites during this phase indicate that coastal peoples increased collection in response to greater demands for these raw materials by peoples living in the interior. Mortuary contexts in interior sites throughout Central California display large increases in *Olivella* and abalone shell goods after the Middle/Late Transition (ca. 1100-900 B.P.), and up to the Spanish Mission Period (Hughes 1994; Hylkema 2007; Schwitalla 2013).

During the *Bonny Doon Phase*, the spread of bow and arrow technology throughout the Santa Cruz Locality is indicated by the presence of small, serrated lanceolate obsidian points (Stockton Serrate type; SS) and the Desert Side-notched (DSN) type. It is likely that larger dart tips, possibly Año Nuevo Long-stems, were still in use during the later Bonny Doon Phase too. These may have been the point type described by Fr. Palou of the Rivera expedition in 1774 when traveling in the Santa Cruz Mountains: “They carried short lances having curved blades made of flint as well worked as if it had been iron, the only difference being these have no grain” (Stanger and Brown 1969:141). Tubular stone tobacco pipes appear during this phase as well (Fitzgerald and Ruby 1997; Hylkema 1991).

Research on landscape management practices indicates that people in and around Año Nuevo used fire to alter natural patterns of vegetation succession, maintaining open grasslands by the early part of the *Bonny Doon Phase* (Lightfoot et al, 2013). Since substantial investments of time and labor were required to maintain landscapes with more highly productive and reliable yet more costly resources, landscape management likely indicates a high degree of stability in territories during this time.

During the *Bonny Doon Phase*, the ancestral Ohlone of San Mateo County lived in a landscape of great ecological diversity. Their environment brought them near marine, sandy beach, rocky shore, tidal and freshwater marsh, grassland prairie, oak grassland savanna, riparian, chaparral, mixed hardwood, and evergreen forest habitats. Combinations of various habitats frequently converged in geographically narrow areas, and the mosaic distribution of productive biological communities gave a significant advantage to the ancestral Ohlone by enabling them to formulate alternative subsistence strategies such as co-harvesting, long-term storage, and exchange systems. Enhancing vegetal productivity through the application of fire, along with

institutionalized leadership roles and kinship/alliance systems, served to ameliorate episodes of scarcity and the effects of resource over-exploitation (as described by Basgall 1987:21-52; Bean and Lawton 1973:v-xlvii; Bean and King 1974; Blackburn and Anderson 1993; Chagnon 1970; Fages 1937; Lewis 1973; Milliken 1983; Simons 1992:73-103).

Archaeological evidence from sites in the area shows that productive ecological zones, in terms of native subsistence needs, involved littoral and grassland habitats concentrated along the narrow coastal terraces and upland meadows in the Santa Cruz Mountains. A survey of nearly 200 sites on the peninsula between Montara Point and the San Lorenzo River (42 at Año Nuevo State Reserve) west of the crest of the Santa Cruz Mountain range, found that 70 percent occur within the terrace zone, 20 percent have been found in the adjacent mountain uplands, and the remaining 10 percent are spread along riparian corridors that cut into the mountains (Hylkema 1991:23).

Very narrow, moderately level sections of coastal terrace parallel the length of the peninsula coast. Intermittent extensions of flat terrace penetrate inland between the coniferous forest slopes of the Santa Cruz Mountains at places such as Pescadero valley. Grasses and shrubs dominate the terrace habitat (Kuchler 1977), and this community supported a range of terrestrial mammals that were trapped, snared or felled by projectiles (Harrington 1942).

A variety of sea birds, migratory ducks and geese were available and historic accounts state that large numbers of waterfowl would congregate in seasonal wetland basins on the coastal terrace (Stanger and Brown 1969). The mountains rise directly above the terrace and are dominated by unproductive evergreen forest with sporadic patches of economically important grass meadows and oak trees dispersed within mixed hardwood forest.

By the end of the prehistoric period, an economic network developed throughout central California that transported coastal products to the interior and brought exotic materials to the coast. Despite linguistic variations there was a shared ideology and wealth system which grew exponentially until everything was truncated by historic developments heralded by the abrupt arrival of Spanish explorers in the fall of 1769.

Historic Period Native Lifeways

Ethnohistoric observations written during the first European land expedition of 1769 and later missionary records noted that several different tribal communities (referred to as tribelets by contemporary anthropologists) controlled territory along the San Francisco Peninsula coast. It was noted that coastal populations seasonally relocated from the coastal edge to locations in the nearby Santa Cruz Mountains (Palou, Vol. 3 in Bolton 1926:3:293-303; Crespi in Stanger and Brown 1969:88). Kinship data derived from Spanish Mission records show that coastal communities ultimately assimilated into a larger Bay Shore alliance network through marriage and kinship (King 1994:203-228; Milliken 1983; 1991; 1995).

At the time of first contact populations were organized into extended families, or clans that formed villages. Within the villages, clan members ascribed to different clubs or societies. Membership usually involved initiation where novices learned the customs of the organization and used shell beads to pay dues. Different membership driven organizations sponsored ceremonial events, each having their own distinctive costumes and regalia. Abalone (*Haliotis*) shell pendants were frequently used as badges of membership and rank. Together the various organizations formed the fabric of society and directed the storage and redistribution of surplus food resources, construction of village buildings, planned hunting strategies and followed the seasonal cycles of nature that would determine where and when they should relocate

themselves. Both men and women could be members of various societies (Kroeber 1928), and an elite group of women (called Mayen in the northern San Francisco Bay region), directed the construction of large circular dance houses that were excavated several feet below the surrounding ground level (Collier and Thalman 1996).

The *Mayen* selected the most virtuous individuals to represent various spiritual forces that were personified in dances and ceremonies. This practice was called *Kuksui*. *Kuksu* dancers wore woven feather bandoleers made from woodpecker quills placed edge to edge that draped over their foreheads and down their shoulders. Young children were initiated into the various societies and were taught proper manners and customs acceptable to their community by their elders. Once membership was invoked, they earned status and rank over the term of their lives.

Women had geometric lines and patterns tattooed over their chins, neck and shoulders to identify their clan affiliation, and to prevent improper attention from a suitor who otherwise might not be aware of her social standing. Men wore their hair long, and often had long beards and moustaches. Both men and women used sharpened and polished deer bone pins to hold their hair into various fashionable styles. Both occasionally adorned themselves with polished circular stone disks that were inserted in their ear lobes or nasal septum. Most had their ears pierced and wore decorations of brightly colored feathers and bird bone tubes. Finely woven fibers of milkweed were used to make hairnets that sometimes were covered with feathers or shell beads.

Men typically governed the political structure of the village and did the hunting while women handled the gathering and processing of vegetal foods (Harrington 1942; Kroeber 1928). Each village had a “head man” and the many villages throughout the Santa Cruz Mountains and coast each had its head man. Feuds and violence between members of some villages was not uncommon, but relatives typically sought to avoid conflicts through payments made in shell beads. Men wore little or no clothing, a trait common among hunting people living near the animals they depended on where they must avoid retaining the human scent to better blend in with their natural surroundings. Women wore a braided tule rush skirt with a rear apron made from finely tanned deerskin.

Houses called *ruk* and/or *tac* were constructed of Tule reeds that were tightly thatched and woven over a framework of willow poles. Every house had an indoor and outdoor hearth and underground oven. Many fist-sized river cobbles were used to distribute heat in the ovens where plant bulbs, shellfish and animal meats could be roasted. Long poles with painted rings of black, red and white and brightly colored feathers attached were erected in the cemeteries adjacent to the villages. Each village also had a partially underground, roofed sweathouse where interior fires steamed the occupants like a sauna. This was where the men spent a lot of their time telling stories and repairing their hunting tools. Bows were kept in the sweathouse where the smoke kept the human scent off them. When women had just given birth, both she and the newborn spent their first few days together resting on a bed of herbs within a special sweathouse, where they could keep warm together.

Historic Period Transformations and the Quiroste Tribe:

The proto-historic period for the project area begins in the year 1542 with the first sea explorations conducted by imperial Spain; however, the Historic Period did not truly begin until the Spanish Government sponsored the colonization of the area. This did not occur until as late as 1769 when the first overland expedition reached Upper California and inadvertently encountered San Francisco Bay. The diaries and accounts of these first expeditions provide valuable insights into the lifeways of the local Native American people.

The project APE is within the territory of the ethnographic Quiroste Tribe (see Figure 8), which was one of the most powerful polities on the Central California Coast. The Quiroste were one of some fifty independent tribal groups that have collectively been referred to as the Ohlone Indians by contemporary scholars and some tribal descendants (Cambra et al. 2007; Hylkema and Cuthrell 2013; Milliken 1991).

Archaeological and historical information from within the ancestral territory of the *Quiroste*, especially at Año Nuevo State Park, reveals a long tradition of in-situ cultural developments spanning the Middle and Late Holocene (Hylkema 2002). Año Nuevo State Park was the center for Monterey chert stone tool production, and a source of export for economically important *Olivella* and abalone shell. These resources, along with abundant terrestrial and marine foods and materials established the *Quiroste* as a prominent polity among the many others that controlled territories throughout the San Francisco Bay Area. An equally biologically productive area within their territorial control was the marsh at the mouth of Pescadero Creek, along with the interior uplands where terrestrial game and vegetal resources facilitated this tribe's economic stability.

European explorers, missionaries, and colonists arriving at the San Francisco Peninsula in the early 1770s found a region controlled by a mosaic of individual Native American tribal polities (Milliken 1991; 1995). Spanish authorities mobilized to settle the area, and native communities of the Peninsula were soon inducted into one or more of the three Franciscan Missions that were strategically placed among them (Mission Dolores, est. 1776; Santa Clara, 1777; and Santa Cruz, 1791). Other villagers were attracted to the Royal Presidio of San Francisco (est. 1776) and the Pueblo of San Jose de Guadalupe (est. 1777). The *Quiroste* were documented as present at all three missions (Milliken 1991; 1995). The *Quiroste* controlled one of the most productive resource zones on the peninsular coast, with a territory ranging from Point Año Nuevo northward to Pescadero Marsh and inland into the Santa Cruz Mountains.

Figure 5: Tribal Polities Adjacent to the Project APE, circa 1770s (after Hylkema and Cuthrell 2013)

With the advent of Spanish colonial contact in the 1770s, encounters with the *Quiroste* demonstrated that they were a well-organized polity whose management practices maintained open coastal landscapes that produced predictable herbaceous seed and geophyte resources in their territory (for discussion of ecological effects of burning, see Cuthrell 2013). Extensive burned grasslands were recorded by the members of the Portola expedition in the fall of 1769, both in *Quiroste* territory and throughout Ohlone territory (Brown 2001; Browning 1992). Fr. Juan Crespi pointedly observed that they burned the meadows "for a better yield of the grass seeds that they eat" (Brown 2001:565). On the journey, Crespi also observed stands of burned California hazel (*Corylus cornuta* var. *californica*) south of Santa Cruz (Cuthrell 2013; Stanger and Brown 1969:79).

In their initial foray into *Quiroste* territory in late October 1769, members of the Portola expedition were guided to a *Quiroste* village that we believe is today site SMA-113 along Whitehouse Creek, where they were hosted and recorded several insightful observations. Crespi wrote:

> "Here we stopped close to a large village of very well-behaved good heathens, who greeted us with loud cheers and rejoiced greatly at our coming. At this village there was a very large grass-roofed house, round like a half-orange, which, by what we saw of it inside, could hold everyone in the whole village. Around the big house they had many little houses of split sticks set upright…These heathens presented us with a great many large black and white-colored tamales: the white tamales were made of acorns, and they said that the black - colored ones were very good too. They brought two or three bags of the wild tobacco they use, and our people took all they wanted of it. One old heathen man came up smoking upon a very large and well-carven Indian pipe made of hard stone. The Indians almost all carry tall red-colored staffs, some with feathers; they presented four of these staffs to Sergeant Don Francisco Ortega" (Stanger and Brown 1969:88).

The ceremonial use of tobacco in the region was also noted by Father Palou in 1774. Near San Bruno, he presented the native people with glass beads and tobacco and wrote:

> "…upon seeing [the tobacco] they named it with the same term as at Monterey,*sauans*; they set to smoking, and I noticed used the same ceremony of blowing the smoke upwards, saying some words with each puff: I could understand only one of them, which was *Esmen*, meaning Sun. I saw they had the same custom of the headman's smoking first and then giving the pipe to another, when it goes around among all of them" (Stanger and Brown 1969:141-142).

At Casa Grande, Portola noted that the village was composed of some 200 people (Companys 1983:384). Although the *Quiroste* clearly held a numerical advantage over the small group of explorers, they displayed great hospitality, as noted by engineer Miguel Costanso:

> "The Indians, advised by the scouts of our coming to their lands, received us with great affability and kindness, and, furthermore, presented us with seeds kneaded into thick pats. They also offered us some cakes of a certain sweet paste, which some of our men said was the honey of wasps; they brought it carefully wrapped in the leaves of the Carrizo cane, and its taste was not all bad. In the middle of the village there was a large house, spherical in form and very roomy; the other small houses, built in the form of a pyramid, had very little room, and were built of split pine wood. Because the large house so surpassed the others, the village was named after it" (Browning 1992:107).

Costanso also wrote that they were furnished with four guides from the village of Casa Grande who showed them the way to Pescadero after they left Whitehouse Creek. He gives a positive

impression of the landscape and mentioned that they met several Indians along the way who were actively engaged in harvesting seeds from the meadowlands: “To us, the land seemed rich and of good quality; the watering places were frequent; and the natives the best disposition and temper that we had yet seen” (Browning 1992:109).

Later expeditions sought out the *Quiroste* at the village that came to be called the Rancheria de la Casa Grande. In December 1774, Father Francisco Palou observed that near the big house was a cemetery, “in which was planted a high pole, this being the monument used by the heathen for the sepulchers of the chief men of the village” (Bolton 1926:295). Evidently the use of the Casa Grande place was seasonal- or for ceremonial events. Subsequent expeditions following the Portola route some years later found the village empty of people and seemingly abandoned.

Mission registers noted that many *Quiroste* identified themselves as from a coastal village called *Mitine* (also *Mutene*, or *Mitline*) that may have been the site of Casa Grande (Merriam 1968; Brown 1973). It was said to be on the coast to the west of a mountain village named *Chipletac* (possibly inland around the Mindego Hill area). Another village called *Churmutce* (San Rafael) was in Pescadero Valley (Milliken 1991:459).

The *Quiroste* people are credited with leading the first active resistance to Spanish colonialism in the bay area. In 1791, a 60-year-old Quiroste headman named *Charquin* was baptized at the Mission San Francisco outstation in San Pedro Valley. He left eight days later, possibly disenchanted that a neighboring chief, *Lachi* of the *Oljon* tribe of San Gregorio Creek, was given special status by the Spanish authorities (Milliken 1991:186). Milliken noted that at the time of his baptism, *Charquin* did not have any relatives at Mission San Francisco, while *Lachi* did:

> “[Lachi] was part of a family already intermarried with one of the most important Christian families of Mission San Francisco, that of Pruristac captain Luciano Tiburcio Mossues. The Quiroste had been the largest, most powerful group on the Pacific Coast between the Golden Gate and Monterey Bay. Yet in 1791 they found themselves outsiders in the mission network of status and power” (Milliken 1991:186).

In 1793, missionaries visiting the *Quiroste* villages learned they were providing sanctuary to several fugitive neophytes. By late April or May 1793, Spanish soldiers sought out and captured *Charquin* and he was sent as a prisoner to the Santa Barbara Presidio. In retaliation, on December 14, 1793, several *Quiroste* under the leadership of at least two men named *Ochole* and *Pella* attacked and burned buildings at Mission Santa Cruz.

Spanish soldiers were immediately transferred to Mission Santa Cruz as reinforcements and scouts were sent into the mountains to capture the *Quiroste* ringleaders. In February 1794, it was reported that Indians in the Santa Cruz Mountains were making arrows, presumably to carry out a second attack on the mission (Milliken 1991:189-190; 1995:120). In the same month, a raid on the remaining *Quiroste* holdouts by a small group of neophytes resulted in the capture of *Pella* and seven other *Quiroste* people.

Soon afterward, many people from the “San Bernardino district,” which encompassed *Quiroste* territory, joined Mission Santa Clara (See Figure 1). In 1794, 224 neophytes from this district were baptized at the mission, more than twice as many as in any other year (Milliken 1995:274). In 1795, *Charquin* escaped from the Santa Barbara Presidio, but he was recaptured. By April 1796, both *Charquin* and *Ochole* were imprisoned at the San Francisco Presidio. At this time, they were transferred to the Monterey Presidio and then to the Presidio of San Diego, where both men died in 1798.

Spanish and Mexican Periods: Changing Historical Landscapes.

By 1805, no more coastal villages are recorded as having been reduced, and by 1816 Mission Santa Cruz established a cattle ranch at what they named el Rancho del Punta de Año Nuevo. They built a small adobe building (which was recently discovered by this author and is situated between today's Park Visitor Center and Horse Barn), which was inhabited by mission Indian neophytes (sixteen men and one woman) who managed up to 3,600 head of cattle. Eventually, Mission Santa Cruz expanded their pastures even further north to reach the Pescadero and Butano Valley grasslands.

During Spanish Mission times, the Año Nuevo area supported increasingly vast cattle herds that roamed the hills and valleys; livestock generally ranged freely over the landscape and rapidly multiplied, creating an industry focused on the production of leather goods and tallow. This new economic bounty required a large labor force to operate a string of widely distributed cattle ranches, and soon the missionaries began to send their neophytes on raids among their former enemy tribes to retrieve additional neophyte labor. In time, the missions became the principal supporter of Indian neophytes as well as the Spanish colonists stationed at the presidios and pueblos; and they began interacting with American, Russian and British business ventures by selling cattle hides and tallow. By 1810 foreign ships arrived regularly to load ranching products and sell exotic goods, and many missions transformed from agricultural communes to ranching facilities.

Given the fact that the missions controlled the land and labor, it did not take long for the local citizens of the pueblos to start complaining to officials that they could not participate in this closed economy. Meanwhile, after 1810, events were unfolding in Mexico that would result in the Mexican Revolution and the overthrow of the Spanish dominion in Mexico and California by 1822. By this time, all the Quiroste had been inducted into the mission system (Milliken et al. 1993).

Historic Trends within the Project APE

Under Mexican rule, substantial changes in California society began, including the dismantling of the mission properties and expansion of colonists into California's former mission landholdings. Settlers petitioned for land grants, and between the years of 1834 and 1836 alone the Mexican Congress released 8 million acres of mission lands to private ownership. Without the authority of the missions, the Indians lost any potential claim to their lands. However, the former mission neophytes soon adapted to newly evolving economic opportunities by composing the labor force for the new ranchos; and they frequently served as the caballeros and vaqueros working the cattle herds.

The former Mission cattle ranch at Año Nuevo was ultimately divided into three separate Mexican Period land grants deeded to Mexican citizens (see Figure 9). These new land divisions included Rancho San Antonio- or Pescadero, Rancho Punta del Año Nuevo, and Rancho Butano. Rancho Punta del Año Nuevo was granted to Simeon Castro by Governor Alvarado in 1842.

Figure 6: Mexican Period Ranchos in the Project Vicinity.

Early American Period:

With the annexation of Texas into the Union and the subsequent Mexican American War of 1845-1848, hostilities were formally ended with the signing of a document known as the Treaty of Guadalupe Hidalgo. California became a state in 1850 and the new California legislature acted to initiate the Public Land Commission to manage formal surveys and land allotments.

In 1857, after Simeon's death, his widow, Maria Antonia Pico received the United States Patent for the Rancho Año Nuevo property. That same year, an American settler named Isaac Graham claimed a patent on a section of the Rancho and built his house just a little north of the project APE. In 1860, the Bartlett Weeks Family, natives of Maine who came to California in 1859 purchased 157 acres of what is now downtown Pescadero and became neighbors with another American settler, Alexander Moore who had already built his house on the north side of Pescadero Creek in 1853. Clearly the influx of American and other settlers was transforming the coastal area into a mosaic of subdivided properties.

Loren Coburn's Estate 1872-1920

In 1872, Mr. Loren Coburn- a wealthy entrepreneur formerly from Vermont had taken an interest in lands along the San Mateo County coast. He quickly purchased potions of what were Rancho Año Nuevo, Rancho Pescadero and Rancho Butano. Coburn had purchased a very large amount of property, spreading from Pescadero Marsh south to Año Nuevo and inland into the redwood forests of today's Butano State Park. He and his family resided in the nearby town

of Pescadero, and over time, other members of the Coburn clan arrived, and settled in the town (Morrall 1992).

Unfortunately, Mr. Loren Coburn had developed a reputation among his Pescadero neighbors as being somewhat stingy and reclusive. He was rather fond of suing trespassers, business associates and even competing family members. It was said that he was somewhat tight-fisted, and his reputation as a curmudgeon was exacerbated when he became disenchanted by an increasing number of visitors and tourists who "trespassed" over his property to reach Pebble Beach, a small cove just a little north of Año Nuevo.

Over the years, even as Loren Coburn became increasingly infirm, he continued to be involved in many lawsuits. Among them were those brought forth by his neighboring relatives who sought to take over his estate by having him declared incompetent. Ultimately, Loren Coburn passed away on November 14, 1918 at the age of ninety-two. By 1920, Coburn's landholdings were subdivided into small farms by the Peninsula Farms Company, which had acquired property rights from one of Coburn's Trustees, Mr. Christopher Wideman (Morrall 1992:214).

Steele Family Ranches

In 1862, 7,060 acres of Coburn's land was rented to a small group of men who acquired land allocations to create an extensive dairying business. Among this group were Rensaeler, Isaac and Edgar Steele, natives of Delaware County, New York. At the termination of their lease, the Steele's opted to purchase the land and all three built nice wooden homes that are today standing at Pie Ranch, Cascade Ranch and at the Año Nuevo State Park visitors center.

The Steele family continued to dairy ranch until the late 1940s, after which time many surrounding properties converted to row crops.

The BART Property

The State Park system purchased the latter two of the Steele properties in the early 1960s to found Año Nuevo State Park. The project APE had gone into private holding, and was later purchased by the Bay Area Rapid Transit Agency (BART) as mitigation to offset environmental impacts incurred from construction of the light rail system for the San Francisco Airport Millbrae terminal which was built on lowlands that are prime habitat for the endangered San Francisco garter snake. The property had been in cultivation for crops like Brussel sprouts and artichokes. The property was transferred to State Parks in 2012 for inclusion within the larger Año Nuevo State Park.

REGULATORY SETTING

Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to Public Resources Code Section 21084.1, a "*project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment*." Section 21083.2 requires agencies to determine whether proposed projects would have effects on "unique archaeological resources." Cultural Resources are being evaluated by the Army Corps of Engineers under the 106 process related to ACOE permits for wetland impacts.

"Historical resource" is a term with a legally defined meaning (Public Resources Code, Section 21084.1 and State CEQA Guidelines, Section 15064.5 [a], [b]). As defined by state law, "historical resource" includes any resource listed in, or determined to be eligible for listing, in the

California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (Pub. Resources Code, Section 5024.1 and California Code of Regulations, Title 14, Section 4850).

Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR. In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process (Public Resources Code 5024.1 [g]), lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (Public Resources Code, Section 21084.1 and State CEQA Guidelines, Section 15064.5 [a][3]). Following CEQA Guidelines Section 21084.5 (a) and (b) a historical resource is defined as any object, building, structure, site, area, place, record, or manuscript that:

a. Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
b. Meets any of the following criteria:
    a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b. Is associated with the lives of persons important in our past.
    c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values. Or
    d. Has yielded, or may be likely to yield, information important in prehistory or history.

Archaeological resources may also qualify as "historical resources" and Public Resources Code 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on State-owned land.

For historic structures, State CEQA Guidelines Section 15064.5, subdivision (b)(3), indicates that a project that follows the Secretary of the Interior's Standards (Section 5,5,5,1), or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995) shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

The CEQA statutes also require lead agencies to consider whether a project will impact "unique archaeological resources." Public Resources Code Section 21083.2, subdivision (g), states that "'unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Treatment options under Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Advice on procedures to identify cultural resources, evaluate their importance and estimate potential effects is given in several official publications, such as the series produced by OPR. The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

Section 7050.5(b) of the California Health and Safety code specifies protocol when human remains are discovered. The code states:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

State of CEQA Guidelines Section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the Native American Heritage Commission. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5, subdivision (f), these provisions should include

…an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or

appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.

Senate Bill 18 (Gov. Code, Sections 65352.3 and 65352.4) requires that, prior to the adoption or amendment of a general plan or specific plan proposed on or after March 1, 2005, a city or County must consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction. The draft LMP is not a general plan or specific plan as defined by Government Code Section 66000 et seq; therefore formal consultation is not required. However, the Department routinely meets with representatives of Native American Tribes as part of their ongoing management responsibilities for the CPER.

Assembly Bill 52, effective July 1, 2015, establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (Pub. Resources Code, § 21084.2.) To be considered a "tribal cultural resource," a resource must be either:

1. listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
2. a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

In the latter instance, the lead agency must determine that the resource meets the criteria for listing in the state register of historic resources.

To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. (Pub. Resources Code, § 21080.3.1.)

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources. AB 52 applies to those projects for which a lead agency has issued a notice of preparation of an environmental impact report or notice of intent to adopt a negative declaration on or after July 1, 2015.

In 2011 Governor Brown issued Executive Order B-10-11 requiring all State agencies to encourage communication and consultation with Tribes. Executive Order B-10-11 created the position of Governor's Tribal Advisor to oversee and implement effective government-to-government consultation between the Governor's office and Tribes on policies that affect California tribal communities. The Executive Order also states that the Office of the Governor shall meet regularly with the elected officials of California Indian Tribes to discuss state policies that may affect tribal communities.

Paleontological resources are classified as non-renewable scientific resources and are protected by state statute (Public Resources Code Chapter 1.7, Section 5097.5, Archeological, Paleontological, and Historical Sites and Appendix G of the State CEQA Guidelines). No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction related earth moving on state or private land in a project site.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

DISCUSSION

Result of the Records Review and Field Survey:

The literature review, field survey and findings were done by Mark Hylkema, Supervisor of the Cultural Resources Program at the Santa Cruz District.

Researchers Qualifications Statement

Mr. Hylkema is the Supervisor of the Santa Cruz District's Cultural Resources Program and functions as the District Tribal Liaison and Archaeologist. Mark is a Registered Professional Archaeologist (RPA) and has 40 years' professional experience in the archaeology of Central California. He was President of the Society for California Archaeology (2015/2016 term) and is an Adjunct Professor of Anthropology at Foothill College in Los Altos Hills. Mr. Hylkema has a master's degree in Archaeology/Social Science and did his graduate research on the archaeology of the San Mateo and Santa Cruz County coast (Hylkema 1991). Mark has published extensively on local archaeology (see citations in this report) and is on the editorial board of the journal, California Archaeology.

Results of the Records Review

A literature search was done prior to conducting a field examination of the APE to determine if there were any previously recorded historic or prehistoric cultural resources present. The Santa Cruz District maintains the most extensive and accurate source for literature regarding Año Nuevo archaeology, and the files include all of the regional archaeological site records (DPR 523's), USGS topo maps with site locations, and most of the regional archaeological reports generated by both survey and excavation. The District is working to update the California Historical Resources Information System's (CHRIS) Northwest Information Center (NWIC) at Sonoma State University; consequently, this project did not further query the NWIC as our data is more relevant, currently.

Año Nuevo State Park has a very large distribution of ancestral Native American sites recorded throughout the park boundaries. Findings from multiple studies of these sites has been presented as a synthesis in the contextual studies described above. Figure 10 depicts the distributions of these sites relative to the project APE. As can be seen, no previously recorded archaeological sites have been documented within the project APE.

Neither the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, or California Points of Historical Interest (as listed in the Office of Historic Preservation's Historic Property Directory) resulted in any positive findings within the project APE.

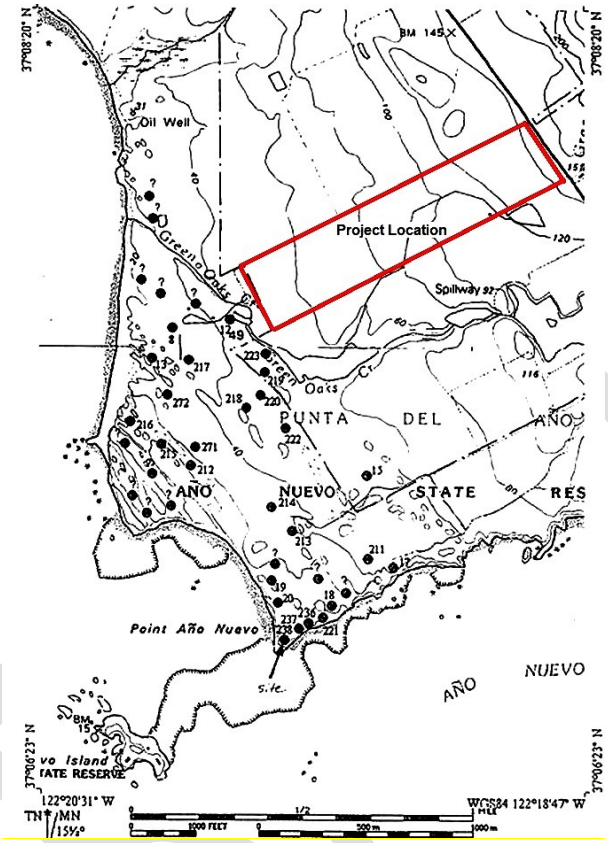


Figure 7: Locations of archaeological sites in the Project Vicinity, Año Nuevo State Park.

Results of the Archaeological Survey

A field reconnaissance of the entire project APE was done on May 24, 2020. The entire APE was walked and examined. Ground visibility was generally good as surface vegetation had not yet obscured the larger survey area. Exposed road grades and rodent turbation provided many opportunities to look at subsurface stratigraphic contexts. Specifically, the survey looked for cultural elements that might suggest the presence of ancestral Native American archaeological resources, such as chipped stone, milling stones, fire affected rocks, bone, dietary shellfish, etc.; however, none of this was observed during this survey. Neither were historic artifacts such as glass, ceramics, metal, masonry, or structural materials. The only cultural features present were recent transformations such as vegetation encroachment that has ensued since the cessation of agricultural activities within the APE, along with the reservoir ponds, decommissioned asphalt road bisecting the property, a few remnant ditches, and boundary tree lines of cypress and eucalyptus.

In conclusion, the pedestrian survey did not locate any cultural elements or previously unrecorded prehistoric or historic archaeological resources.

The literature review and field survey of the project (APE) has determined that although many ancestral Native American archaeological sites are recorded in the project vicinity, none were found to be within the project APE.

Conclusion and Finding of No Impact or Effect

No significant ancestral Native American archaeological sites were found to exist within the Project Area of Potential Effect for the Green Oaks Restoration Project. Neither the literature review or the archaeological survey found evidence of ancestral Native American cultural resources or historic archaeological resources within the project APE. Therefore, it is concluded that the project as proposed will not impact or otherwise affect any archaeological resources.

Concluding Admonition

In the unlikely event that inadvertent archaeological finds are made during the course of the project, all ground (or stream) disturbing activities at the location of the find must immediately stop until a qualified archaeologist can be consulted to evaluate the find and offer recommendations appropriate to the nature of the find.

Should any human remains become evident- from either the recent or distant past, all activity must immediately stop, and the San Mateo County Coroner's Office must be immediately notified (PRC 5097). If the remains are determined to be those of ancestral Native Americans, then the coroner must notify the State Native American Heritage Commission (NAHC) within 48 hours. In turn, the NAHC must assign an MLD to the project within 24 hours and seek recommendations for the proper disposition of the remains. Any artifacts found in the immediate vicinity of the point of origin of the skeletal remains shall be assessed as associated funerary items.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No significant historical resources were found during the assessment of the project area.

Conclusion: No impact

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

No significant archeological resources were found during the assessment of the project area. There is a negative archeological record.

Conclusion: No impact

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Burials have not been documented or recorded in the project area; however, there is always a potential of unanticipated discoveries of human bone. If any human remains or burial artifacts were identified, implementation of Standard Project Requirement **CUL- 3** would reduce the impact to a less than significant level.

Conclusion: No impact
STANDARD PROJECT REQUIREMENT—CUL 1,2,3
PROJECT SPECIFIC REQUIREMENT—N/A
MITIGATION MEASURE—N/A

VI. ENERGY

ENVIRONMENTAL SETTING

The Green Oaks parcel of Año Nuevo State Park currently has a single disabled power pole that once powered the pumps used to move irrigation water when it was farmed prior to 2005. The project proposes to remove this power pole along with any other infrastructure found during the course of the project. The project will neither require nor install new energy infrastructure.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

DISCUSSION

a) Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The project proposes to remove all remaining infrastructure from the site and to restore the area to a more natural state, and as such, does not require any power source for ongoing management.

Construction related power needs will be satisfied with generators and are covered under the Air Quality and Green House Gas categories of this document.

CONCLUSION: No impact

b) Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

This project proposes to restore an area to a more natural state and remove infrastructure that may include energy transmission lines. There will be no impact on renewable energy or energy efficiency.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

VII. GEOLOGY AND SOILS

ENVIRONMENTAL SETTING

The underlying geology, tectonic setting, and associated geomorphology of the project area play an important role in the hydrology and restoration potential. The Green Oaks project area is located within the tectonically active San Gregorio Fault Zone (SGFZ). The SGFZ is the principal fault west of the San Andreas Fault Zone and includes seven smaller fault strands, several of which occur within the project boundary. The two fault strands of interest that trend from south to north through the project area are the Año Nuevo Creek Fault and the Frijoles Fault (Figure 4).

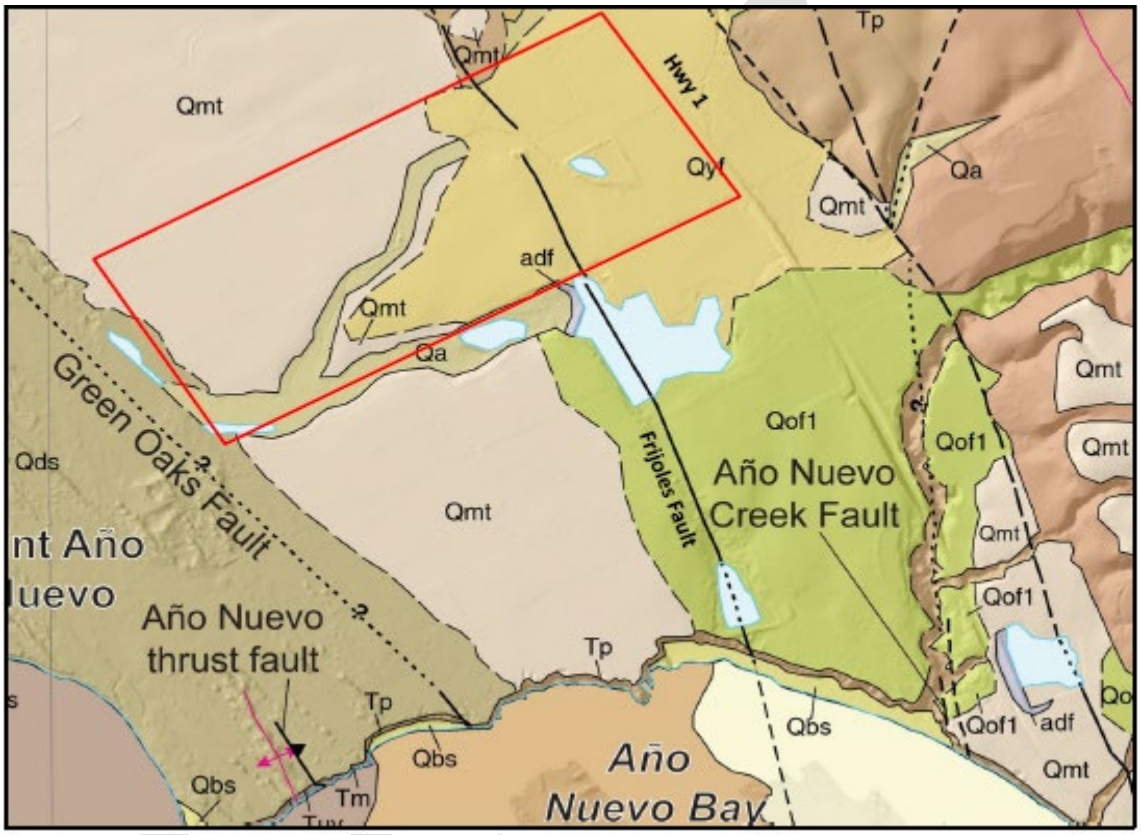


Figure 8. Surficial geology and tectonic features within the project area. The red box approximates the boundary of the Green Oaks property. Key geologic units include: *Qyf* = Holocene alluvial fan deposits; *Qa* = Holocene alluvial deposits; *Qmt* Pleistocene marine terrace deposits; *Tp* = Purisima formation. Credit: Weber and Allwardt 2001

As shown in Figure 5, an east west cross-section of the geology and an interpretation of the impacts of the faulting and resulting landscape geomorphology by Weber and Allwardt (2001) suggest that upward movement of the fault blocks west of the Frijoles Fault and east of the Año Nuevo Creek Fault and downward movement of the land in between the faults creates a graben that acted as a depositional basin. Prior to 12,000 years before present (ybp), Año Nuevo Creek occupied the graben with an alignment that ran north and then west and entered the Pacific Ocean north of Point Año Nuevo, as shown in Figure 5. The historic alignments of Año Nuevo Creek currently are occupied by Green Oaks Creek and the tributary that flows through the project area. Given that Año Nuevo Creek is a much larger drainage than Green Oaks Creek or

the small tributary drainage, and the climate was much wetter at the time those valleys were carved, valley filling ensued leaving broad, flat valleys with small, under fit creeks occupying the valley floor. Furthermore, prior to construction of Highway 1 and development of the coastal plain for agriculture, Green Oaks Creek and its tributary likely crossed the Highway 1 area as separate channels and deposited large alluvial fans at the head of the coastal plain before occupying the historic Año Nuevo Creek alignments. A mosaic of dense willow thickets and wetlands occupied the broad, rough swale resulting in shallow, low gradient flow conditions with an undifferentiated flow path that constantly adjusted in response to downed willow limbs or accumulations of debris and detritus. The large alluvial basins associated with the graben and the filled historic Año Nuevo Creek flow paths likely act as shallow aquifers with high seasonal ground water tables that are further enhanced by uplift along the Frijoles Fault and blocking of westward movement of groundwater by the Purisima Formation. Under high groundwater conditions, water likely welled up and created shallow ponds and wetlands along favorable areas east of the Frijoles Fault. It is likely that these features were utilized by early agriculture and enhanced to create larger agricultural ponds, as evidenced by the modern pond features that occur along the Frijoles Fault line.

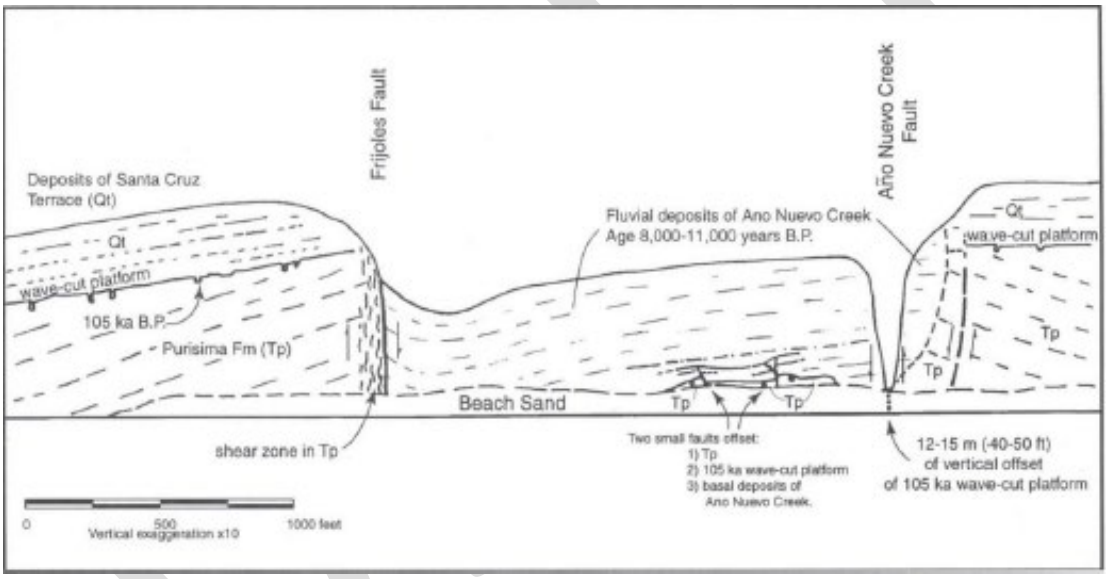


Figure 9. East-west cross-section of the stratigraphy and faulting in the Año Nuevo area.
Credit: Weber and Allwardt 2001

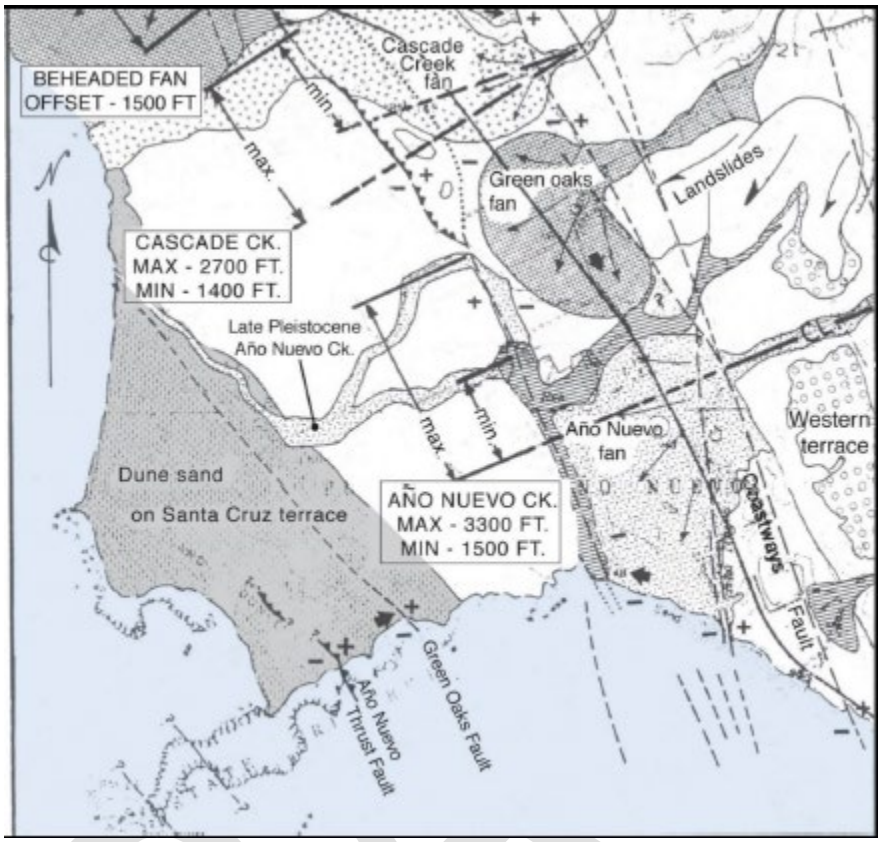


Figure 10. Geomorphology and impact of faulting along the San Gregorio Fault Zone in the Año Nuevo area. Credit: Weber and Allwardt 2001

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒

iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

DISCUSSION

a) *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving factors i, ii, iii, or iv?*

No habitable structures would be involved as part of the project. In addition, project activities would not exacerbate seismic conditions or fault stability. Construction workers could experience ground level shaking but the project would not increase seismic risk above normal levels.

CONCLUSION: No impact

b) *Would the Project result in substantial soil erosion or the loss of topsoil?*

The project proposes to move the eastern pond berm material and use it to fill artificial irrigation ditches throughout the property. After the clearing and staging phase, there is potential for erosion of soils during ground disturbing work. Implementing **SPR-AIR-1, GEO-2, and HYD-1 and 2** would ensure that impacts relating to soil erosion and loss of topsoil remain at a less than significant level. In between project phases 1 and 2 and post-project, disturbed areas will be outfitted with erosion control fabric and planted with either native vegetative cuttings or mulched with local plant material.

CONCLUSION: Less than significant

c) *Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

The project proposes only to perform grade-level physical changes to the area and will not add any habitable buildings to be affected by unstable soil conditions.

CONCLUSION: No impact

d) *Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

The project does not propose to create any new infrastructure and will not create direct or indirect risks to life or property as a result.

CONCLUSION: No impact

e) *Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of wastewater?*

The project does not propose to create any new infrastructure requiring waste disposal services.

CONCLUSION: No impact

f) *Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

There are no known unique paleontological resources or unique geological features in the project site. **SPR-CUL 1** and **2** will minimize the potential for and severity of directly or indirectly destroying a unique paleontological resource.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT -- AIR-1, CUL1 & 2, GEO-2, and HYD-1 & 2
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE— N/A

VIII. GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL SETTING

The project area is currently not open to the public and is managed for invasive weeds by DPR staff. Current Greenhouse Gas (GHG) emissions within the project area are negligible as they only come from the DPR work trucks that access the site. Prior to 2005, when the area was used for production agriculture, GHG emissions could be expected to be much higher than present day levels. Exact emission amounts are unknown but could be extrapolated by comparing to a production field of similar size in the adjacent plot to the North. The BAAQMD measures GHG emissions in metric tons of CO_2 equivalents per year ($MTCO_2e/yr$).

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

DISCUSSION

a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

As discussed in the Air Quality section above, the proposed project's construction related impact is less than the most closely related screening criteria: City Park. Therefore, the project's construction related emissions do not need to be quantified and are considered less than significant by BAAQMD CEQA Standards.

CONCLUSION: Less than significant

b) Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The State of California implemented Assembly Bill (AB) 32 to reduce GHG emissions to 1990 levels by 2020. Senate Bill (SB) 32 codified an overall goal for reducing California's GHG emissions to 40 percent below 1990 levels by 2030. Executive Orders (EOs) S-3-05 and B-16-7 2012 further extend this goal to 80 percent below 1990 levels by 2050. The 2017 Scoping Plan (CARB 2017) mentions water as a key focus area and calls for effective regional integrated planning that maximizes efficiency and conservation efforts in the water sector and calls for measures that reduce GHG emissions and maintain water supply reliability. The proposed project is consistent with the water focus area in the Scoping Plan Update in that this project would enhance and expand a delineated wetland by raising the below ground water table while

creating more open water habitat. The Project is not one that would be required to report emissions to CARB. The project would be consistent with the measures outlined in the San Mateo County's General Plan Chapter 17- Energy and Climate Change Element (2013) and Energy Efficiency Climate Action Plan (2013). In particular these plans encouraged limits to vehicle idling and reductions in off-road and on-road equipment fleets through use of newer, more efficient, and/or alternatively-fueled equipment. The proposed project would be consistent with these goals by limiting idling time and implementing **SPR-AES 1.** Therefore, for the above-described reasons, the project would not conflict with any plans, policies, or regulations adopted to reduce GHG emissions, including AB 32 and local plans.

CONCLUSION: Less than significant

STANDARD PROJECT REQUIREMENT – AES 1
PROJECT SPECIFIC REQUIREMENT
MITIGATION MEASURE

IX. HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL SETTING

The Green Oaks parcel has been managed by State Parks since 2013. Following its inclusion into the State Park system, all utilities on site were removed with the exception of a single, empty propane tank and disconnected power pole. The Green Oaks parcel is not open to the public and there are no known hazardous materials being stored there.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death from wildland fires?	☐	☐	☒	☐

DISCUSSION

a) Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

During construction, the proposed project would require the use of hazardous materials, in the form of fuels and oils, when operating construction equipment. Routine transport and use of this equipment could result in small amounts of fuels and oils being unintentionally released. Implementation of **SPR-HAZ 1 and 2** requires measures for safe handling, storage, and disposal of chemicals used during construction. These requirements will ensure potential adverse effects on the environment in the event of any leak or spill remain at a less than significant level.

CONCLUSION: Less than significant

b) Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment?

As discussed above, project construction would require the use of certain hazardous materials such as fuels and oils. Accidental release of these materials into the environment could adversely affect soil, surface waters, or groundwater quality. Implementation of the Standard Requirements listed above requires employment of measures for the safe handling, storage, and disposal of chemicals used during the construction process. Through proper maintenance and inspection of equipment environmentally hazardous spills will be kept to a minimum. If accidental spills occur, they will be promptly contained, controlled, and cleaned up following protocols laid out in the Spill Prevention and Control Plan (SPCP). With implementation of these standard requirements and adherence to plans there will be no impact to the public or environment.

CONCLUSION: No impact

c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The project is not located within one-quarter mile of an existing or proposed school.

CONCLUSION: No impact

d) Would the Project be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment?

The project is not located on a site included on a list of hazardous materials sites compiled pursuant to Government Code 65962.5. There are no active hazardous materials sites near the project area.

CONCLUSION: No impact

d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

There are no airports within two miles of the project location.

CONCLUSION: No impact

f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The County's "Operational Area" Emergency Operations Plan encompasses the entire county, including the project area. Within the project area, emergency response is provided by the California Department of Forestry and Fire Protection (CAL FIRE) and the County Sheriff's Office. None of the project elements would have an effect on the County's emergency operations plan.

CONCLUSION: No impact

g) Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death from wildland fires?

The project area is located in an Unincorporated-Local Responsibility Area for fire response. CAL FIRE and San Mateo County have designated the project area as a NON-Very High Fire Hazard Severity Zone. The project does not involve any habitable structures and aims to expand a wetlands boundary. Raising the below-ground water table will increase the live fuel moistures of areas vegetated throughout the year. This has the potential to slow any potential wildfire ignited within the park unit. Fire danger in the area is incredibly low with agricultural fields, streams, the Pacific Ocean, and Hwy 1 creating borders on all sides. Furthermore, **SPR-HAZ 2** outlines fire prevention protocols that the contractor must follow during construction operations.

Conclusion: No impact

STANDARD PROJECT REQUIREMENT – HAZ 1 AND 2
PROJECT SPECIFIC REQUIREMENT—N/A
MITIGATION MEASURE – N/A

X. HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL SETTING

Please refer to the Geology and Soils Section above for a comprehensive discussion of the geologic conditions and their resulting influence on the site's hydrology. The project site consists of a perennial pond and a network of ditches that served to facilitate drain the surrounding fields and transport irrigation water to crops around the property. While the ditches do support intermittent flows, they do not have any aquatic species inhabiting their reaches within the proposed project area. The eastern pond is a spring and groundwater fed, perennial water body that supports snakes, frogs, and potentially some introduced fish species. During the winter, sheet flow across the area concentrates in the ditches that act as tributaries to Green Oaks Creek. The eastern pond can also overflow and contribute to the ditch flows in the winter. During the spring, ditch flows slow to a trickle with most water moving sub-surface. The eastern pond slowly releases water subsurface but there are no obvious fissures in the containing embankments. During the summer and fall, the ditches are dry but the eastern pond remains full and in a state of equilibrium. Evapotranspiration from aquatic-emergent vegetation should slowly drain the pond in theory but a steady supply of water from an artesian spring maintains the water supply year round.

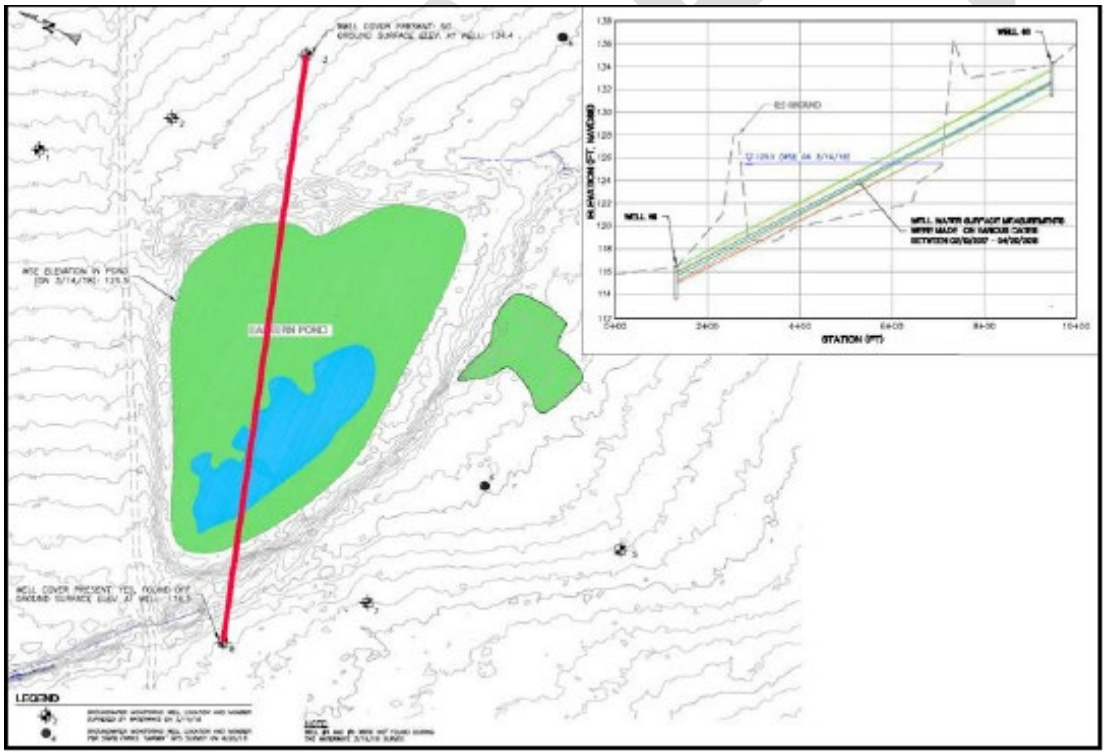


Figure 11. Monitoring well locations and inferred groundwater profiles using Well #3 and #8. The data suggest that the pond intersects the groundwater surface and is impounded by the constructed berms.

To evaluate groundwater conditions adjacent to the eastern pond and west of the Frijoles Fault, DPR established a network of eight shallow monitoring wells (Figure 7). DPR staff has collected depth to groundwater measurements periodically at each well since 2017. Although a complete

analysis of the data has not been conducted, Waterways consulting staff surveyed several of the well casings to develop a true ground elevation that could be used to calculate the elevation of the groundwater surface for each measurement. To understand the relationship between the measured groundwater elevations and the bathymetry of the eastern pond, Waterways plotted data from Well #3 and Well #8 (Figure 7). Waterways also surveyed pond water surface elevation on March 14, 2018 on the same day groundwater depth was assessed at the wells. The results suggest that groundwater moves from east to west and intersects the pond.

This conceptual model of western groundwater movement and filling of a late Pleistocene depositional basin is further supported by recent observations at the Green Oaks project site whereby the eastern pond was almost full in May 2018 as compared to only a partially full pond in February 2018.This suggests that the supply of water to the coastal plain from the Santa Cruz Mountains to the east replenishes the groundwater within the Frijoles-Año Nuevo Creek graben. This process is slow, resulting in a lag between the supply peak and the groundwater peak. Observations of a locally high groundwater table associated with landscape-scale groundwater movement from the Santa Cruz Mountains to the coastal plain is further supported by observations made by DPR staff prior to 2018. Despite the occurrence of a prolonged and severe drought on the Central Coast that lasted from 2011 to 2016, the eastern pond persisted as a perennial wetland feature. In fact, during attempts to understand the source of inflow to the pond and investigate the water management infrastructure, attempts to drain the pond were unsuccessful. These activities led Parks staff to determine that the perennial nature of the pond was due to inputs from perennial springs rather than surface water.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
a. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐

	b. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
	c. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
	d. impede or redirect flood flows?	☐	☐	☒	☐
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

DISCUSSION

a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction activities will take place during the summer and fall when there is no running surface water around the project site. Therefore, there will not be any opportunity to create locally poor water quality conditions in a flowing water course during the project. The eastern pond will not be completely drained during phase 1 and 2 of the pond bank embankment lowering. This will allow for the portions of the pond not being directly impacted from the construction to provide habitat for aquatic species.

The proposed project's overall goal addresses water quality concerns to manage and maintain a healthy pond ecosystem. These concerns include sediment loading, nutrient loading, and the introduction of pathogens. Sediment and nutrient loading accelerate loss of water depth and allows for encroachment of emergent vegetation into open water which in turn, can lead to "choking" of the pond and decreased availability of dissolved oxygen. These conditions lead to amphibian egg and tadpole mortality through asphyxiation and can also disrupt CRLF and SFGS adult foraging. These water quality concerns will be managed through excavation of sediments within the pond to ensure a depth that precludes encroachment of emergent vegetation. Soil erosion treatments will also be carried out in upland areas within the pond's drainage to reduce sediment reaching and exiting the pond.

SPR-HAZ 1, **HYD 1** and **PSR-OWR** and **WTL** will ensure minimization of the potential for and decrease the impact of hazardous materials spills in or around a water source.

CONCLUSION: Less than significant

b) *Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede*

sustainable groundwater management of the basin?

The project's goal is to increase groundwater supply through the filling of highly efficient drainage ditches within the parcel. The eastern pond will hold less water after the lowering of its banks but its main source is from subsurface flow that will continue to charge the area. The project proposes to create multiple open water enhancement areas that will trap sheet flows and further recharge groundwater. As a result, the project will not decrease groundwater supply or interfere with recharge.

CONCLUSION: No impact

c) Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (refer to C subsections a,b,c,d)

The proposed project would alter existing drainage patterns by selectively filling in the ditch network that bisects the property. While this work will increase flooding locally, there is a historic swale that runs through the property that will continue to drain floodwaters into Green Oaks Creek. During winter storms, the current ditches transport water at velocities capable of moving sediments into Green Oaks Creek. This project will decrease the velocity and concentration of the water, spreading it out over the landscape and allowing more water to seep into the soils. Erosion from project construction will be limited by revegetation efforts combined with erosion control BMP's such as placing fiber rolls and slash piles where necessary as well as **SPR-HYD 1** and **2**.

Flooding off-site, along the Northern Access Rd, will be managed by limiting the start of the ditch fills to where the grade has dropped well below that of the road drainage outlets. This procedure for ditch filling is described in sheet C-4 of the 100% draft designs.

This project will not overload any existing storm water infrastructure as the outflow enters a perennial creek that meanders unobstructed to the ocean.

This project will redirect floodwaters by spreading and slowing flows across the landscape. Floodwaters will be contained in the natural topography of the parcel until entering Green Oaks Creek and eventually the Pacific Ocean.

CONCLUSION: Less than significant

d) In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?

This project is not in a tsunami flood zone and there is no infrastructure being added to the area. Construction will occur during the dry summer months and thus lessen the potential for flood waters carrying pollutants from construction activities into the water course.

CONCLUSION: No impact

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project has been designed to comply with all federal, state, and regional water quality control and sustainable groundwater management plans.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – HAZ 1, HYD 1 and **2**
PROJECT SPECIFIC REQUIREMENT – OWR and **WTL**
MITIGATION MEASURE— N/A

XI. LAND USE AND PLANNING

ENVIRONMENTAL SETTING

The project is situated approximately 9 miles south of the unincorporated community of Pescadero on the southern coast of San Mateo County. All proposed work areas are located within the Resource Management zone as designated by San Mateo County Office of Planning and Building. The project is located within the Coastal Zone and is subject to the 1976 Coastal Act and the Coastal Zone Management Act, as administered by the California Coastal Commission and the County of San Mateo. All construction activities associated with the project would occur on land owned by California State Parks, within the boundaries of Año Nuevo State Park. Completed in 2008, the General Plan for Año Nuevo State Park does not include the Green Oaks parcel that was transferred to the State circa 2013. However, in the General Plan's Public Review section (Ch.6), the plan states that all future acquisitions would need to be compatible with the state management intents of the Interpretive Center Zone and Wildlife and Dune Protection Zone. The Steele Ranch Habitat Management Plan (HMP) describes proposed restoration activities allowed under the Land and Conservation Easement (1997) that was signed by SamTrans and the State of California.

The Green Oaks parcel is subject to the following policies:

1. The San Mateo County Local Coastal Program, adopted by the San Mateo County Board of Supervisors in August, 1980, as subsequently amended, which provides specific policies for the protection of agricultural lands, sensitive habitats, the San Francisco garter snake, and visual resources of the county.

2. The Vegetative, Water, Fish and Wildlife Resources Policies of the San Mateo County General Plan (section 1.1), which promotes the conservation, enhancement, protection, maintenance and managed use of the County's vegetative, water, fish and wildlife resources.

3. The federal and state Endangered Species Acts, 16 USC 1531 et seq. and California Fish and Game Code 2050 et seq., respectively, which seek to prevent the extinction of endangered plants and animals.

4. The Keene-Nejedly California Wetlands Preservation Act, Chapter 7 of Division 5 of the Public Resources Code, which state that "the remaining wetlands of this state are of increasingly critical economic, aesthetic, and scientific value to the people of California."

5. San Mateo County zoning regulations, which prohibit significant reductions and adverse changes to the ecological characteristics of primary wildlife habitat areas (section 6325.2), and which permit only agricultural and compatible uses in designated agricultural districts (section 6325.3)

6. The Rural Lands Policies of the San Mateo County General Plan (section 9.28), which encourage agricultural activities on soils with agricultural capability.

7. Chapter 4 of Division 21 of the Public Resources Code, which directs the State Coastal Conservancy, an agency of the State of California, to undertake a program of preserving coastal agriculture, and authorizes the Conservancy, to hold interests, in land for this purpose. Additionally, Chapter 5 of Division 21 of the Public Resources Code, which authorizes the Conservancy to aid in restoring areas of the coastal zone, which, due to poor lot layout and other causes, are adversely affecting the coastal environment.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

DISCUSSION

a) Would the Project physically divide an established community?

The project proposes to lower the berm of an existing pond and use the fill to restore the natural hydrology of the landscape by strategically sealing the network of drainage ditches on the property. This project proposes to do work solely on State Parks land, and would not disrupt adjacent land uses.

CONCLUSION: No impact

b) Would the Project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project aims to protect and enhance wildlife habitat as well as natural and scenic or open-space values as outlined in the Steele Ranch Land and Conservation Easement (1997). By manipulating man-made berms and ditches, DPR plans to re-establish the hydrology of the original landform of the site. As agreed upon by State Parks, CDFW and USFWS, and outlined in the HMP, the property will maintain its agricultural zoning and use in pre-selected, upland areas. The proposed project will not limit the ability for agriculture to occur on the property and will benefit wildlife habitat by enhancing and expanding a wetland as outlined in the Keene-Nejedly California Wetlands Preservation Act.

The project is in agreement with the Año Nuevo General Plan's Natural Resource Management Goal. Specifically, this project will restore land impacted from past management practices. The intended land restoration will expand riparian plant community area and increase self-sustaining populations of SFGS and CRLF.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

XII. MINERAL RESOURCES

ENVIRONMENTAL SETTING

Mineral Land Classification (MLC) studies are produced by the State Geologist as specified by the Surface Mining and Reclamation Act (SMARA, PRC 2710 et seq.) of 1975. To address mineral resource conservation, SMARA mandated a two-phase process called classification-designation. Classification is carried out by the State Geologist and designation is a function of the State Mining and Geology Board. The land encompassed by the Green Oaks parcel of Año Nuevo State Park has never been designated as a mine or an area containing mineral resources.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

DISCUSSION

a) *Would the Project result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?*

No mineral resources have been identified within the boundaries of the project site. Mineral resource extraction is not permitted under the Resource Management Directives of the Department of Parks and Recreation.

CONCLUSION: No impact

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

No mineral resources have been identified within the boundaries of the project site. Mineral resource extraction is not permitted under the Resource Management Directives of the Department of Parks and Recreation.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE –N/A

XIII. NOISE

ENVIRONMENTAL SETTING

Noise is defined as unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA).

Some land uses are considered more sensitive to ambient noise levels than other uses due to the amount of noise exposure and the types of activities involved. Residences, motels, hotels, schools, libraries, churches, nursing homes, auditoriums, parks and outdoor recreation areas are more sensitive to noise than are commercial and industrial land uses.

The project is located in a rural area where agriculture is the prevailing land use. Consequently, noise levels on the project site and in the vicinity are low and there are no sources of loud noises beyond those associated with agricultural operations and traffic on Highway 1.

The project is subject to the San Mateo County Noise Ordinance (Sec 4.88.) which looks at the following factors when determining a noise violation:

- The sound level of the objectionable noise.
- The sound level of the background noise.
- The proximity of the noise to residential sleeping or hospital facilities.
- The nature and zoning of the area from which the noise emanates and upon which the noise impacts.
- The number of persons affected by the noise sources.
- The time of day or night the noise occurs.
- The duration of the noise and its tonal, informational, or musical content.
- Whether the noise is continuous, recurrent, or intermittent.
- Whether the noise is produced by a commercial or non-commercial activity.

The San Mateo County Noise Control Ordinance and the Noise Element of the County General Plan establish a daytime exterior noise level threshold of 75 dBA at sensitive receptors; however, the San Mateo County Noise Control Ordinance provides an exemption for demolition and construction activities taking place weekdays 7:00 a.m. – 6:00 p.m. or Saturdays 9:00 a.m. – 5:00 p.m. No exemption is provided for construction on Sundays, Thanksgiving, or Christmas. Construction activities conducted at parks owned and operated by a public entity are also exempt from the County's Noise Ordinance.

Vibration is a unique form of noise. It is unique because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise; e.g., the rattling of windows from passing trucks. This phenomenon is caused by the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, groundborne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB) in the U.S. The human perception and annoyance thresholds are at 65 and 80 VdB, respectively.

The nearest sensitive receptors are the dwelling units located southeast of the project on the southern adjacent farmland. Between the project and the dwelling units are multiple hedgerows, made up of densely spaced Eucalyptus and Monterey Cypress, and a production field.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

DISCUSSION

a) Would the Project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The project would produce noises associated with construction activities that would be temporary and would cease once construction is complete. Noise from construction activities could affect sensitive receptors (farm dwelling units) in the project vicinity. The nearest residences are 1,400 feet or more from the closest project boundary, across an active production field. As mentioned above in the Environmental Setting, County noise regulations exempt construction work from dBa thresholds if bound to the time-of-day restrictions. **SPR-NOI 1** limits construction work to occur between 7am and 6pm Monday through Saturday and to avoid work on restricted holidays. Construction work that complies with the time-of-day restrictions for construction activities would result in less than significant noise impacts.

CONCLUSION: Less than significant

b) Would the Project generate excessive groundborne vibration or groundborne noise levels?

For the purposes of this analysis, it was assumed that the project's construction equipment would have similar vibration sound levels as a large bulldozer or loaded trucks. Vibration and

ground-borne noise levels were estimated following methods described in the FTA Noise and Vibration Impact Assessment (FTA 2006) to determine the peak particle velocity (PPV) that would potentially impact buildings and the vibration velocity in decibels (VdB) for annoyance. Table 11 below shows relevant parameters for the construction equipment that would be used for the proposed project and the distance to sensitive receptors necessary to be below vibration thresholds.

Table 12. Vibration Impact Assessment

Equipment	PPV at 25 ft	Distance to PPV of 0.12 in/sec	Noise Vibration Level at 25 ft	Distance to Noise Vibration of 65VdB	Distance to Noise Vibration of 65VdB
Large Bulldozer	0.089 in/sec	20.5 feet	87 VdB	135 feet	43 feet
Loaded Trucks	0.076 in/sec	18.4 feet	86 VdB	125 feet	40 feet

The nearest sensitive receptors are 1400 feet away from the project's closest border. The majority of the work would take place even further away (2000 ft+). Thus, potential vibration-related noise annoyance impacts would not generate excessive groundborne vibration or groundborne noise.

CONCLUSION: No impact

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project is not located within two miles of a public airport.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE—N/A

XIV. POPULATION AND HOUSING

ENVIRONMENTAL SETTING

Per the Steele Ranch Land and Conservation Easement 1997, the site is allowed to have one dwelling unit. Currently there are no dwelling units on the property. The nearest housing is located on the Flower Farm property to the south and at the Año Nuevo Employee Residences to the south. This is a rural area and housing is sparse along the southern San Mateo coastline.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION

a) *Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

The project consists only of habitat restoration that will not cause unplanned population growth in the area. Furthermore the area is not open to the public and so visitor use will not increase.

CONCLUSION: No impact

b) *Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The project will not displace any housing.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

XV. PUBLIC SERVICES

ENVIRONMENTAL SETTING

The project site is located within Año Nuevo State Park in southwest San Mateo County roughly 2 miles north of the San Mateo/Santa Cruz County line. Fire protection is provided by CAL FIRE from Station 59 located in Pescadero, CA. Police protection is provided internally by DPR Peace Officers. DPR Peace Officers rove from Rancho del Oso to Pescadero and back on a daily basis. There are more Peace Officers available for emergency response at Kelly's Beach in Half Moon Bay and along the Coast Dairies unit of Wilder Ranch State Park in Santa Cruz County. The San Mateo County Sherriff's Office and California Highway Patrol also provide coverage in the area. The site is accessible to emergency vehicles around the entirety of its border and through an unmaintained access road that bisects the property in an east-west direction.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
v. Fire protection?	☐	☐	☐	☒
vi. Police protection?	☐	☐	☐	☒
vii. Schools?	☐	☐	☐	☒
viii. Parks?	☐	☐	☐	☒
ix. Other public facilities?	☐	☐	☐	☒

DISCUSSION

a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any public services?*

The project does not entail construction of any additional facilities and thus would not change the need for any additional public infrastructure to maintain response times or service standards. Strict adherence to the California Fire Code requirements for construction and demolition

activities would minimize the risk of accidental fire ignition and spread. Furthermore, adherence to **SPR-HAZ 2** will result in quick expulsion of any fire ignited by construction activities.

Police presence during the project (traffic control) will not be required as there is a dirt road parallel to Highway 1 that can accommodate the access and egress of heavy equipment and other transport vehicles. Also, adherence to **SPR-TRA 1**, will prevent any unnecessary use of public services. As part of the project, the interior access road will be partially decommissioned to enhance the natural sheet flow of water across the site. A short segment of that road will remain to allow for Peace Officer and fire response access.

The closest school is located in Pescadero, CA. The project would not increase demand for school services.

The project area is not open to public use and will not increase the demand for parks.

No other public facilities are located near the site and the project itself will not increase demand for any public services.

CONCLUSION: Less than significant

STANDARD PROJECT REQUIREMENT – HAZ 1 AND **TRA 1**
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

XVI. RECREATION

ENVIRONMENTAL SETTING

The Green Oaks parcel of Año Nuevo State Park is not open for public use. Cascade field to the north and Año Nuevo Visitor Center to the south are both open to the public. DPR recently completed an extension of an ADA compliant trail, near the Visitor Center, that increased accessibility to the Park. The Green Oaks parcel, while not included in the 2008 General Plan, shares its western border with Año Nuevo State Park and is managed as part of the State Park.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The project site is not open to public and there are currently no plans to open it to the public. The area will continue to be used for SFGS and CRLF refuge, scientific research, and agriculture.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The project proposes to remove man-made earthen structures to restore the hydrology to a pre-development state. There will be no addition of recreational facilities.

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

XVII. TRANSPORTATION

ENVIRONMENTAL SETTING

The project area is located in a rural setting along Highway 1 in southern San Mateo County, with graded, dirt roads surrounding nearly the entire perimeter. There is an Eastern (E) boundary road that runs parallel with Hwy 1. This dirt road is maintained by the farmers who use it most frequently and connects to the Southern (S) boundary road. The Northern (N) access road use is shared with the farmers to the north. This road also grants access to the State Park dune system and coastal zone. The Western (W) boundary road is accessed either from road N or from the center (C) access road that bisects the property. Road C is raised above the grade of the surrounding prairie and is not actively maintained. Road C prevents water from sheet flowing along the natural topography of the land except where the road dips down into the historic swale. Road S is exclusively used by the farmers and the densely planted hedgerow that separates the two properties limits access to the project site from the south.

DPR staff primarily uses road N to access the Reserve's coastal zone for resource management activities. The University of California Santa Cruz and DPR recently reached an agreement allowing researchers access to road N which leads to a single employee residence. This dwelling unit has not been inhabited for the last decade and has since been repurposed as a staging area for UCSC researchers. DPR staff and researchers also use road C for access to the site to manage natural resources within the Green Oaks parcel. The Green Oaks parcel is very narrow, measuring just under 2000 feet across its North to South width. During the wet-season, DPR staff access the unit by driving in on road N and hiking into the area.

The N and S roads both have lockable gates. Road C has a lockable gate that is often subject to vandalism.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

DISCUSSION

a) Would the Project Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The Proposed project will perform earth moving activities within a park unit that is not subject to public access. There will be no conflict with a program plan, ordinance or policy addressing the public circulation system.

CONCLUSION: No impact

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?

The proposed project is located in a non-public use area and will not affect any public transit or non-motorized travel.

CONCLUSION: No impact

c) Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project is not re-designing any public transit related infrastructure. The area will remain closed to the public.

CONCLUSION: No impact

d) Would the Project result in inadequate emergency access?

The project proposes to remove sections of road C that bisect the property to allow for the natural sheet flow of water across the meadow. The eastern most section of road C will be left intact to maintain emergency access to the immediate interior of the Green Oaks parcel. Emergency access will remain available throughout the property by using road N or S and walking into the property similarly to how DPR staff enters the area during the winter months. Furthermore, during the dry season (fire season), the entire upland area is navigable with high clearance vehicles.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

XVIII. TRIBAL CULTURAL RESOURCES

ENVIRONMENTAL SETTING

A more detailed account of the areas Tribal Cultural Resources can be found in the Cultural Resources Section.

Historic Period Transformations and the Quiroste Tribe:

The proto-historic period for the project area begins in the year 1542 with the first sea explorations conducted by imperial Spain; however, the Historic Period did not truly begin until the Spanish Government sponsored the colonization of the area. This did not occur until as late as 1769 when the first overland expedition reached Upper California and inadvertently encountered San Francisco Bay. The diaries and accounts of these first expeditions provide valuable insights into the lifeways of the local Native American people.

The Project Area of Potential Effect (APE) is within the territory of the ethnographic Quiroste Tribe, which was one of the most powerful polities on the Central California Coast. The Quiroste were one of some fifty independent tribal groups that have collectively been referred to as the Ohlone Indians by contemporary scholars and some tribal descendants (Cambra et al. 2007; Milliken 1991). In order to give greater context to ancestral Native American cultural resources within the project area, portions of an article published by Hylkema and Cuthrell (California Archaeology, Vol. 5, No 2: 225- 247, 2013) were excerpted and included in the discussion that follows.

Archaeological and historical information from within the ancestral territory of the Quiroste, especially at Año Nuevo State Park, reveals a long tradition of in-situ cultural developments spanning the Middle and Late Holocene (Hylkema 2002). Año Nuevo State Park was the center for Monterey chert stone tool production, and a source of export for economically important Olivella and abalone shell. These resources, along with abundant terrestrial and marine foods and materials established the Quiroste as a prominent polity among the many others that controlled territories throughout the San Francisco Bay Area. An equally biologically productive area within their territorial control was the marsh at the mouth of Pescadero Creek, along with the interior uplands where terrestrial game and vegetal resources facilitated this tribe's economic stability.

European explorers, missionaries, and colonists arriving at the San Francisco Peninsula in the early 1770s found a region controlled by a mosaic of individual Native American tribal polities (Milliken 1991; 1995). Spanish authorities mobilized to settle the area, and native communities of the Peninsula were soon inducted into one or more of the three Franciscan Missions that were strategically placed among them (Mission Dolores, est. 1776; Santa Clara, 1777; and Santa Cruz, 1791). Other villagers were attracted to the Royal Presidio of San Francisco (est. 1776) and the Pueblo of San Jose de Guadalupe (est. 1777). The Quiroste were documented as present at all three missions (Milliken 1991; 1995). The Quiroste controlled one of the most productive resource zones on the peninsular coast, with a territory ranging from Point Año Nuevo northward to Pescadero Marsh and inland into the Santa Cruz Mountains.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☐	☐	☒
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

DISCUSSION

Native American Consultation

In compliance with Federal and State regulations regarding mandatory consultation with Native American Tribes and individuals registered as Most Likely Descendants (MLDs) by the State Native American Heritage Commission (NAHC), this project has outreached to the MLDs of San Mateo County. While there are no Federally Recognized Tribal Governments in the county, the MLDs listed are understood to be active stakeholders who may have an interest or concern in the project as proposed.

The Santa Cruz District Tribal Liaison has performed this task by mailing letters to the MLDs describing the project and the negative cultural resources findings related to it and offering an opportunity to consult about the goals and outcomes. Specifically, the MLDs were asked if they had any additional knowledge of traditional cultural places relevant to the APE or had any concerns about the project.

Of the MLDs contacted, several have responded by requesting to be informed of the progress and outcome of the project- especially if any inadvertent archaeological finds are made during project development. This will be the responsibility of the Santa Cruz District Tribal Liaison.

Conclusion and Finding of No Impact or Effect

No significant ancestral Native American archaeological sites were found to exist within the Project Area of Potential Effect for the Green Oaks Restoration Project. Neither the literature review or the archaeological survey found evidence of ancestral Native American cultural resources or historic archaeological resources within the project APE. Therefore, it is concluded that the project as proposed will not impact or otherwise affect any archaeological resources.

Concluding Admonition

In the unlikely event that inadvertent archaeological finds are made during the course of the project, all ground (or stream) disturbing activities at the location of the find must immediately stop until a qualified archaeologist can be consulted to evaluate the find and offer recommendations appropriate to the nature of the find.

Should any human remains become evident- from either the recent or distant past, all activity must immediately stop, and the San Mateo County Coroner's Office must be immediately notified (PRC 5097). If the remains are determined to be those of ancestral Native Americans, then the coroner must notify the State Native American Heritage Commission (NAHC) within 48 hours. In turn, the NAHC must assign an MLD to the project within 24 hours and seek recommendations for the proper disposition of the remains. Any artifacts found in the immediate vicinity of the point of origin of the skeletal remains shall be assessed as associated funerary items.

STANDARD PROJECT REQUIREMENT- N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

XIX. UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL SETTING

There are no functioning utility systems currently on the site. There is a single power pole that is no longer connected. This line once powered the pump system that conveyed water around the site for agricultural purposes and provided power to a single Park residence west of the project area. Water on site comes from a spring formed by the unique geology of the area. Past land use optimized this spring by building berms around the main source to create a pond which is perennially full. There is also an empty propane tank on site.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LES S THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION

a) *Would the Project require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The project is not creating any new infrastructure that would require additional utilities. Furthermore, the project would restore on-site drainage systems to its pre-agricultural condition.

CONCLUSION: No impact

b) *Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

As noted in the Geology and Soils as well as the Water and Hydrology sections, the project has an ample supply of natural groundwater that was used when it was under agricultural production. The eastern pond generally maintains at least 4 feet of depth year round as it has even during the most recent drought period in the area (2012-2016). Furthermore, this water source will remain available for use, if necessary. During construction, water tenders may periodically re-fill from the pond while drinking water for workers will be imported.

CONCLUSION: Less than significant

c) *Would the Project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The project will not create any infrastructure that requires wastewater treatment. During construction, the contractor will use chemical toilets that are maintained weekly.

CONCLUSION: No impact

d) *Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

During the construction period, the contractor will dispose of solid waste at an approved landfill. Post-project, there will be no operational creation of solid waste as a result of the project.

CONCLUSION: No impact

e) *Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

During construction, the contractor will comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. Post-project, there will be no creation of solid waste as a result of the project.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – N/A
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

XX. WILDFIRE

ENVIRONMENTAL SETTING

The project area is located in a rural setting, surrounded by row-crop agriculture along the Central Coast of California. This area has not burned in a wildfire in known history (1878-Present). Owing to its proximity to the coast, this area experiences very high relative humidity year round. Constant disturbance of the soil from tilled agriculture did not allow fuels to develop in such a way as to encourage the spread of fire across the landscape. The project area has fuel breaks around its border in the form of agricultural fields to the north, Highway 1 to the east, Green Oaks Creek to the south, and the Pacific Ocean to the west. San Mateo County has an Emergency Operations Plan Basic Plan (2015). All emergencies within unincorporated San Mateo County would be managed by the County Emergency Operations Center.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

DISCUSSION

a) *Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?*

The project will not impair the San Mateo County Emergency Operations Basic Plan.

CONCLUSION: No impact

b) *Would the Project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

The project proposes to enhance a wetland. There will be no additional structures or developments as a result of the project. The project is expected to raise the water table, thus maintaining saturated soils for longer periods of time and shifting the current ruderal vegetative community to a more riparian one. The project will not change landscape level slope of the area, nor remove any part of the hedgerows that may affect prevailing winds.

During the project, the contractor will strictly adhere the **SPR-HAZ 2** which details fire minimization and avoidance measures.

CONCLUSION: Less than significant

c) *Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The project will not add any infrastructure to the area and there will be no need for additional utilities.

CONCLUSION: No impact

d) *Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project will expand and enhance a wetland by decreasing the efficiency of the drainage features on site. In doing so, the project area will be subject to flooding more frequently during rain events. Post- project, during rain events, water is expected to move much slower across the landscape, saturating the soils and meandering along the natural topography. Downstream of the project site, there will be less flooding as the entirety of the meadow is able to saturate and hold water for longer periods of time.

CONCLUSION: No impact

STANDARD PROJECT REQUIREMENT – HAZ 2
PROJECT SPECIFIC REQUIREMENT – N/A
MITIGATION MEASURE – N/A

4 MANDATORY FINDINGS OF SIGNIFICANCE

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal?	☐	☐	☒	☐
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
c) Have the impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?	☐	☐	☒	☐
d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly?	☐	☐	☐	☒

DISCUSSION

a) The proposed project was evaluated for potential significant adverse impacts to the natural environment and its plant and wildlife communities (Biological Resources). The project site supports certain special status animal species and natural communities. DPR has determined that the project would have the potential to degrade the quality of the habitat and/or reduce the number or restrict the range of sensitive animals. However, full implementation of all project requirements, including the mitigation measures for CRLF and SFGS, incorporated into this project would reduce those impacts, both individually and cumulatively, to a less than significant level.

b) The proposed project was evaluated for potential significant adverse impacts to the cultural resources of DPR lands within the Green Oaks parcel. DPR has determined that proposed project activities do not have the potential to cause significant adverse impacts to historic and

archaeological resources, as there are none present. In addition, full implementation of the project requirements incorporated into this document would reduce impacts to previously unidentified archaeological sites and features to a less than significant level.

c) The project would involve the enhancement of the broad historic swale acting as a tributary to Green Oaks Creek. All of the project's potential impacts would be less than significant. Many project impacts are site specific (e.g., wildlife) and would not combine with the impacts of other projects in the area to be a cumulative impact. This is true for the following: aesthetics, agriculture and forest resources, cultural resources, energy, geology and soils, greenhouse gas, hazards and hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, population and housing, public services, recreation, transportation, traibal cultural resources, utilities and services and wildfire. Therefore, the impacts to these environmental issues will not be increased and remain at a less than significant level, as this evaluation has determined.

Air quality impacts have regional implications and are not site specific. Short-term emissions of pollutants generated during construction are temporary in nature, but can contribute to air quality violations and nonattainment conditions. Emissions are primarily associated with heavy-duty construction equipment and fugitive emissions from ground disturbance and earth-moving activities. Emissions associated with the proposed project are not expected to exceed applicable significance thresholds (82lb/day of ROG, NOx, or PM10). No other projects are proposed in the vicinity. The overall impact to air quality is minimal and expected to have a less than significant impact; therefore, the project would not result in a cumulatively considerable contribution to a short-term or cumulative long-term regional air quality impact.

For biological resources, potential impacts from project implementation addressed in this evaluation do not overlap with any other projects to result in cumulatively significant impacts. Less than significant impact.

d) Most project-related environmental effects have been determined to pose no impact or a less than significant impact on humans. However, possible impacts from fugitive dust (Air Quality), construction accidents, spills, construction-generated noise (Noise), though temporary in nature, have the potential to result in significant adverse effects on humans. These potential impacts would remain at a less than significant level if all project requirements incorporated into this project are fully implemented.

5 SUMMARY OF MITIGATION MEASURES

The following mitigation measures would be implemented by DPR as part of the Green Oaks Restoration Project.

AESTHETICS

No mitigation measures required.

AGRICULTURAL RESOURCES

No mitigation measures required.

AIR QUALITY

No mitigation measures required.

BIOLOGICAL RESOURCES

MM-CRLF

MM-SFGS

CULTURAL RESOURCES

No mitigation measures required.

ENERGY

No mitigation measures required.

GEOLOGY AND SOILS

No mitigation measures required.

GREENHOUSE GAS EMISSIONS

No mitigation measures required.

HAZARDS AND HAZARDOUS MATERIALS

No mitigation measures required.

HYDROLOGY AND WATER QUALITY

No mitigation measures required.

LAND USE AND PLANNING

No mitigation measures required.

MINERAL RESOURCES

No mitigation measures required.

NOISE

No mitigation measures required.

POPULATION AND HOUSING

No mitigation measures required.

PUBLIC SERVICES

No mitigation measures required.

RECREATION

No mitigation measures required.

TRANSPORTATION/TRAFFIC

No mitigation measures required.

TRIBAL CULTURAL RESOURCES

No mitigation measures required.

UTILITIES AND SERVICE SYSTEMS

No mitigation measures required.

6 REFERENCES

AESTHETICS

California Department of Transportation (Caltrans). 2020. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

PBS&J. 2009. Habitat Management Plan for the 235-acre Steele Ranch Mitigation Site, San Mateo County, California. Prepared for: San Francisco Bay Area Rapid Transit District. July 28, 2009.

Waterways Inc. 2020. Green Oaks Restoration Project-Basis of Design Memorandum-Final. February 13, 2020.

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

AGRICULTURAL AND FOREST RESOURCES

California Department of Conservation. Farmland Mapping and Monitoring Program. 2019. http://www.conservation.ca.gov/dlrp/fmmp/

PBS&J. 2009. Habitat Management Plan for the 235-acre Steele Ranch Mitigation Site, San Mateo County, California. Prepared for: San Francisco Bay Area Rapid Transit District. July 28, 2009.

Waterways Inc. 2020. Green Oaks Restoration Project-Basis of Design Memorandum-Final. February 13, 2020.

Wayman, Dick. 1996. Steele Ranch Natural Resource and Agricultural Conservation Easement Baseline Documentation.

AIR QUALITY

California Environmental Quality Act Air Quality Guidelines. Bay Area Air Quality Management District, May 2017. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Horizon Water and Environment. 2018. Butano Creek Channel Reconnection and Resilience Project Initial Study and Mitigated Negative Declaration. http://www.sanmateorcd.org/butAño-reconnect-ceqa/

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

BIOLOGICAL RESOURCES

Department of Fish and Game. 1978e. Green Oaks Creek Stream Survey, August 10. Report by Njoroge Gacoka and Steven G. Torres.

Department of Fish and Wildlife 2019. California Fish and Game Commission Notice of Findings Tricolored Blackbird (*Agelaius tricolor*). Effective date of Regulation March 18, 2019.

U. S. Fish and Wildlife Service, 1985. Recovery Plan for the San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*). U.S.Fish and Wildlife Service, Portland, Oregon. 77pp.

U. S. Fish and Wildlife Service, 1998. California red-legged frog (*Rana aurora draytonii*). Recovery Plan. U.S.Fish and Wildlife Service, Portland, Oregon. 213pp.

U. S. Geologic Survey 2018. Summary of USGS sampling effort and captures of San Francisco Gartersnakes (*Thamnophis sirtalis tetrataenia*) at Año Nuevo State Park in 2018.

U. S. Geologic Survey 2019. Summary of USGS sampling effort and captures of San Francisco Gartersnakes (*Thamnophis sirtalis tetrataenia*) at Año Nuevo State Park in 2018.

Waterways Inc. 2020. Green Oaks Restoration Project-Basis of Design Memorandum-Final. February 13, 2020.

Williams, D.F., J. Verner, H.F. Sakai, and J.R. Waters. 1992. General biology of major prey species of the California spotted owl. USDA Forest Service Gen. Tech. Rep., PSW-GTR-133:207-221;

Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; NMFS 2005, 70 Fed. Reg. 52488 (September 2, 2005)

CULTURAL RESOURCES

Atwater, B. F., S. G. Conard, J. N. Dowden, C. W. Hedel, R. L. MacDonald, and W. Savage 1979 History, landforms, and vegetation of the estuary's tidal marshes. In *San Francisco Bay: The Urbanized Estuary*, edited by T. J. Conomos, 347-381. American Association for the Advancement of Science, Pacific Division. San Francisco.

Basgall, Mark E. 1987. *Resource Intensification Among Hunter-gatherers: Acorn Economies in Prehistoric California*. Research in Economic Anthropology 9:21-52.

Bean, Lowell J., and Thomas F. King. 1974. Antap: California Indian political and economic organization. Ballena Press Anthropological Papers 2. Menlo Park, Calif.

Bean, Lowell J., and Harry W. Lawton 1973. *Some explanations for the rise of cultural complexity in Native California with comments on proto-agriculture and agriculture. In patterns of Indian burning in California: ecology and ethno-history*, by Henry Lewis. Ballena Press Anthropological Papers 1 Pp. v-xlvii. Ramona Calif.

Bennyhoff, James A., and Richard E. Hughes.1987. *Shell Bead and Ornament Exchange Networks between California and the Western Great Basin*. Anthropological Papers Vol. 64, Pt. 2. American Museum of Natural History, New York.

Bickel, Polly. 1978 Changing sea levels along the California coast: Anthropological implications. Journal of California Anthropology 5:6-20.

Blackburn, Thomas C., and Kat Anderson, editors. 1993. *Before the wilderness: Environmental management by Native Californians*. Ballena Press Anthropological Papers No. 40. Thomas C. Blackburn, series editor. Menlo Park, CA: Ballena Press.

Bolton, Herbert E. [editor].1926. *Historical Memoirs of New California by Fray Francisco Palou, O.F.M. Vols. 1-4*. University of California Press, Berkeley, California.

Breschini, Gary. 1983. Models of Population Movements in Central California Prehistory. Ph.D. dissertation, Department of Anthropology, Washington State University, Pullman.

Brown, Alan K.1973 Indians of San Mateo County. La Peninsula: Journal of the San Mateo County Historical Association 17(4):1-28.

Brown, Alan K. [editor] 2001. *A Description of Distant Roads: Original Journals of the First Expedition into California, 1769-1770, by Juan Crespi*. Edited and translated by Alan K. Brown. San Diego State University Press, San Diego, California.

Cambra, Rosemary, Alan Leventhal, Laura Jones, Julia Hammett, Les Field and Norma Sanchez. 1996. Archaeological investigations at Kaphan Umux (Three Wolves) site, CA-SCL-732: A Middle period cemetery on Coyote Creek in Southern San Jose, Santa Clara County, California. Ms. on file, California Department of Transportation, District 4, Oakland. Browning, Peter 1992. *The Discovery of San Francisco Bay: The Portola Expedition of 1769-1770.* Great West Books, Lafayette, California.

Chagnon, Napoleon A. 1970. Ecological and adaptive aspects of California shell money. Annual Reports of the University of California Archaeological Survey 12:1-15. Los Angeles.

Companys, F. Boneu. 1983. Gaspar de Portola: Explorer and Founder of California. Translated by Alan K. Brown. Instituto de Estudios Ilerdenses, Lerida, Spain.

Cuthrell, Rob Q. 2013. Archaeobotanical Evidence on Indigenous Burning Practices and Foodways at CA-SMA-113. California Archaeology, 5:2.

Cuthrell, Rob Q., Chuck Striplen, Mark Hylkema, and Kent Lightfoot. 2012. A Land of Fire: Anthropogenic Burning on the Central California Coast. In Contemporary Issues in California Archaeology, edited by Terry Jones and Jennifer Perry, pp.153-172. Left Coast Press, Walnut Creek, California.

Cuthrell, Rob Q., Mark G. Hylkema, and Laurel Collins. 2013. Natural Resources, Geomorphology, and Archaeology of Site CA-SMA-113 in Quiroste Valley Cultural Preserve, California. California Archaeology, 5:2. Groza, Randall G. 2002. An AMS Chronology for Central California Olivella Shell Beads. Master's thesis, Department of Anthropology, California State University, San Francisco.

Fages, Pedro. 1937. A Historical, Political, and Natural Description of California, by Pedro Fages, Soldier of Spain, Newly Translated into English from the Original Spanish by Herbert Ingram Priestley. Translated by Herbert E. Priestley. University of California Press, Berkeley, California.

Fitzgerald, Richard T. 1993. Archaic Milling Cultures of the Southern San Francisco Bay Region. Coyote Press Archives of California Prehistory Vol. 35. Coyote Press, Salinas, California.

Fredrickson, David A. 1974. Social Change in Prehistory: A Central California Example. In ANTAP: California Indian Political and Economic Organization, edited by Lowell J. Bean and Thomas F. King, pp.57-73. Ballena Press Anthropological Papers, Vol. 2. Ballena Press, Ramona, California.

Gobalet, Kenneth W. 1992. Inland Utilization of Marine Fishes by Native Americans along the Central California Coast. Journal of California and Great Basin Anthropology 14:72-84.

Groza, Randall G. 2002. An AMS Chronology for Central California Olivella Shell Beads. Master's thesis, Department of Anthropology, California State University, San Francisco.

Harrington, John P. 1942. Culture element distributions, XIX: Central California coast. University of California Anthropological Records 7(1):1-46. Berkeley.

Hildebrandt, William, Jennifer Farquahar, and Mark Hylkema. 2009. Archaeological Investigations at CA-SMA-18: A Study of Prehistoric Adaptations at Año Nuevo State Reserve. In Archaeology and History at Año Nuevo State Park. Publications in Cultural Heritage No. 26, Part 1, pp. 1-68. California Department of Parks and Recreation, Sacramento, California.

Hughes, Richard [editor]. 1994. Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson. Contributions of the University of California Archaeological Research Facility No. 52. Berkeley, California.

Hildebrandt, William, Jennifer Farquahar, and Mark Hylkema. 2009 Archaeological Investigations at CA-SMA-18: A Study of Prehistoric Adaptationsat Año Nuevo State Reserve. In *Archaeology and History at Año Nuevo State Park.* Publications in Cultural Heritage No. 26, Part 1, pp. 1-68. California Department of Parks and Recreation, Sacramento, California.

Hylkema, Mark.

1991. Prehistoric Native American Adaptations along the Central California Coastof San Mateo and Santa Cruz Counties. Master's thesis, Department of Social Science, San Jose State University.

1998. Seal Cove Prehistory: Archaeological Excavations at CA-SMA-134, Fitzgerald Marine Preserve, San Mateo County Park, California. Copies available from California Historical Resources Information System, Northwest Information Center, Sonoma State University, Rohnert Park, California.

2007. Santa Clara Valley Prehistory: Archaeological Investigations at CA-SCL-690, The Tamien Station Site, San Jose, California. Center for Archaeological Research at Davis Publication No. 15. University of California, Davis.

2002 Tidal Marsh, Oak Woodlands, and Cultural Florescence in the Southern San Francisco Bay Region. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by Jon Erlandson and Terry Jones, pp.233-262. Perspectives in California Archaeology Vol. 6. Cotsen Institute of Archaeology, University of California, Los Angeles.

2020. Historic Properties Survey Report and Finding of No Effect to Cultural Resources, Green Oaks Restoration Project, Ano Nuevo State Park, San Mateo County California.

Hylkema, Mark and Rob Cuthrell. 2013: An Archaeological and Historical View of Quiroste Tribal Genesis. *California Archaeology*, 5:2.

Jones, Terry L., and Mark G. Hylkema. 1988. Two Proposed Projectile Point Types for the Monterey Bay Area: The Año Nuevo Long- Stemmed and Rossi Square-Stemmed. Journal of California and Great Basin Anthropology 10:163-186. Jones, Terry, Nathan E. Stevens, Deborah Jones, Richard T. Fitzgerald, and Mark G. Hylkema. 2007 The Central Coast: A Midlatitude Milieu. In *California Prehistory: Colonization, Culture, and*

Complexity, edited by Terry L. Jones and Kathryn Klar, pp.125-146. Altamira Press, Lanham, Maryland.

King, Chester. 1994. Central Ohlone ethnohistory. In The Ohlone past and present: Native Americans of the San Francisco Bay region. Lowell John Bean editor. Ballena Press Anthropological Papers, No. 42. Menlo Park.

Kuchler, A. W. 1977. Map of natural vegetation of California. In Terrestrial vegetation of California. M. G. Barbour and J. Major editors. John Wiley and Sons, Inc., New York.

Leventhal, Alan 1993. A Reinterpretation of Some Bay Area Shellmound Sites: A View from the Mortuary Complex from CA-ALA-329, the Ryan Mound. Master's thesis, Department of Social Science, San Jose State University.

Lewis, Henry T. 1973. Patterns of Indian burning in California: Ecology and ethnohistory. Lowell Bean editor. Ballena Press Anthropological Papers No. 1. Ramona, California.

Lightfoot, Kent G. and Edward M. Luby. 2002. Late Holocene in the San Francisco Bay Area: Temporal Trends in the Use and Abandonment of Shell Mounds in the East Bay. In Catalysts to Complexity: Late Holocene Societies of the California Coast, edited by Jon M. Erlandson and Terry L. Jones, pp. 263-281. Cotsen Institute of Archaeology, University of California, Los Angeles. Lightfoot, Kent G., Rob Q. Cuthrell, Chuck J. Striplen, and Mark G. Hylkema. 2013 Rethinking the Study of Landscape Management Practices among Hunter-Gatherers in North America. *American Antiquity* 78:285-301.

Lightfoot, Kent G., Rob Q. Cuthrell, Chuck J. Striplen, and Mark G. Hylkema. 2013. Rethinking the Study of Landscape Management Practices among Hunter-Gatherers in North America. American Antiquity 78:285-301. Masters, Patricia M. and Ivano Aiello. 2007 Postglacial Evolution of Coastal Environments. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn Klar, pp.35-52. Altamira Press, Lanham, Maryland.

Lightfoot, Kent G., Rob Q. Cuthrell, Cristie M. Boone, Roger Byrne, Andreas S. Chavez, Laurel Collins, Alicia Cowart, Rand R. Evett, Paul V. A. Fine, Diane Gifford-Gonzalez, Mark G. Hylkema, Valentin Lopez, Tracy M. Misiewicz, and Rachel E.B. Reid. 2013. Anthropogenic Burning on the Central California Coast in Late Holocene and Early Historical Times: Findings, Implications, and Future Directions. California Archaeology, 5:2.

Milliken, Randall, Richard T. Fitzgerald, Mark G. Hylkema, Randy Groza, Tom Origer, David Bieling, Alan Leventhal, Randy Wiberg, Andrew Gottsfield, Donna Gillette, Viviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson. 2007. Punctuated Culture Change in the San Francisco Bay Area. In California Prehistory: Colonization, Culture, and Complexity, edited by Terry L. Jones and Kathryn Klar, pp.99-124. Altamira Press, Lanham, Maryland.

Milliken, Randall T.

1983. The spatial organization of human populations on Central California's San Francisco Peninsula at the Spanish arrival. MA thesis, Sonoma State University.

1991. An Ethnohistory of the Indian People of the San Francisco Bay Area from 1770 to 1810. Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.

1995. A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810. Ballena Press Anthropological Papers No. 43. Ballena Press, Menlo Park, California.

Merriam, C. Hart. 1968. Village Names at 12 California Missions. University of California Archaeological Survey Paper No. 74. Berkeley, California.

Morrall, June. 1992. The Coburn Mystery: Northern California's Unsolved Murder. Moonbeam Press. Half Moon Bay, California.

Nelson, Nels C. 1909. Shell Mounds of the San Francisco Bay Region. University of California Publications in American Archaeology and Ethnology Vol. 7, No. 4. University of California Press, Berkeley.

Odell, George H. 2009. Archaeological Lithic Analysis: Readings from American Antiquity and Latin American Antiquity. G. H. Odell Ed. Society for American Archaeology Press, Washington DC.

Schwitalla, Al W. 2013. Global Warming in California: A Lesson from the Medieval Climatic Anomaly (A.D. 800- 1350). Center for Archaeological Research at Davis Publication No.17. University of California, Davis.

Simons, Dwight D. 1992. Prehistoric mammal exploitation in the San Francisco Bay area. Essays on the prehistory of maritime California. Terry L. Jones, ed. Center for Archaeological Research at Davis 10. University of California at Davis.

Stanger, Frank M., and Alan K. Brown. 1969. Who Discovered the Golden Gate? The Explorers' Own Accounts, How They Discovered a Hidden Harbor and at Last Found Its Entrance. Publications of the San Mateo County Historical Association, San Mateo, California.

ENERGY

County of San Mateo Planning and Building. 2013. Local Coastal Program Policies. https://planning.smcgov.org/documents/local-coastal-program

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

Waterways Inc. 2020. Green Oaks Restoration Project-Basis of Design Memorandum-Final. February 13, 2020

GEOLOGY AND SOILS

PBS&J. 2009. Habitat Management Plan for the 235-acre Steele Ranch Mitigation Site, San Mateo County, California. Prepared for: San Francisco Bay Area Rapid Transit District. July 28, 2009.

Waterways Inc. 2020. Green Oaks Restoration Project-Basis of Design Memorandum-Final. February 13, 2020.

Watt, J., Hartwell, S., and Davenport, C. 2015. Offshore and onshore geology and geomorphology of Pigeon Point Map Area, California. Sheet 10 in Cochrane, G., Watt, J.,

Dartnell, P., Greene, H., Erdey, M., Dieter, B., Golden, N., Johnson, S., Endris, C., Hartwell, S., Kvitek, R., Davenport, C. Kirgsman, L., Ritchie, A. , Sliter, R., Finlayson, D., and Maier, K. California State Waters Map Series – Offshore of Pigeon Point, California: U.S. Geological Survey Open-File Report 2015-1232, pamphlet 40 p., 10 sheets, scale 1:24,000.

Weber, G. and Allwardt, A. 2001. The geology from Santa Cruz to Point Año Nuevo – the San Gregorio Fault Zone and Pleistocene marine terraces – Field Trip 1. In: Geology and Natural History of the San Francisco Bay Area: A 2001 NAGT Field-Trip Guidebook. 32 pp.

GREENHOUSE GAS EMISSIONS

Horizon Water and Environment. 2018. Butano Creek Channel Reconnection and Resilience Project Initial Study and Mitigated Negative Declaration. http://www.sanmateorcd.org/butAño-reconnect-ceqa/

California Environmental Quality Act Air Quality Guidelines. Bay Area Air Quality Management District, May 2017. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

HAZARDS AND HAZARDOUS MATERIALS

California Government Code 65962.5. 2016. https://california.public.law/codes/ca_gov't_code_section_65962.5

San Mateo County Health Department. 2020. California Accidental Release Prevention Program. https://www.smchealth.org/cupa/calarp

Horizon Water and Environment. 2018. Butano Creek Channel Reconnection and Resilience Project Initial Study and Mitigated Negative Declaration. http://www.sanmateorcd.org/butAño-reconnect-ceqa/

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

HYDROLOGY AND WATER QUALITY

California Department of Conservation. 2009. Tsunami Inundation Map for Emergency Planning Año Nuevo Quadrangle. https://www.conservation.ca.gov/cgs/Documents/Tsunami/Maps/Tsunami_Inundation_AñoNuevo_Quad_SanMateo.pdf

Central Coast Regional Water Quality Control Board. 2017. Water Quality Control Plan for the Central Coast Basin. https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/docs2017/2017_basin_plan_r3_complete.pdf

Horizon Water and Environment. 2018. Butano Creek Channel Reconnection and Resilience Project Initial Study and Mitigated Negative Declaration. http://www.sanmateorcd.org/butAño-reconnect-ceqa/

Waterways Inc. 2020. Green Oaks Restoration Project-Basis of Design Memorandum-Final. February 13, 2020.

LAND USE AND PLANNING

California Department of Parks and Recreation. 2008. Ano Nuevo State Park Final General Plan and Environmental Impact Report.

County of San Mateo Planning and Building. 2013. Local Coastal Program Policies. https://planning.smcgov.org/documents/local-coastal-program

Horizon Water and Environment. 2018. Butano Creek Channel Reconnection and Resilience Project Initial Study and Mitigated Negative Declaration. http://www.sanmateorcd.org/butAño-reconnect-ceqa/

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

MINERAL RESOURCES

California Department of Conservation. 2020. Mineral Lands Classification. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

NOISE

Horizon Water and Environment. 2018. Butano Creek Channel Reconnection and Resilience Project Initial Study and Mitigated Negative Declaration. http://www.sanmateorcd.org/butAño-reconnect-ceqa/

San Mateo County Code of Ordinances. 2020. http://smc-ca.elaws.us/code/coor

Walgren, Michael. 2017. Initial Study and Mitigated Negative Declaration Piedras Blancas Cabin and Camping Project & Portions of the California Coastal Trail & Vault Toilets. https://www.parks.ca.gov/pages/980/files/Master%20Piedras%20MND%2010%204%2017%20edits.pdf

POPULATION AND HOUSING

No sources cited.

PUBLIC SERVICES

Horizon Water and Environment. 2018. Butano Creek Channel Reconnection and Resilience Project Initial Study and Mitigated Negative Declaration. http://www.sanmateorcd.org/butAño-reconnect-ceqa/

RECREATION

California Department of Parks and Recreation. 2008. Año Nuevo SP General Plan and EIR. http://www.parks.ca.gov/?page_id=24617

TRANSPORTATION/TRAFFIC

No sources cited.

TRIBAL CULTURAL RESOURCES

Hylkema, Mark. 2002 Tidal Marsh, Oak Woodlands, and Cultural Florescence in the SouthernSan Francisco Bay Region. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by Jon Erlandson and Terry Jones, pp.233-262. Perspectives in California Archaeology Vol. 6. Cotsen Institute of Archaeology, University of California, Los Angeles.

Hylkema, Mark and Rob Cuthrell. 2013: An Archaeological and Historical View of Quiroste Tribal Genesis. *California Archaeology*, 5:2.p. 225- 247.

Milliken, Randall T.

1991 An Ethnohistory of the Indian People of the San Francisco Bay Area from 1770to 1810. Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.

1995 *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*. Ballena Press Anthropological Papers No. 43. Ballena Press, Menlo Park, California.

UTILITIES AND SERVICE SYSTEMS

No sources cited.

WILDFIRE

California Department of Forestry and Fire Protection (CALFIRE). 2020. Perimeters of wildfires in California from 1878 to early 2018 (Cal Fire). http://projects.capradio.org/california-fire-history/#10.87/37.1613/-122.2772

Report Preparation

California Department of Parks and Recreation

Ryan Diller
Environmental Scientist
Santa Cruz District

Portia Halbert
Senior Environmental Scientist (Specialist)

Tim Hyland
Senior Environmental Scientist (Specialist)
Santa Cruz District

Mark Hylkema
Cultural Resources Program Manager & Tribal Liason/Archeologist
Santa Cruz District

7 ACRONYMS

ACOE-Army Corps of Engineers
ANSP- Año Nuevo State Park
APCD-Air Pollution Control District
BAAQMD-Bay Area Air Quality Management District
BMP-best management practices
CalTrans-California Department of Transportation
CCR-California Code of Regulations
CDFW-California Department of Fish and Wildlife
CDPR-California Department of Parks and Recreation
CEQA-California Environmental Quality Act
DPR-California Department of Parks and Recreation
CNPS-California Native Plant Society
CPESC-Certified Professional in Erosion and Sediment
CRLF-California red-legged frog
dBA A-weighted decibels
DPM-diesel particulate matter
DPR-Department of Parks and Recreation
EIR-Environmental Impact Review
ft-feet
GHG-greenhouse gas emissions
GPS-global positioning system
IS/MND-Initial Study/Mitigated Negative Declaration
LOS-Level of Service
MND-Mitigated Negative Declaration

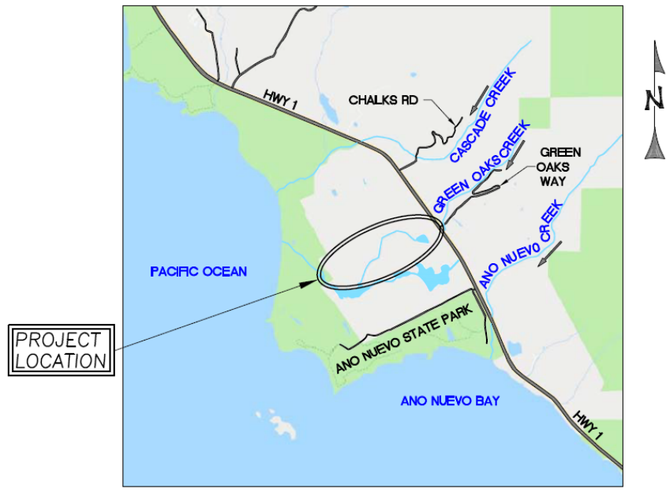
mph-miles per hour
NOx-nitrogen oxides
PM10-particulate matter less than 10 microns diameter
PTF-Pacific Tree Frog
RWQCB-Regional Water Quality Control Board
ROG-reactive organic gas
SCFR-Sierran chorus frog
SFGS-San Francisco Garter Snake
SP-State Park
SWPPP-Storm Water Pollution Prevention Plan
TMDL-Total Maximum Daily Load
TACs-toxic air contaminants
USFWS-United States Fish and Wildlife Service
USGS-United States Geological Survey

APPENDIX A

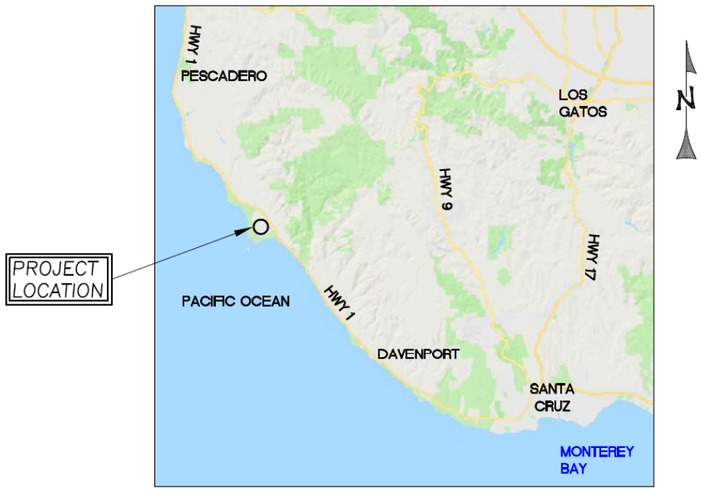
MAPS, TABLES, AND CHARTS

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT

100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL



VICINITY MAP
N.T.S. (GOOGLE)



REGIONAL MAP
N.T.S. (GOOGLE)

SHEET INDEX

PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE 100% DESIGN LEVEL DETAILS FOR RESTORING NATURAL HYDROLOGIC PROCESSES TO RAISE THE SEASONAL GROUNDWATER TABLE AND RESTORE WET MEADOW HABITAT AT A PROPERTY ADJACENT TO AÑO NUEVO STATE PARK IN SAN MATEO COUNTY, CALIFORNIA.

WORK SHALL CONSIST OF REMOVING A BERM SURROUNDING A PERENNIAL POND, FILLING ARTIFICIAL DITCHES ASSOCIATED WITH HISTORICAL AGRICULTURAL PROCESSES, AND DECOMMISSIONING A GRAVEL ACCESS ROAD THAT BISECTS THE PROJECT AREA.

** CALL BEFORE YOU DIG **

CONTACT UNDERGROUND SERVICE ALERT (USA) PRIOR TO ANY CONSTRUCTION WORK 1-800-227-2600

ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
EG	EXISTING GROUND
ELEV.	ELEVATION
DI	DRAINAGE INLET
FG	FINISHED GRADE
FT	FEET
HORIZ.	HORIZONTAL
INV	INVERT
IN	INCH
N	NEW
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T	TREE
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
VERT.	VERTICAL
WSE	WATER SURFACE ELEVATION
YR	YEAR

SECTION AND DETAIL CONVENTION

SECTION OR DETAIL IDENTIFICATION (NUMBER OR LETTER)

5
C3

SHEET REFERENCE

GENERAL NOTES

1. TOPOGRAPHIC MAPPING WAS PERFORMED BY:
   WATERWAYS CONSULTING, INC.
   509A SWIFT STREET
   SANTA CRUZ, CA 95060
   SURVEY DATES: MARCH 1 & 14, 2018; JUNE 14, 2019; JUNE 11, 2020.
2. LIDAR DATA FROM STATE COASTAL CONSERVANCY (SCC) OCEAN PROTECTION COUNCIL (OPC), SCRIPPS INSTITUTION OF OCEANOGRAPHY, AND JOINT AIRBORNE LARDAR BATHYMETRY TECHNICAL CENTER OF EXPERTISE (JALBTCX). LIDAR DATA COLLECTED BETWEEN OCTOBER 2009 AND AUGUST 2011.
3. ELEVATION DATUM: GPS TIES TO NAVD88 USING THE LEICA GEOSYSTEMS SMARTNET GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) NETWORK.
4. BASIS OF BEARINGS: GPS TIES TO NAD83 CALIFORNIA STATE PLANE, ZONE 3 USING THE LEICA GEOSYSTEMS SMARTNET GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) NETWORK.
5. AERIAL PHOTO SOURCE: AUTOCAD CIVIL3D 2019 GEOLOCATION MAP
6. CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
7. EXISTING TOPOGRAPHY SHOWN AT THE EASTERN POND IS APPROXIMATE AND IS BASED ON LIMITED SURVEY DATA WITHIN THE POND AND ALONG THE EMBANKMENT.
8. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES WERE COMPILED FROM RECORD INFORMATION. THE LOCATION OF THESE LINES IS SUBJECT TO CHANGE, PENDING THE RESULTS OF A COMPLETE BOUNDARY SURVEY.
9. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2018 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
10. THESE DESIGNS ARE INCOMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9351 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

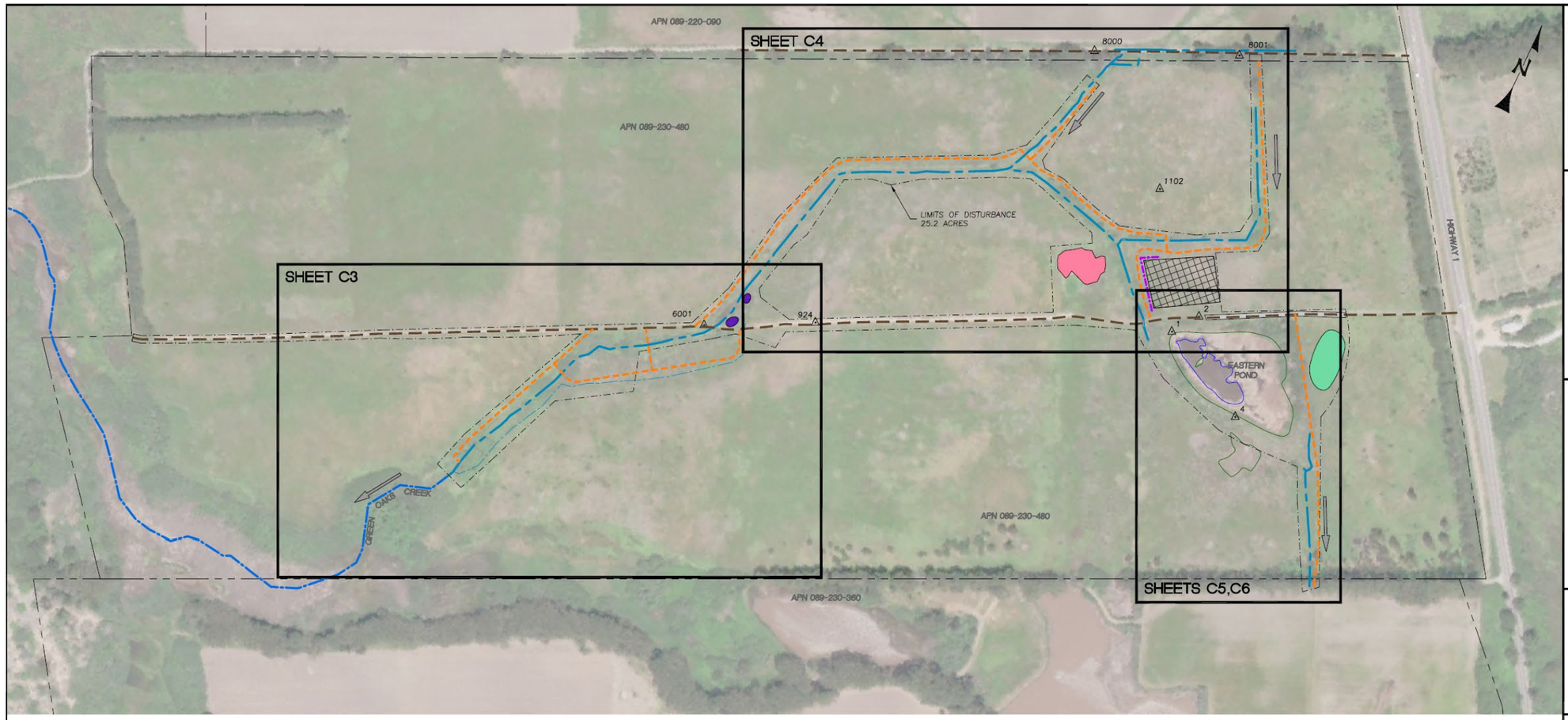
COVER

GREEN OAKS CREEK
HABITAT ENHANCEMENT
PROJECT
100% ADMINISTRATIVE
DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C1 | 1 OF 14



LEGEND

- (E) FLOW LINE (ARTIFICIAL DITCH)
- (E) CREEK THALWEG
- (E) FLOW LINE
- (E) GIS PROPERTY LINE (APPROX)
- (E) ACCESS ROAD
- (N) TEMPORARY ACCESS ROAD
- LIMITS OF DISTURBANCE
- FIBER ROLL
- $\triangle^2$ SURVEY CONTROL POINT
- TEMPORARY STAGING/STOCKPILING AREA
- (E) DREDGE SPOILS
- (E) MANURE PILE
- (E) WOOD CHIP PILE
- (E) TULE
- (E) OPEN WATER
- (E) FLOW DIRECTION

OVERVIEW, ACCESS, AND STAGING PLAN

SCALE: 1" = 200'

CONTROL POINTS

POINT	NORTHING	EASTING	ELEV.	DESC.
1	1875208.70	6031914.69	128.96	REBAR
2	1875305.28	6031983.74	124.71	REBAR
4	1875017.97	6032273.84	130.73	REBAR
924	1874654.95'	6030666.39'	92.89'	REBAR
1102	1875682.63	6031638.72	124.46	REBAR
6001	1874463.75	6030285.01	86.08	REBAR
8000	1876052.84	6031186.66	131.08	REBAR
8001	1876275.00	6031695.31	134.93	REBAR

ACCESS AND STAGING AREA NOTES

1. USE ONLY THE APPROVED ACCESS POINTS AND ROUTES, AS SHOWN ON THE DRAWINGS. STOCKPILE MATERIALS WITHIN AN EXISTING FLAT AND PREVIOUSLY DISTURBED AREA.
2. THE ACCESS PLAN SHOWN ON THE DRAWINGS IS SCHEMATIC. SUBMIT A SITE ACCESS PLAN FOR APPROVAL BY THE ENGINEER, PRIOR TO MOBILIZATION.
3. CONTAIN THE DOWNSLOPE PERIMETER OF STAGING OR STOCKPILE AREAS WITH FIBER ROLLS.
4. STORE, MAINTAIN AND REFUEL ALL EQUIPMENT AND MATERIALS IN A DESIGNATED PORTION OF THE STAGING AREA.
5. CONSTRUCTION ACCESS POINTS FROM THE TEMPORARY ACCESS ROADS TO THE (E) CHANNELS WILL BE STAKED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831) 427-4863 FAX:(831) 419-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

OVERVIEW, ACCESS, AND STAGING PLAN

GREEN OAKS CREEK
HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

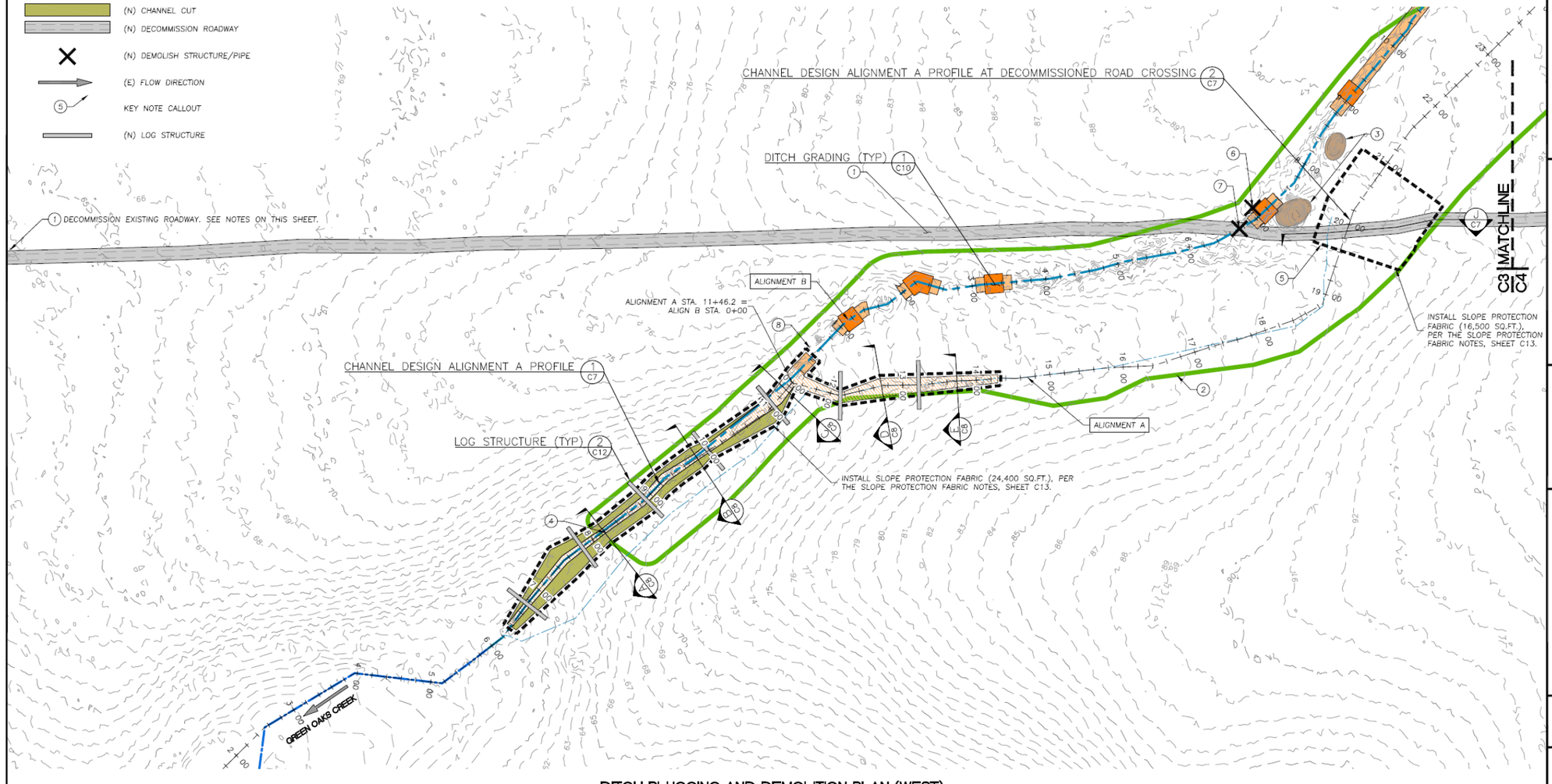
C2 2 OF 14

LEGEND

- (E) LIDAR CONTOURS
- (E) FLOW LINE (ARTIFICIAL DITCH)
- (E) CREEK THALWEG
- (E) FLOW LINE
- (E) HISTORIC SWALE LIMITS (APPROX.)
- (N) BERM
- (E) DREDGE SPOILS
- (N) LIMITS OF FILL WITHIN ARTIFICIAL DITCH
- (N) ARTIFICIAL DITCH FILL MOUND
- (N) CHANNEL FILL
- (N) CHANNEL CUT
- (N) DECOMMISSION ROADWAY
- (N) DEMOLISH STRUCTURE/PIPE
- (E) FLOW DIRECTION
- KEY NOTE CALLOUT
- (N) LOG STRUCTURE

KEY NOTES

1. ROAD DECOMMISSIONING SHALL EXTEND TO THE END OF THE ROAD APPROXIMATELY 520' TO THE WEST, SEE ROAD DECOMMISSIONING NOTES, SHEET C13.
2. AVOID AND MINIMIZE DISTURBANCE OF HISTORIC SWALE. ALLOW NATURAL RECRUITMENT OF WET MEADOW VEGETATION WITHIN REACTIVATED HISTORIC SWALE.
3. SPREAD MATERIAL FROM (E) DREDGE SPOILS IN UPLAND PORTION OF THE PROPERTY AT LOCATION FLAGGED IN THE FIELD BY THE ENGINEER.
4. END ARTIFICIAL DITCH PLUG WHERE THE DITCH TRANSITIONS TO A BROAD SHALLOW SWALE WITHIN AN EXISTING WILLOW THICKET.
5. GRADE TO MATCH ADJACENT HISTORIC SWALE GRADES AND INSTALL SLOPE PROTECTION FABRIC AS SHOWN ON SECTION J AND PROFILE 2, SHEET C7 AT THE DIRECTION OF THE ENGINEER. SEE ROAD DECOMMISSIONING NOTES, SHEET C13.
6. REMOVE AND DISPOSE OF UTILITY POLE.
7. REMOVE AND DISPOSE OF CULVERT (LOCATION APPROX.)
8. PLACE FILL WITHIN ALIGNMENT B FROM STA. 0+25 (APPROX.) TO STA. 0+00 TO CONFORM THE DITCH INVERT WITHIN ALIGNMENT B TO THE DESIGN INVERT WITHIN ALIGNMENT A AT STA. 11+46.



DITCH PLUGGING AND DEMOLITION PLAN (WEST)
SCALE: 1" = 70'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

DITCH PLUGGING AND DEMOLITION PLAN (WEST)

GREEN OAKS CREEK
HABITAT ENHANCEMENT
PROJECT
100% ADMINISTRATIVE
DRAFT DESIGN SUBMITTAL

DESIGNED BY:	D.H.
DRAWN BY:	D.H./J.H.
CHECKED BY:	B.Z.
DATE:	12/11/2020
JOB NO.:	17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

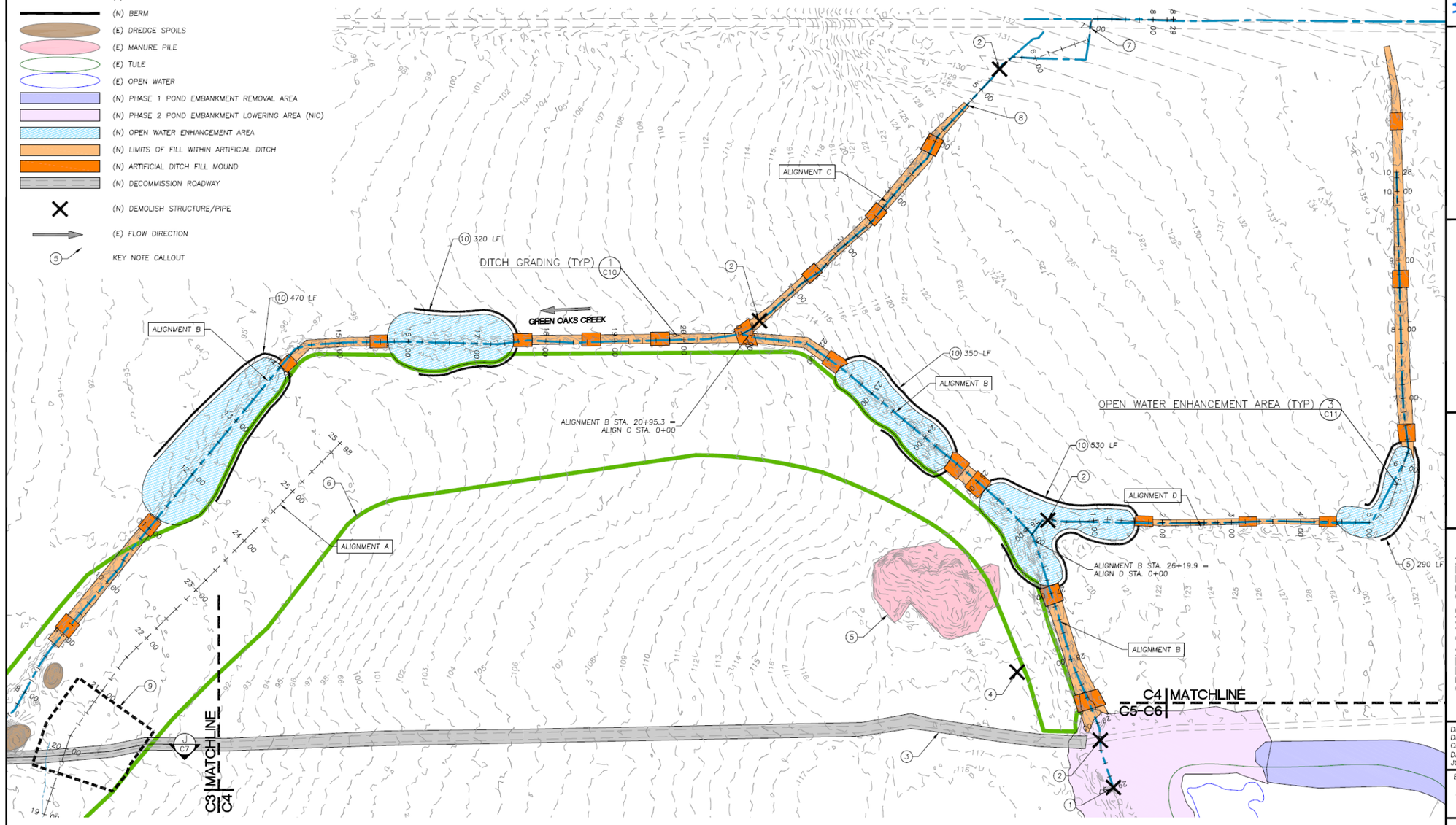
C3 | 3 OF 14

LEGEND

- (E) LIDAR CONTOURS
- (E) FLOW LINE (ARTIFICIAL DITCH)
- (E) FLOW LINE
- (E) POND
- (E) HISTORIC SWALE LIMITS (APPROX.)
- (E) CULVERT
- (N) BERM
- (E) DREDGE SPOILS
- (E) MANURE PILE
- (E) TULE
- (E) OPEN WATER
- (N) PHASE 1 POND EMBANKMENT REMOVAL AREA
- (N) PHASE 2 POND EMBANKMENT LOWERING AREA (NIC)
- (N) OPEN WATER ENHANCEMENT AREA
- (N) LIMITS OF FILL WITHIN ARTIFICIAL DITCH
- (N) ARTIFICIAL DITCH FILL MOUND
- (N) DECOMMISSION ROADWAY
- (N) DEMOLISH STRUCTURE/PIPE
- (E) FLOW DIRECTION
- (5) KEY NOTE CALLOUT

KEY NOTES

1. PLACE NON-SHRINK GROUT IN (E) 6-INCH DIA. PVC PIPE, AS DIRECTED BY ENGINEER.
2. REMOVE AND DISPOSE OF (E) 24" DIA. RCP PIPE (AVG. PIPE LENGTH, 10' EACH)
3. DECOMMISSION EXISTING ROADWAY. SEE NOTES ON SHEET C3.
4. REMOVE AND DISPOSE OF (E) PROPANE TANK.
5. REMOVE MANURE PILE AND SPREAD MATERIAL IN UPLAND PORTION OF THE PROPERTY AT LOCATIONS FLAGGED IN THE FIELD BY THE ENGINEER.
6. AVOID AND MINIMIZE DISTURBANCE OF HISTORIC SWALE. ALLOW NATURAL RECRUITMENT OF WET MEADOW VEGETATION WITHIN REACTIVATED HISTORIC SWALE.
7. EXISTING CULVERT CROSSING.
8. UPSTREAM EXTENT OF DITCH FILL SHALL SHALL BEGIN WHERE THE MEADOW ELEVATION SURROUNDING THE DITCH IS 1-FT BELOW THE CULVERT OUTLET ELEVATION IDENTIFIED IN KEY NOTE #7. THE ENGINEER WILL STAKE THIS LOCATION AT THE TIME OF CONSTRUCTION.
9. SEE SHEET C3 FOR WORK IN THIS AREA.
10. CONSTRUCT 18-INCH TALL BERM WITH 2H:1V SIDE SLOPES AND 3-FOOT CREST WIDTH PER THE TYPICAL OPEN WATER ENHANCEMENT AREA PLAN AND SECTION, SHEET C11.



DITCH PLUGGING AND DEMOLITION PLAN (EAST)
SCALE: 1" = 70'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

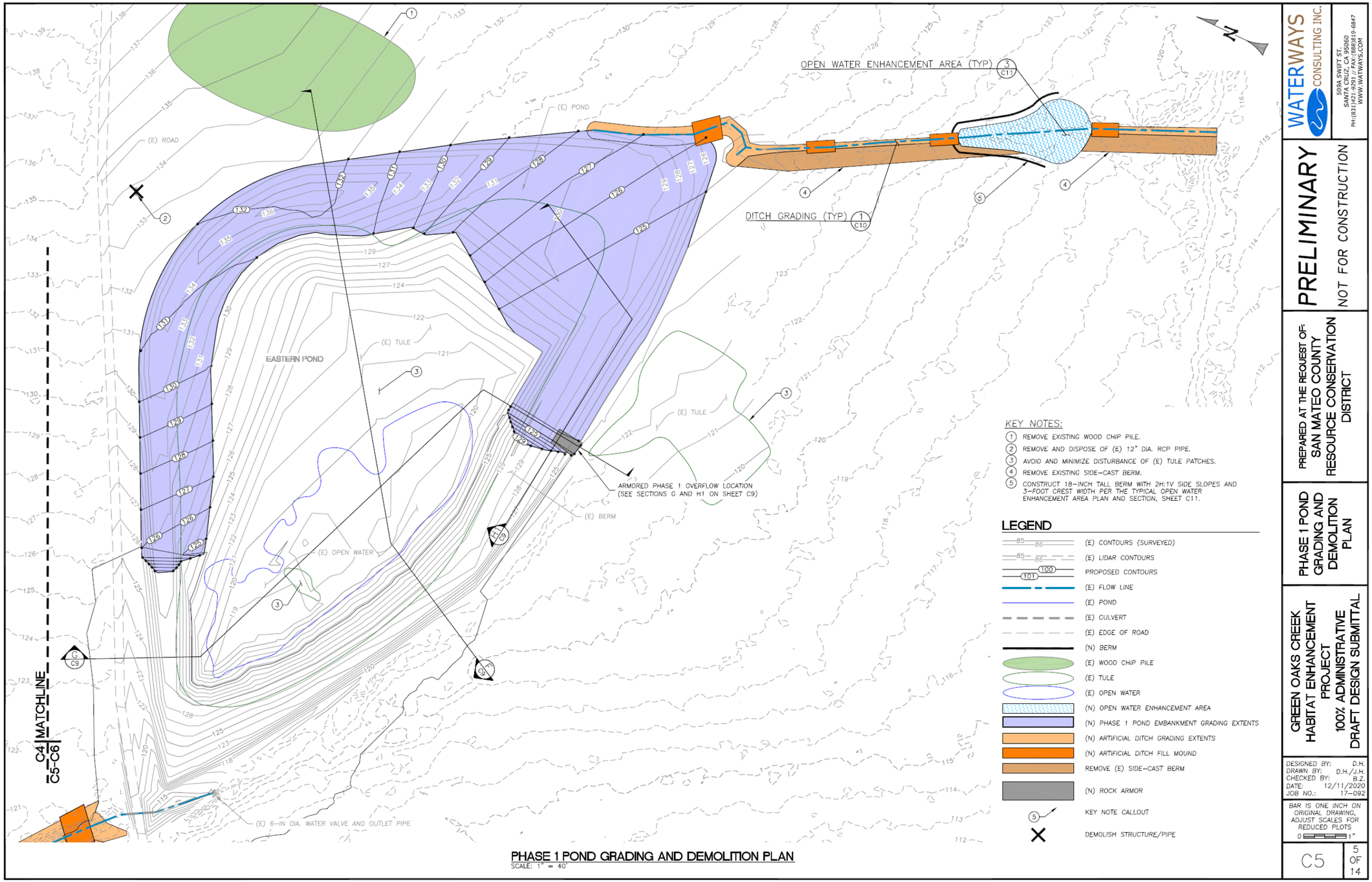
DITCH PLUGGING AND DEMOLITION PLAN (EAST)

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

DESIGNED BY:	D.H.
DRAWN BY:	D.H./J.H.
CHECKED BY:	B.Z.
DATE:	12/11/2020
JOB NO.:	17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C4 | 4 OF 14



PHASE 1 POND GRADING AND DEMOLITION PLAN
SCALE: 1" = 40'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

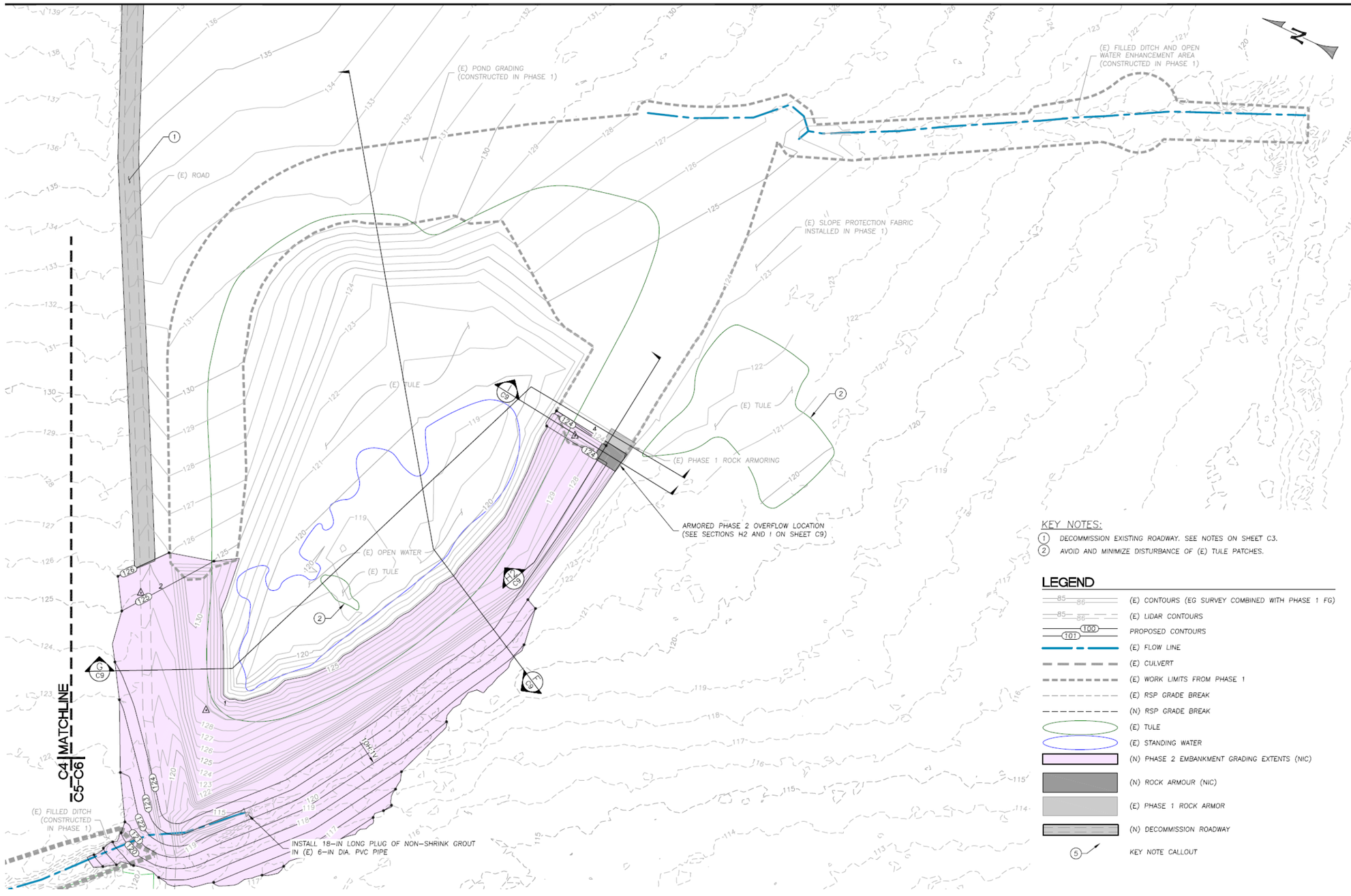
PHASE 1 POND GRADING AND DEMOLITION PLAN

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C5 | 5 OF 14



PHASE 2 POND GRADING AND DEMOLITION PLAN (NIC)
SCALE: 1" = 40'

WATERWAYS CONSULTING INC.
5934 SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 / FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

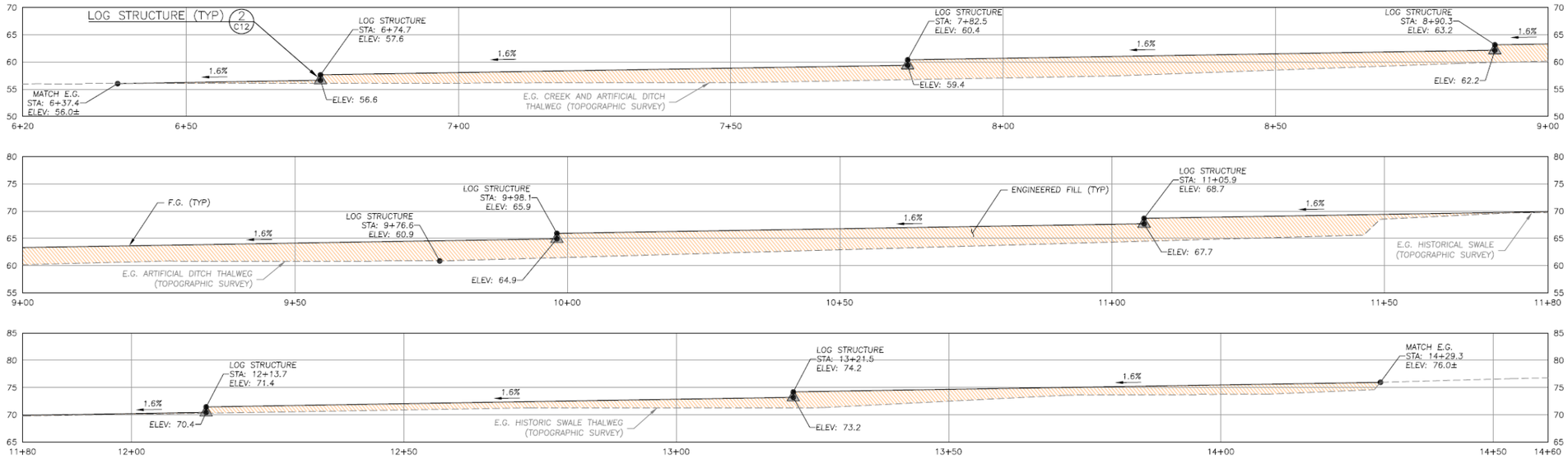
PHASE 2 POND GRADING AND DEMOLITION PLAN

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17–092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C6 | 6 OF 14



SLOPE PROTECTION FABRIC NOTES:

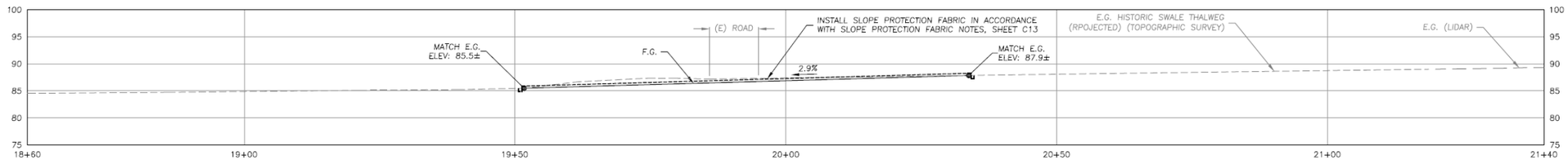
PLACE SLOPE PROTECTION FABRIC OVER CHANNEL BED AND BANKS WHERE GRADING HAS OCCURRED, AS DIRECTED BY THE ENGINEER. FABRIC NOT SHOWN ON PROFILE FOR GRAPHICAL CLARITY.

LOG STRUCTURE NOTES:

LOG STRUCTURE LOCATIONS SHOWN IN PROFILE ARE APPROXIMATE. THE FINAL LOCATION OF THE STRUCTURES WILL BE STAKED IN THE FIELD BY THE ENGINEER.

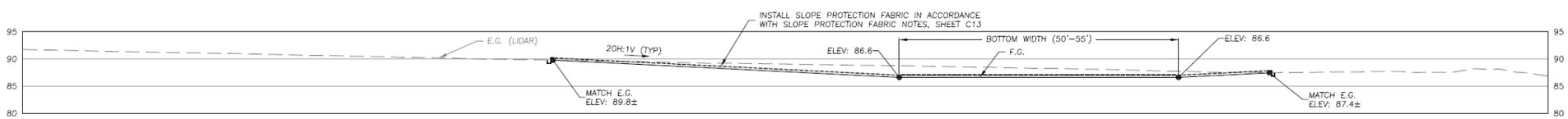
CHANNEL DESIGN ALIGNMENT A PROFILE 1 C3

SCALE: 1" = 10'



CHANNEL DESIGN ALIGNMENT A PROFILE AT DECOMISSIONED ROAD CROSSING 2 C3

SCALE: 1" = 10'



CHANNEL SECTION AT ROAD J C3

SCALE: 1" = 10'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

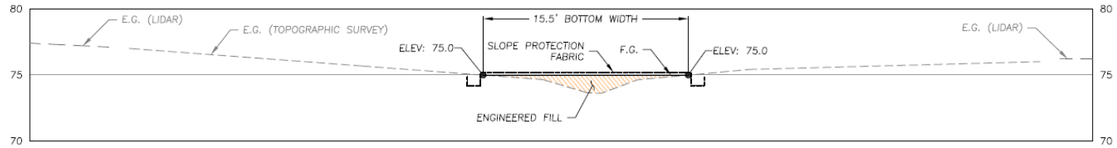
CHANNEL PROFILE AND SECTION

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

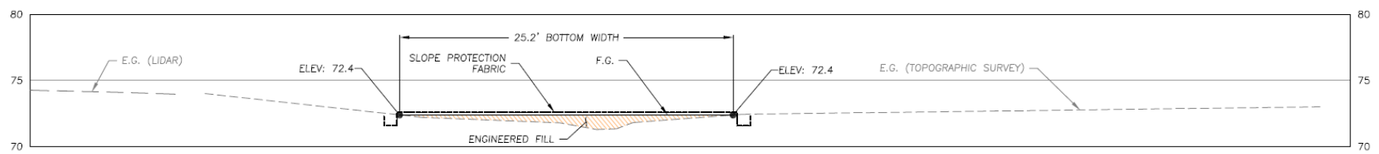
DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

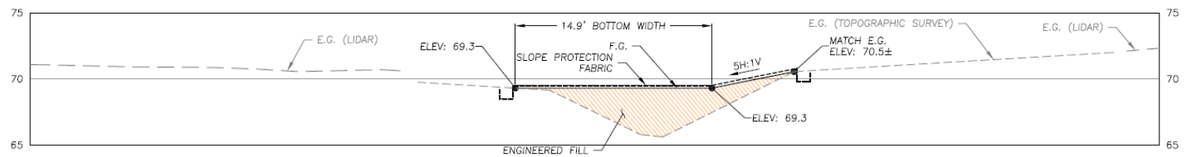
C7 | 7 OF 14



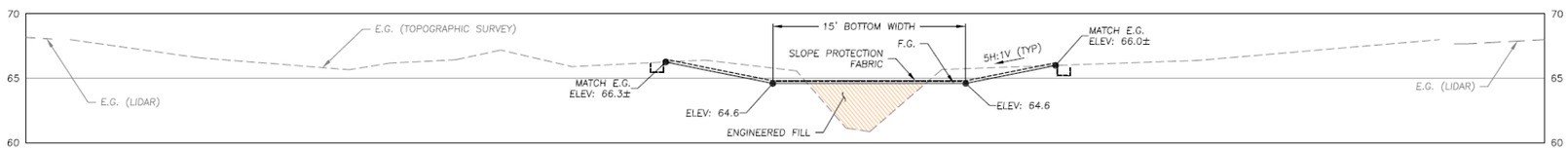
CHANNEL SECTION - ALIGNMENT A STA. 13+74 (E / C3)
SCALE: 1" = 5'



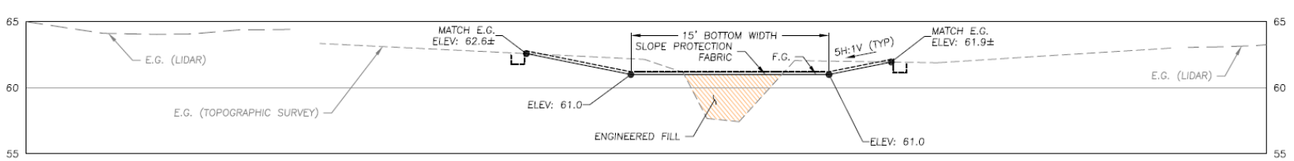
CHANNEL SECTION - ALIGNMENT A STA. 12+71 (D / C3)
SCALE: 1" = 5'



CHANNEL SECTION - ALIGNMENT A STA. 11+49 (C / C3)
SCALE: 1" = 5'



CHANNEL SECTION - ALIGNMENT A STA. 9+80 (B / C3)
SCALE: 1" = 5'



CHANNEL SECTION - ALIGNMENT A STA. 8+19 (A / C3)
SCALE: 1" = 5'

NOTES:

1. INSTALL SLOPE PROTECTION FABRIC PER SLOPE PROTECTION FABRIC NOTES, SHEET C13

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9391 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

CHANNEL SECTIONS

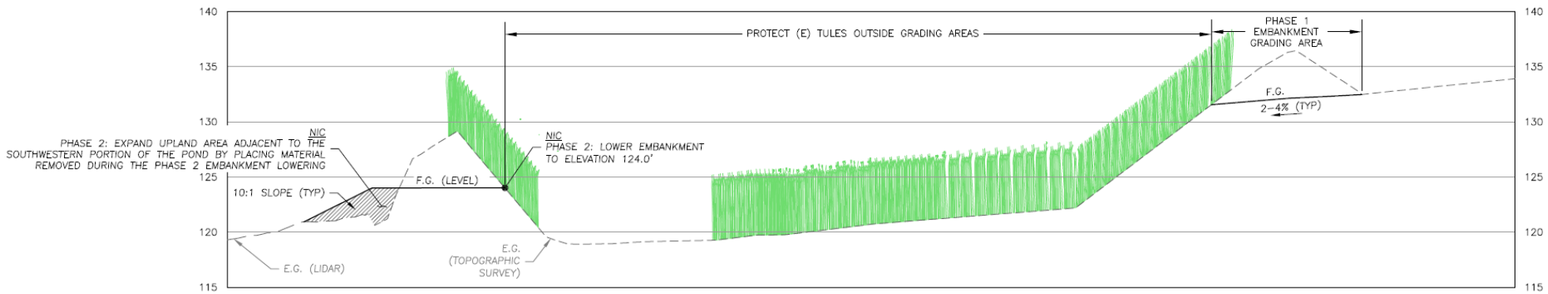
GREEN OAKS CREEK
HABITAT ENHANCEMENT
PROJECT
100% ADMINISTRATIVE
DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

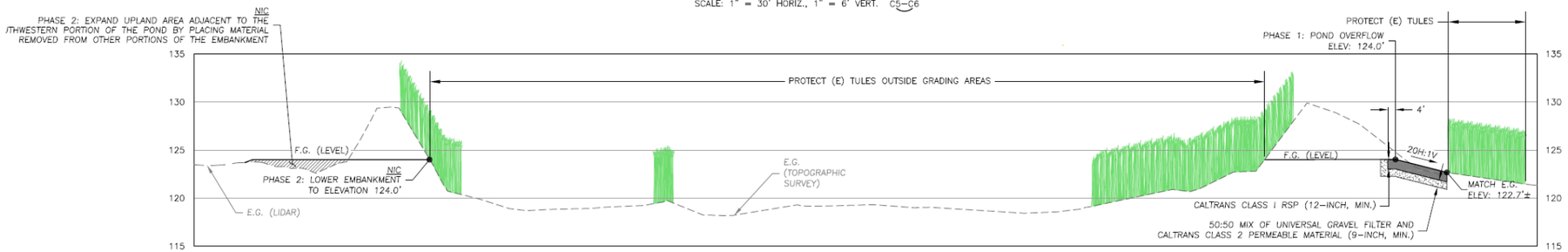
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C8

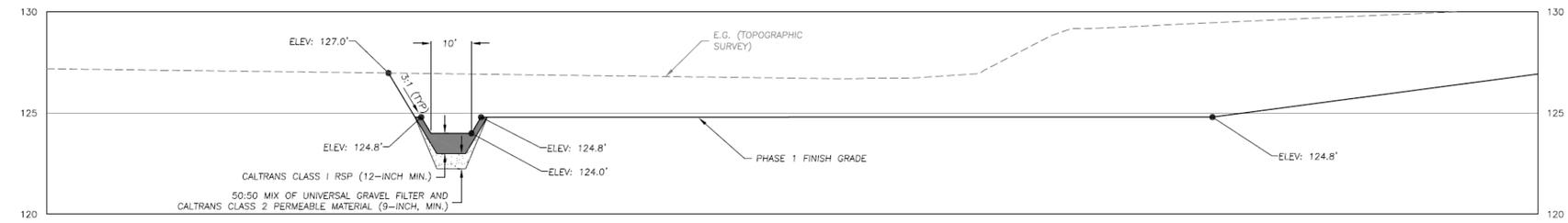
8 OF 14



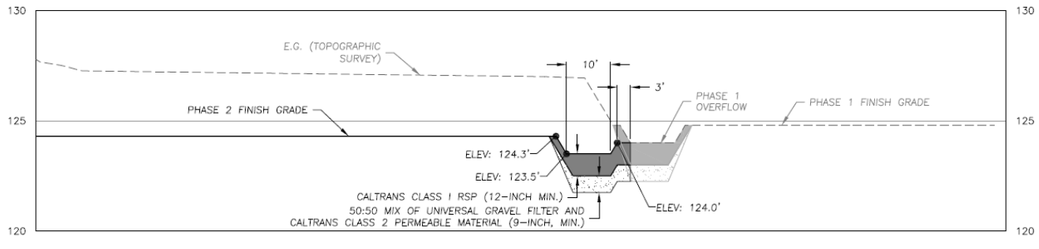
POND SECTION (F C5–C6)
SCALE: 1" = 30' HORIZ., 1" = 6' VERT.



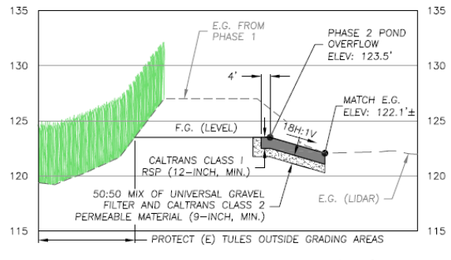
POND SECTION (G C5–C6)
SCALE: 1" = 30' HORIZ., 1" = 6' VERT.



PHASE 1 OVERFLOW ELEVATION (H1 C5)
SCALE: 1" = 15' HORIZ., 1" = 3' VERT.



PHASE 2 OVERFLOW ELEVATION (NIC) (H2 C6)
SCALE: 1" = 15' HORIZ., 1" = 3' VERT.



PHASE 2 SPILLWAY SECTION (NIC) (I C6)
SCALE: 1" = 30' HORIZ., 1" = 6' VERT.

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION
DISTRICT

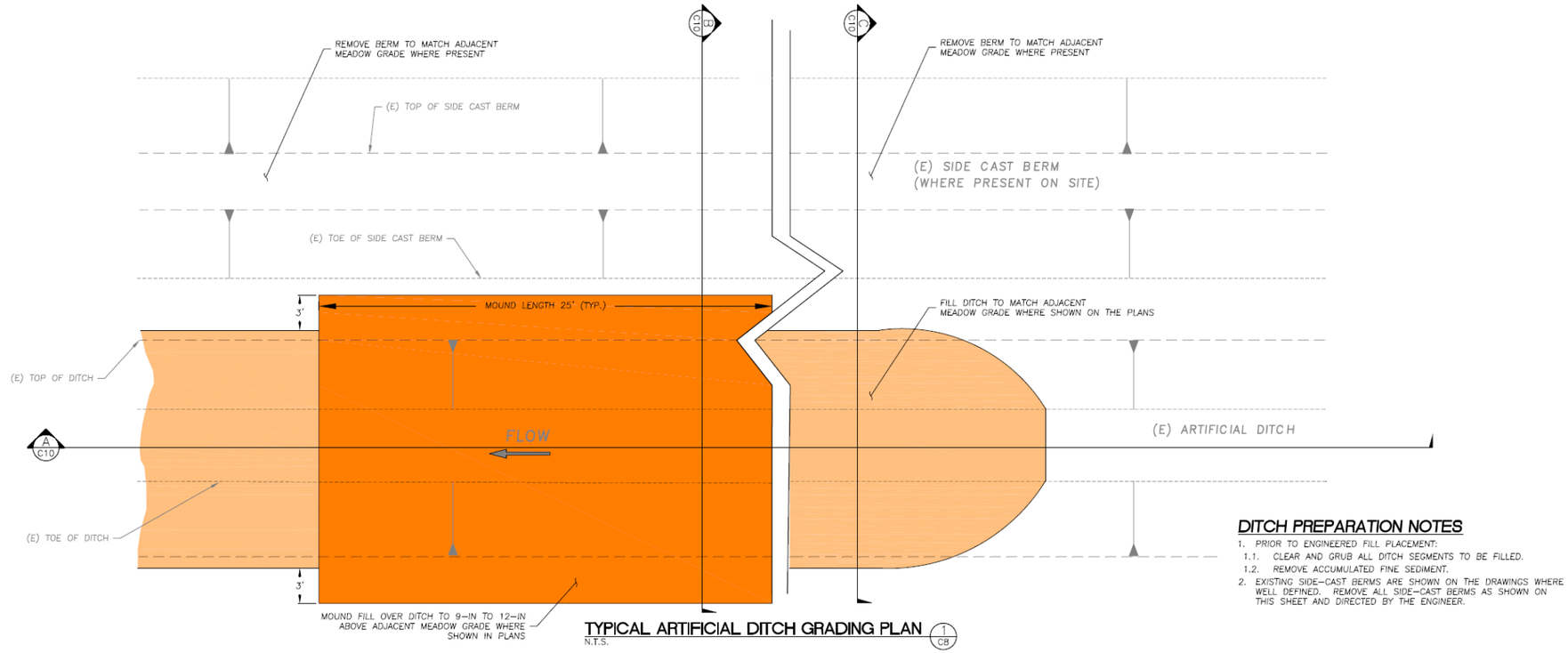
POND SECTIONS

GREEN OAKS CREEK
HABITAT ENHANCEMENT
PROJECT
100% ADMINISTRATIVE
DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

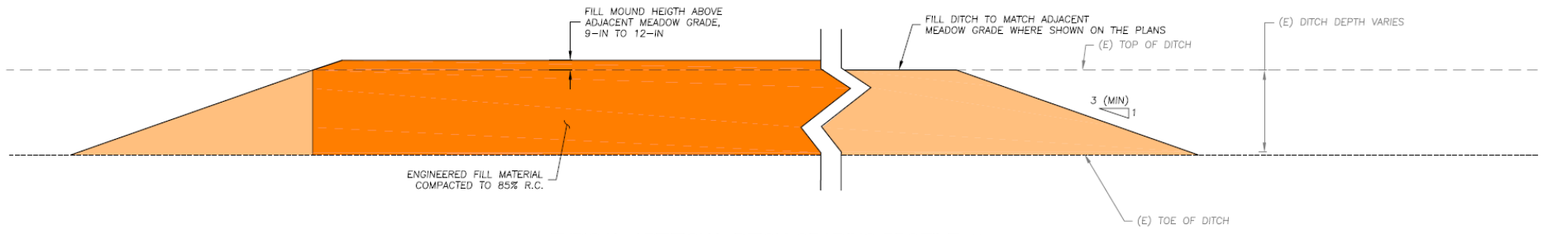
C9 | 9 OF 14



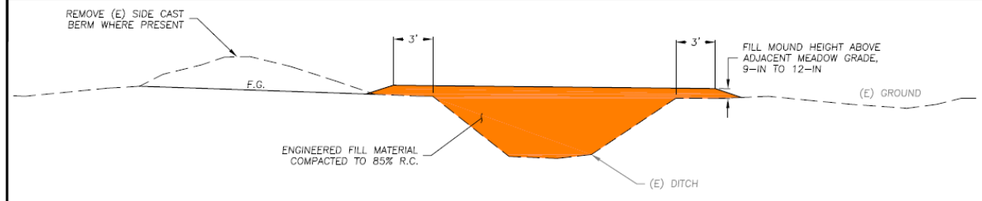
TYPICAL ARTIFICIAL DITCH GRADING PLAN (1 C8)
N.T.S.

DITCH PREPARATION NOTES

1. PRIOR TO ENGINEERED FILL PLACEMENT:
   1.1. CLEAR AND GRUB ALL DITCH SEGMENTS TO BE FILLED.
   1.2. REMOVE ACCUMULATED FINE SEDIMENT.
2. EXISTING SIDE-CAST BERMS ARE SHOWN ON THE DRAWINGS WHERE WELL DEFINED. REMOVE ALL SIDE-CAST BERMS AS SHOWN ON THIS SHEET AND DIRECTED BY THE ENGINEER.



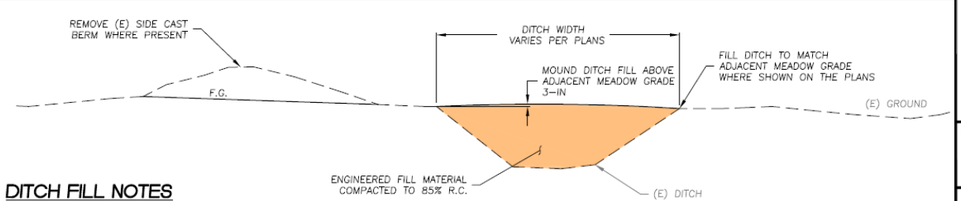
TYPICAL ARTIFICIAL DITCH GRADING PROFILE (A C8)
N.T.S.



TYPICAL ARTIFICIAL DITCH GRADING WITH MOUND SECTION (B C8)
N.T.S.

DITCH FILL NOTES

1. THE TYPICALS SHOWN ON THIS SHEET APPLY TO FILLING OF THE ARTIFICIAL DITCH UPSTREAM OF THE CREEK CHANNEL.



TYPICAL ARTIFICIAL DITCH GRADING SECTION (C C8)
N.T.S.

WATERWAYS CONSULTING INC.
1934 SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY RESOURCE CONSERVATION DISTRICT

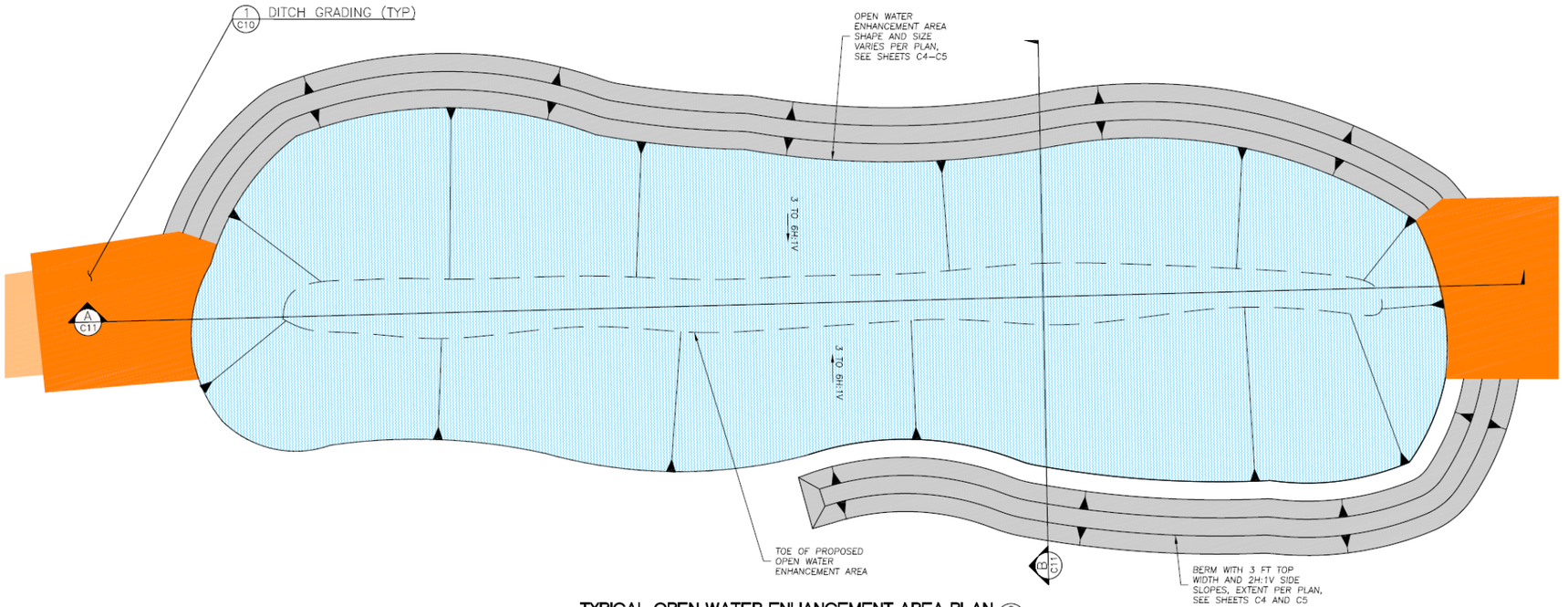
DITCH PLUG DETAILS

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

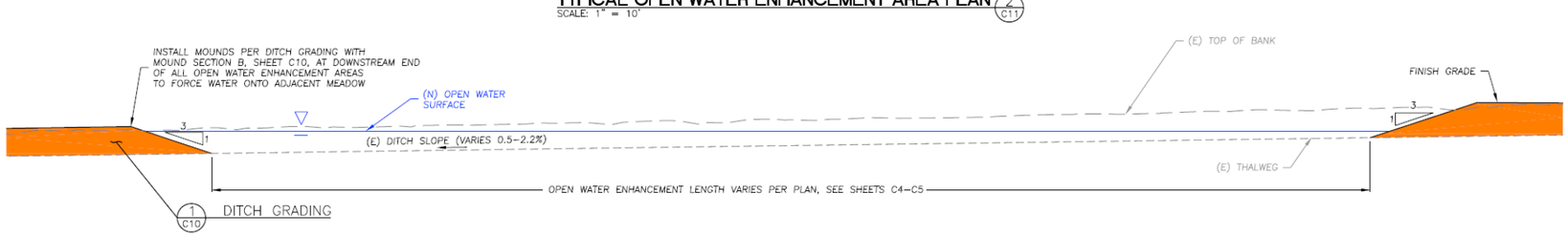
DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

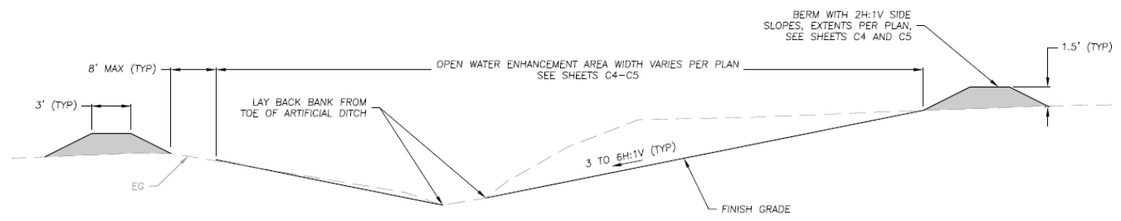
C10 | 10 OF 14



TYPICAL OPEN WATER ENHANCEMENT AREA PLAN 2 C11
SCALE: 1" = 10'



TYPICAL OPEN WATER ENHANCEMENT AREA PROFILE A C11
SCALE: 1" = 10'



TYPICAL OPEN WATER ENHANCEMENT AREA SECTION B C11
SCALE: 1" = 5'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9917 FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

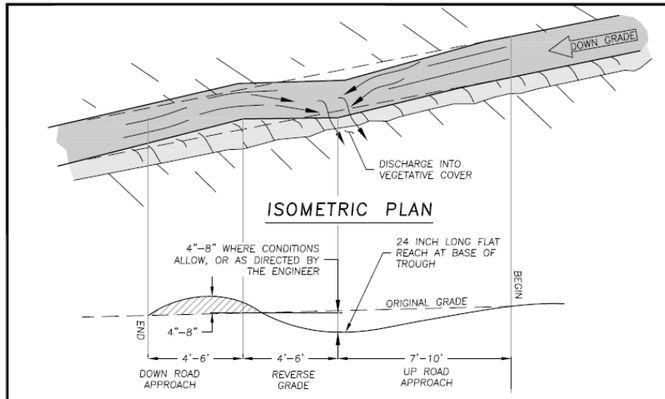
OPEN WATER ENHANCEMENT AREA DETAILS

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

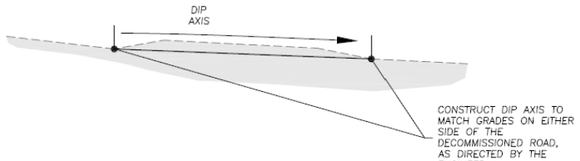
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

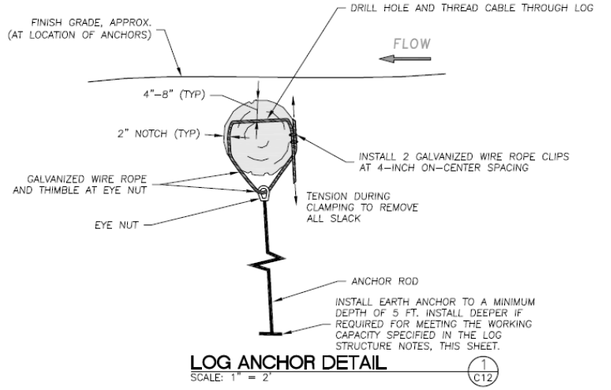
C11 11 OF 14



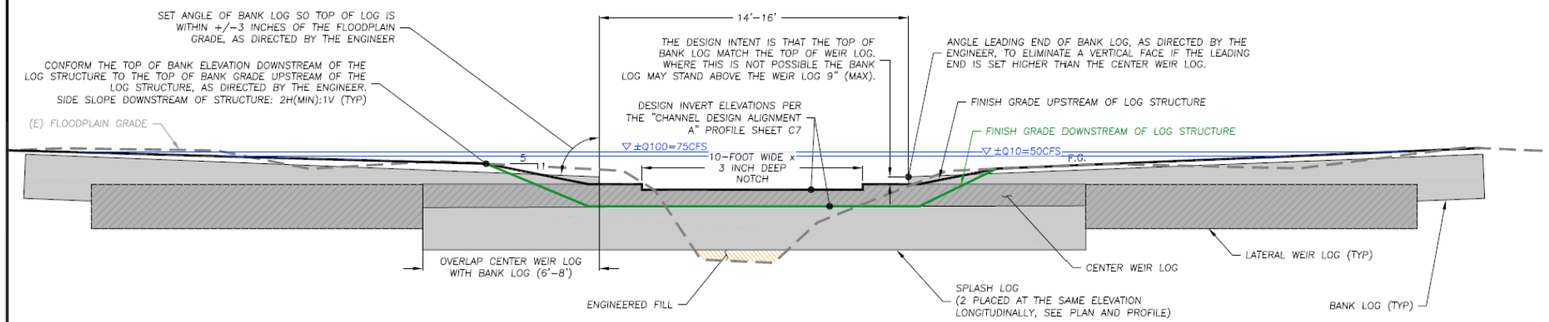
ROLLING DIP DETAIL (2, C3–C4)
SCALE: N.T.S.

NOTES
1. INSTALL ROLLING DIPS PER THE ROAD DECOMMISSIONING NOTES SHOWN ON SHEET 13.
2. CUT DIP INTO THE DECOMMISSIONED ROAD WITH THE DOWNROAD DIP BUILT UP ON COMPACTED FILL.
3. LOCATE DIP OUTLETS TO DRAIN INTO AREAS WITH ADEQUATE SEDIMENT FILTER QUALITY AND NON–ERODIBLE MATERIAL SUCH AS ROCK, SLASH, BRUSH, ETC.

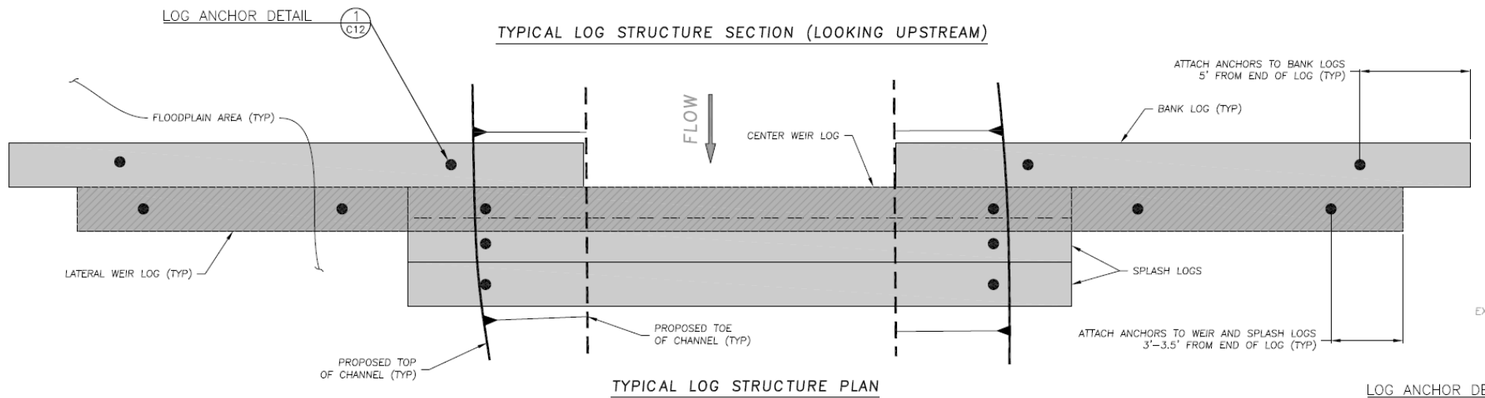




LOG ANCHOR DETAIL (1, C12)
SCALE: 1" = 2'



TYPICAL LOG STRUCTURE SECTION (LOOKING UPSTREAM)



TYPICAL LOG STRUCTURE PLAN

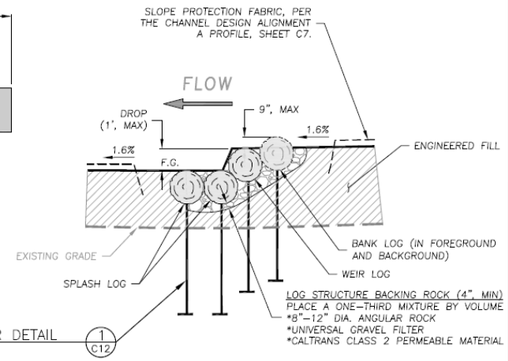
LOG STRUCTURE DETAIL (2, C3,C7)
SCALE: 1" = 3'

LOG STRUCTURE NOTES
1. PLACEMENT LOCATIONS: LOG LOCATIONS SHOWN ARE APPROXIMATE. FINAL LOCATIONS WILL BE AS DIRECTED BY THE ENGINEER.
2. LOGS: LOGS SHALL BE REDWOOD OR EUCALYPTUS, SOUND AND FREE OF SIGNIFICANT DECAY MEETING THE FOLLOWING SIZE CRITERIA:

LOG TYPE	DIAMETER (IN.)	LENGTH (FT.)	COUNT
BANK LOG	22–30	30	14
CENTER WEIR LOG	22–30	30	7
LATERAL WEIR LOG	22–30	15–18	14
SPLASH LOG	22–30	30	14

(22 INCHES IS THE MINIMUM ALLOWABLE DIAMETER AT ANY POINT ALONG A LOG. THIS DIAMETER DOES NOT INCLUDE ANY BARK LEFT ON THE LOG.)

3. LOG ANCHORING: ANCHOR LOGS USING "MANTA RAY MR–88" SOIL ANCHORS, OR APPROVED EQUIVALENT, WITH A MINIMUM WORKING CAPACITY/PULL OUT RESISTANCE OF 2.5 KIPS PER ANCHOR. INSTALL TWO LOG ANCHORS PER LOG (TOTAL MINIMUM WORKING CAPACITY OF 5 KIPS PER LOG) TO THE MINIMUM DEPTH SHOWN ON THE LOG ANCHOR DETAIL, THIS SHEET. POSITION ANCHORS SO LOG/LOG ANCHOR CONNECTIONS ARE NOT VISIBLE ABOVE FINISHED GRADE. PERFORM PULLOUT TESTS ON ALL ANCHORS IN THE PRESENCE OF THE ENGINEER TO CONFIRM THE MINIMUM WORKING CAPACITY IS MET.
4. LOG / LOG ANCHOR CONNECTIONS: CONNECT SOIL ANCHORS TO LOGS USING GALVANIZED WIRE ROPE AS SHOWN IN THE LOG ANCHORING DETAIL, THIS SHEET.
5. LOG STRUCTURE DESIGNS SHOWN ARE APPROXIMATE DUE TO THE INHERENT VARIABILITY OF MATERIAL PROPERTIES AND THE SITE TERRAIN. THE DESIGN REQUIRES THAT THE ENGINEER WILL OBSERVE CONSTRUCTION OF THE LOG STRUCTURES TO ENSURE THE INTENT OF THE DESIGN IS MET. OBSERVATIONS MUST INCLUDE LOG PLACEMENT AND BACKFILLING. ANY LOG STRUCTURES CONSTRUCTED WITHOUT THE ENGINEER PRESENT ON–SITE MAY RESULT IN REJECTION OF THE WORK BY THE ENGINEER.



TYPICAL LOG STRUCTURE PROFILE

WATERWAYS CONSULTING INC.
5094 SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 / FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

DETAILS

GREEN OAKS CREEK
HABITAT ENHANCEMENT
PROJECT
100% ADMINISTRATIVE
DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17–092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

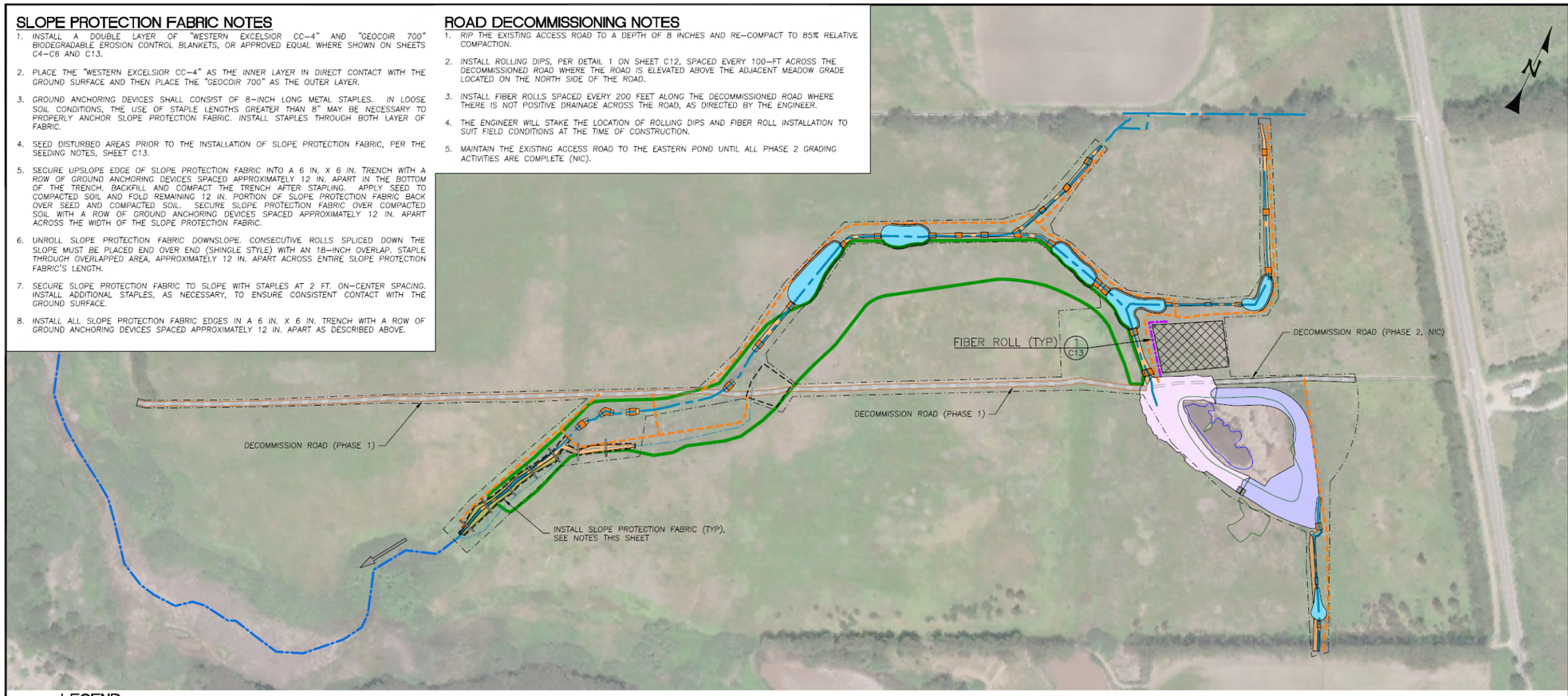
C12 | 12 OF 14

SLOPE PROTECTION FABRIC NOTES

1. INSTALL A DOUBLE LAYER OF "WESTERN EXCELSIOR CC-4" AND "GEOCOIR 700" BIODEGRADABLE EROSION CONTROL BLANKETS, OR APPROVED EQUAL WHERE SHOWN ON SHEETS C4-C6 AND C13.
2. PLACE THE "WESTERN EXCELSIOR CC-4" AS THE INNER LAYER IN DIRECT CONTACT WITH THE GROUND SURFACE AND THEN PLACE THE "GEOCOIR 700" AS THE OUTER LAYER.
3. GROUND ANCHORING DEVICES SHALL CONSIST OF 8-INCH LONG METAL STAPLES. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE LENGTHS GREATER THAN 8" MAY BE NECESSARY TO PROPERLY ANCHOR SLOPE PROTECTION FABRIC. INSTALL STAPLES THROUGH BOTH LAYER OF FABRIC.
4. SEED DISTURBED AREAS PRIOR TO THE INSTALLATION OF SLOPE PROTECTION FABRIC, PER THE SEEDING NOTES, SHEET C13.
5. SECURE UPSLOPE EDGE OF SLOPE PROTECTION FABRIC INTO A 6 IN. X 6 IN. TRENCH WITH A ROW OF GROUND ANCHORING DEVICES SPACED APPROXIMATELY 12 IN. APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12 IN. PORTION OF SLOPE PROTECTION FABRIC BACK OVER SEED AND COMPACTED SOIL. SECURE SLOPE PROTECTION FABRIC OVER COMPACTED SOIL WITH A ROW OF GROUND ANCHORING DEVICES SPACED APPROXIMATELY 12 IN. APART ACROSS THE WIDTH OF THE SLOPE PROTECTION FABRIC.
6. UNROLL SLOPE PROTECTION FABRIC DOWNSLOPE. CONSECUTIVE ROLLS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN 18-INCH OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 IN. APART ACROSS ENTIRE SLOPE PROTECTION FABRIC'S LENGTH.
7. SECURE SLOPE PROTECTION FABRIC TO SLOPE WITH STAPLES AT 2 FT. ON-CENTER SPACING. INSTALL ADDITIONAL STAPLES, AS NECESSARY, TO ENSURE CONSISTENT CONTACT WITH THE GROUND SURFACE.
8. INSTALL ALL SLOPE PROTECTION FABRIC EDGES IN A 6 IN. X 6 IN. TRENCH WITH A ROW OF GROUND ANCHORING DEVICES SPACED APPROXIMATELY 12 IN. APART AS DESCRIBED ABOVE.

ROAD DECOMMISSIONING NOTES

1. RIP THE EXISTING ACCESS ROAD TO A DEPTH OF 8 INCHES AND RE-COMPACT TO 85% RELATIVE COMPACTION.
2. INSTALL ROLLING DIPS, PER DETAIL 1 ON SHEET C12, SPACED EVERY 100-FT ACROSS THE DECOMMISSIONED ROAD WHERE THE ROAD IS ELEVATED ABOVE THE ADJACENT MEADOW GRADE LOCATED ON THE NORTH SIDE OF THE ROAD.
3. INSTALL FIBER ROLLS SPACED EVERY 200 FEET ALONG THE DECOMMISSIONED ROAD WHERE THERE IS NOT POSITIVE DRAINAGE ACROSS THE ROAD, AS DIRECTED BY THE ENGINEER.
4. THE ENGINEER WILL STAKE THE LOCATION OF ROLLING DIPS AND FIBER ROLL INSTALLATION TO SUIT FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.
5. MAINTAIN THE EXISTING ACCESS ROAD TO THE EASTERN POND UNTIL ALL PHASE 2 GRADING ACTIVITIES ARE COMPLETE (NIC).



LEGEND

- (E) FLOW LINE (ARTIFICIAL DITCH)
- (E) CREEK THALWEG
- (E) FLOW LINE
- (E) POND
- LIMITS OF DISTURBANCE
- (N) DECOMMISSION ROADWAY
- (N) TEMPORARY ACCESS ROAD
- (N) FIBER ROLL
- (E) HISTORIC SWALE LIMITS (APPROX.)
- (N) SLOPE PROTECTION FABRIC
- (E) TULE
- (E) OPEN WATER
- (N) PHASE 1 POND EMBANKMENT GRADING EXTENTS
- (N) PHASE 2 POND EMBANKMENT GRADING EXTENTS
- TEMPORARY STAGING/STOCKPILING AREA
- (N) OPEN WATER ENHANCEMENT AREA
- (N) ARTIFICIAL DITCH GRADING EXTENTS
- (N) ARTIFICIAL DITCH FILL MOUND
- (N) CHANNEL FILL
- (N) CHANNEL EXCAVATION

EROSION CONTROL AND REVEGETATION PLAN

SCALE: 1" = 200'

TEMPORARY ACCESS ROAD NOTES

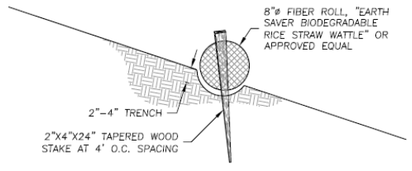
RESTORE TEMPORARY ACCESS ROADS AND STAGING AREAS BY RIPPING COMPACTED SOILS AND SEEDING, AS DIRECTED BY THE ENGINEER.

SEEDING NOTES (TO BE FINALIZED WITH INPUT FROM STATE PARKS)

1. GENERAL
   - A. SEED THE POND EMBANKMENT, DECOMMISSIONED ACCESS ROAD, TEMPORARY ACCESS ROADS, STAGING AREA, AND FILLED DITCH AREAS WITH THE SEED MIX AS IDENTIFIED BELOW.
   - B. SEEDING INCLUDES PREPARATION OF THE SEEDBED, AND HAND BROADCASTING SEED AS SPECIFIED ON THE DRAWINGS AND IN THESE NOTES.
2. MATERIALS
   - A. SEED: SEED SHALL CONSIST OF SITE COLLECTED SEED PROVIDED BY STATE PARKS.
   - B. MULCH SHALL CONSIST OF "WEED FREE" RICE STRAW.
3. INSTALLATION
   - A. PREPARE THE SEEDBED PRIOR TO SEED APPLICATION. SEEDBED PREPARATION INCLUDES LOOSENING OF COMPACTED SOILS TO A DEPTH OF 3 TO 5 INCHES, BREAKING DOWN SOIL CLUMPS LARGER THAN 2 INCHES IN DIAMETER, GRADING OF THE SURFACE TO BE NON-UNIFORM, ROUGH AND NATURAL IN APPEARANCE.
   - B. COMMENCE SEED APPLICATION FOLLOWING PREPARATION OF THE SEEDBED. SEED APPLICATION INCLUDES UNIFORMLY BROADCASTING SEED OVER PREPARED AREAS.
   - C. LIGHTLY RAKE SEED TO A DEPTH OF 1/4 INCH TO 1/2 INCH. DO NOT LEAVE SEED UNCOVERED FOR MORE THAN 24 HOURS.
   - D. HAND BROADCAST STRAW MULCH AT A RATE OF 500 POUNDS PER ACRE OVER ALL SEEDED AREAS RECEIVING EROSION CONTROL FABRIC AND 3,000 POUNDS PER ACRE OVER ALL SEEDED AREAS NOT RECEIVING FABRIC.

PLANTING NOTES (TO BE DISCUSSED WITH STATE PARKS)

WATERWAYS WOULD LIKE TO SEE WILLOW STAKES AND SALVAGED WETLAND PLANTS DIVIDED AND INSTALLED AT THE POND OVERFLOW, ALONG THE OPEN WATER ENHANCEMENT AREAS, WHERE THE HISTORICAL SWALE CROSSES THE DECOMMISSIONED ROAD, AND ALONG THE DOWNSTREAM CHANNEL WORK WITH A FOCUS AROUND THE LOG STRUCTURES.



FIBER ROLL (1 / C13)
SCALE: 1"=1'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY
RESOURCE CONSERVATION DISTRICT

EROSION CONTROL AND REVEGETATION PLAN

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C13 | 13 OF 14

GENERAL NOTES

1. NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL OBSERVE THE CONSTRUCTION PROCESS, AS NECESSARY TO ENSURE PROPER INSTALLATION PROCEDURES.
2. EXISTING UNDERGROUND UTILITY LOCATIONS:
   - A. CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.
   - B. PRIOR TO BEGINNING WORK, CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.
   - C. EXISTING UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.
   - D. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.
   - E. PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.
   - F. TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
   - G. UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE CITY BY TELEPHONE AND IN WRITING.
   - H. UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.
3. IF DISCREPANCIES ARE DISCOVERED BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
5. ALL TESTS, INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE REQUIRED TESTS AND INSPECTIONS ARE PERFORMED.
6. PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL A DETAILED CONSTRUCTION SCHEDULE. DO NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
9. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR HIS OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.
10. MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.
11. MAINTAIN THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. STORE ALL MATERIALS WITHIN APPROVED STAGING AREAS.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL PERMIT CONDITIONS, LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS, WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
13. PROVIDE, AT CONTRACTOR'S SOLE EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.
15. FIELD INSPECTIONS AND OR THE PROVISION OF CONSTRUCTION STAKES DO NOT RELIEVE THE CONTRACTOR OF THEIR SOLE RESPONSIBILITY FOR ESTABLISHING ACCURATE CONSTRUCTED LINES AND GRADES, AS SPECIFIED.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE SOLE EXPENSE OF THE CONTRACTOR.
17. WILLOWS TO BE REMOVED SHALL BE TRIMMED, TRANSPLANTED, AND UTILIZED IN THE REVEGETATION PLAN.
18. ALL STANDARD STREET MONUMENTS, LOT CORNER PIPES, AND OTHER PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED AND A RECORD OF SURVEY OR CORNER RECORD PER SECTION 8771 OF THE PROFESSIONAL LAND SURVEYORS ACT FILED BEFORE ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY OF SUNNYVALE. COPIES OF ANY RECORD OF SURVEY OR CORNER RECORDS SHALL BE SUBMITTED TO THE CITY.
19. CONTRACTOR IS REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
20. THE CONTRACTOR SHALL CONFORM TO THE RULES AND REGULATIONS OF THE CONSTRUCTION SAFETY ORDERS OF THE CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH PERTAINING TO EXCAVATION AND TRENCHES THE CALIFORNIA CODE OF REGULATIONS TITLE 8, SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS, ARTICLE 6 EXCAVATION.
21. CULTURAL RESOURCES: IN THE EVENT THAT HUMAN REMAINS AND/OR CULTURAL MATERIALS ARE FOUND, ALL PROJECT-RELATED CONSTRUCTION SHALL CEASE WITHIN A 100-FOOT RADIUS. THE CONTRACTOR SHALL, PURSUANT TO SECTION 7050.5 OF THE HEALTH AND SAFETY CODE, AND SECTION 5097.94 OF THE PUBLIC RESOURCES CODE OF THE STATE OF CALIFORNIA, NOTIFY THE SANTA CRUZ COUNTY CORONER IMMEDIATELY.

EARTHWORK NOTES

1. PHASE 1 GRADING SUMMARY:
   CUT VOLUME = 9,500 CY
   FILL VOLUME = 5,750 CY
   NET (CUT) = 3,750 CY

   PHASE 2 GRADING SUMMARY:
   CUT VOLUME = 3,100 CY
   FILL VOLUME = 3,100 CY
   NET = 0 CY
2. THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE, PREPARED FOR PERMITTING PURPOSES ONLY. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN, AND ELEVATIONS SHOWN ON SECTIONS AND PROFILES. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF WORK TO BE CONSTRUCTED. THE QUANTITIES HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.
3. THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS OR UNSUITABLE EARTH MATERIALS.
4. PRIOR TO COMMENCING WORK, PROTECT ALL SENSITIVE AREAS TO REMAIN UNDISTURBED WITH TEMPORARY FENCING, AS SHOWN ON THE DRAWINGS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER.
5. DO NOT DISTRURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. THE COST OF ALL ADDITIONAL WORK ASSOCIATED WITH RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORNE SOLELY BY THE CONTRACTOR.
6. REMOVE ALL EXCESS SOILS TO AN APPROVED DUMP SITE OR DISPOSE OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION.
7. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 19 OF THE STANDARD SPECIFICATIONS, THESE DRAWINGS, AND THE TECHNICAL SPECIFICATIONS.
8. PRIOR TO STARTING WORK ON THE PROJECT, SUBMIT FOR ACCEPTANCE BY THE ENGINEER A HAZARDOUS MATERIALS CONTROLS AND SPILL PREVENTION PLAN. INCLUDE PROVISIONS FOR PREVENTING HAZARDOUS MATERIALS FROM CONTAMINATING SOIL OR ENTERING WATER COURSES, AND ESTABLISH A SPILL PREVENTION AND COUNTERMEASURE PLAN.
9. FINE GRADING ELEVATIONS, CONFORMS, AND SLOPES NOT CLEARLY SHOWN ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO DIRECT DRAINAGE TO NATURAL WATERWAYS IN A MANNER THAT SUPPORTS THE INTENT OF THE DESIGN. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
10. SPREAD FILL MATERIAL IN LIFTS OF APPROXIMATELY 8 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND COMPACT. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.
11. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND COMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 8 INCHES AND RECOMPACTED PRIOR TO THE PLACEMENT OF FILL, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE SUMMER CONSTRUCTION SEASON (APRIL 15TH TO OCTOBER 15TH). IF THE DRAINAGE FEATURES SHOWN ON THESE DRAWINGS ARE NOT COMPLETED AND DISTURBED AREAS STABILIZED BY OCTOBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.
2. COMPLY WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN, TO BE PREPARED AND IMPLEMENTED BY THE CONTRACTOR IN COMPLIANCE WITH THE REQUIREMENTS OF THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES, WATER QUALITY ORDER NO. 2009-0009-DWQ, GENERAL PERMIT NO. CAS000002, ADOPTED SEPTEMBER 2, 2009, (HEREAFTER CONSTRUCTION GENERAL PERMIT (CGP).
3. DO NOT BEGIN SITE DISTURBING ACTIVITIES UNTIL THE SWPPP HAS BEEN APPROVED BY THE COUNTY, UPLOADED TO SMARTS AND A WASTE DISCHARGE IDENTIFICATION (WDID) NUMBER RECEIVED.
4. IMPLEMENT SWPPP MEASURES AS THE FIRST ORDER OF BUSINESS UPON SITE MOBILIZATION.
5. PRIOR TO COMMENCING WORK, PROTECT AREAS TO REMAIN UNDISTURBED WITH ESA FENCING, IF SHOWN ON THE DRAWINGS. ADDITIONAL FENCING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
6. UTILIZE ONLY THE APPROVED HAUL ROADS AND ACCESS POINTS (AS SHOWN ON THE DRAWINGS) FOR TRANSPORT OF MATERIALS AND EQUIPMENT.
7. BETWEEN OCTOBER 15 AND APRIL 15, PROTECT EXPOSED SOIL FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, STABILIZE ALL EXPOSED SOIL ON DISTURBED SLOPES AGAINST EROSION.
8. MAINTAIN A STANDBY CREW FOR EMERGENCY WORK AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). STOCKPILE NECESSARY MATERIALS AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES.
9. CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THIS PLAN AND/OR AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.
10. INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.
11. CONSTRUCT AND MAINTAIN EROSION CONTROL MEASURES TO PREVENT THE DISCHARGE OF EARTHEN MATERIALS OUTSIDE LIMITS OF DISTURBANCE FROM DISTURBED AREAS UNDER CONSTRUCTION AND FROM COMPLETED CONSTRUCTION AREAS.
12. INSTALL ALL PROTECTIVE DEVICES AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EQUALS OR EXCEEDS 50 PERCENT AS DETERMINED FROM THE NATIONAL WEATHER SERVICE FORECAST OFFICE: WWW.SRH.NOAA.GOV.
13. THE EROSION CONTROL DEVICES ON THIS PLAN ARE A SCHEMATIC REPRESENTATION OF WHAT MAY BE REQUIRED. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED, OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS ENCOUNTERED, AT THE DISCRETION OF THE ENGINEER.
14. MAINTAIN ALL EROSION CONTROL DEVICES AND MODIFY THEM AS SITE PROGRESS DICTATES.
15. MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.
16. CLEAN DAILY ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.
17. CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.
18. IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING SITE DISTURBING ACTIVITIES.

DUST CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL, THROUGHOUT THE CONSTRUCTION, IN ACCORDANCE WITH THE PERMIT CONDITIONS OF APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REGULAR CLEANING OF ALL MUD, DIRT, DEBRIS, ETC., FROM ANY AND ALL ADJACENT ROADS AND SIDEWALKS, AT LEAST ONCE EVERY 24 HOURS WHEN OPERATIONS ARE OCCURRING.
2. ALL DISTURBED AREAS, INCLUDING UNPAVED ACCESS ROADS OR STORAGE PILES, NOT BEING ACTIVELY UTILIZED FOR CONSTRUCTION PURPOSES, SHALL BE EFFECTIVELY STABILIZED OF DUST EMISSIONS USING WATER, CHEMICAL STABILIZER/SUPPRESSANT, OR VEGETATIVE GROUND COVER.
3. ALL GROUND-DISTURBING ACTIVITIES (E.G., CLEARING, GRUBBING, SCRAPING, AND EXCAVATION) SHALL BE EFFECTIVELY CONTROLLED OF FUGITIVE DUST EMISSIONS UTILIZING APPLICATION OF WATER OR BY PRE-SOAKING.
4. ALL MATERIALS TRANSPORTED OFFSITE SHALL BE COVERED OR EFFECTIVELY WETTED TO LIMIT DUST EMISSIONS.
5. FOLLOWING THE ADDITION OF MATERIALS TO, OR THE REMOVAL OF MATERIALS FROM, THE SURFACES OF OUTDOOR STORAGE PILES, SAID PILES SHALL BE EFFECTIVELY STABILIZED OF FUGITIVE DUST EMISSIONS UTILIZING SUFFICIENT WATER OR CHEMICAL STABILIZER/SUPPRESANT.
6. ONSITE VEHICLE SPEED ON UNPAVED SURFACES SHALL BE LIMITED TO 15 MPH.
7. DISTURBED AREAS SHALL BE SEEDED PRIOR TO OCTOBER 15TH OR EARLIER AS REQUIRED BY THE APPLICABLE PERMIT CONDITIONS.

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO COUNTY RESOURCE CONSERVATION DISTRICT

NOTES

GREEN OAKS CREEK HABITAT ENHANCEMENT PROJECT
100% ADMINISTRATIVE DRAFT DESIGN SUBMITTAL

DESIGNED BY: D.H.
DRAWN BY: D.H./J.H.
CHECKED BY: B.Z.
DATE: 12/11/2020
JOB NO.: 17-092

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C14

14 OF 14