CAMBRIA COMMUNITY SERVICES DISTRICT

MEETING	TIME & DATE	LOCATION
Resources & Infrastructure Committee	2:00 PM Monday, July 15, 2024	Cambria Veterans' Memorial Hall, 1000 Main Street, Cambria, CA 93428

AGENDA

I, Karen Dean, Committee Chair of the Resources & Infrastructure Committee, hereby call a Special Meeting of the Resources & Infrastructure Committee pursuant to California Government Code Section 54956. The Special Meeting will be held on Monday, July 15, 2024, at 2:00 PM. The purpose of the Special Meeting is to discuss or transact the following business:

Special Resources & Infrastructure Committee Meeting

Monday, July 15, 2024, 2:00 PM

In person at:
Cambria Veterans' Memorial Hall
1000 Main Street, Cambria, CA 93428
AND via Zoom at:
Please click the link to join the webinar: HERE Passcode: 090720

Copies of the staff reports or other documentation relating to each item of business referred to on the agenda are on file in the CCSD Administration Office, available for public inspection during District business hours. The agenda and agenda packets are also available on the CCSD website at https://www.cambriacsd.org/. In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting or if you need the agenda or other documents in the agenda packet provided in an alternative format, contact the Confidential Administrative Assistant at 805-927-6223 at least 48 hours before the meeting to ensure that reasonable arrangements can be made. The Confidential Administrative Assistant will answer any questions regarding the agenda.

1. OPENING

- **1.A Call to Order**
- **1.B Establishment of Quorum**
- **1.C Chair Report**
- **1.D Ad Hoc Subcommittee Report(s)**
- **1.E Committee Member Communications**
- **1.F Utilities Department Manager Report**

2. PUBLIC COMMENT ON AGENDA ITEMS

3. CONSENT AGENDA

- **3.A Consideration to Approve the May 13, 2024 Regular Meeting Minutes**

4. REGULAR BUSINESS

4.A Receive and Discuss Information Update on Stuart Street Tanks

4.B Receive and Discuss Information Update on San Simeon Transmission Line Replacement

4.C Discussion and Consideration of Approval of Zero Liquid Discharge (ZLD) Pilot Testing Program and Recommendation to the Board of Directors

5. FUTURE AGENDA ITEM(S)

6. ADJOURN

CAMBRIA COMMUNITY SERVICES DISTRICT

MINUTES OF MAY 13, 2024, REGULAR RESOURCES & INFRASTRUCTURE COMMITTEE MEETING OF THE CAMBRIA COMMUNITY SERVICES DISTRICT

A regular meeting of the Resources & Infrastructure Committee of the Cambria Community Services District was held at the Cambria Veterans' Memorial Hall, located at 1000 Main Street, Cambria, CA 93428, on Monday, May 13, 2024, at 2:00 PM

1. OPENING

1.A Call to Order

Chairperson Dean called the meeting to order at 2:01 pm.

1.B Establishment of Quorum

A quorum was established.

Committee members present: Karen Dean, Juli Amodei, James Webb, Steve Siebuhr, Mark Meeks, and Derrik Williams.

Staff present: General Manager Matthew McElhenie, Utilities Department Manager Jim Green, Program Manager Tristan Reaper, Wastewater Superintendent Toni Artho, and Water Systems Superintendent Cody Meeks.

Others in attendance: Director Michael Thomas. Public members Dennis Dudzik, Alan Dean, Chris Siebuhr. David Pierson, Jim DiPasquale (remote), Regina Larsen (remote), Crosby and Laura Swartz (remote), and Tony Safford (remote).

1.C Chair Report (Time 2:24)

Chairperson Dean reported that committee member Amodei will be leaving the R&I committee and will be joining the PROS committee. This is committee member Amodei's last R&I committee meeting. Chairperson Dean reflected the sentiment of all committee members, expressing her gratitude for the exceptional work and enthusiasm committee member Amodei brought as part of the R&I committee. The opening on the R&I committee will be advertised at the June 13 Board of Directors meeting.

1.D Ad Hoc Subcommittee Report(s) (Time 2:28)

Committee member Meeks contacted Source Global about their solar hydro-panels, but they are busy and have not provided any costs. A report on any progress getting costs will be included on the July R&I committee agenda.

Committee member Williams had no report on the geophysical surveys. A progress report for the geophysical studies will be included on the July R&I committee agenda.

General Manager McElhenie gave an update on the grant process. The grant application deadline has been delayed until June 2. The grant is targeting evacuation route hardening and hiring consultants to review the district-wide emergency evacuation plan.

1.E Committee Member Communications

None.

1.F Utilities Department Manager Report (Time: 2:32)

Utilities Department Manager Green reported on the following:

- **EV charging station**. The station is now complete and fully operational.
- **Skate Park.** The section 106 permitting is now covering a larger area. The mapping was completed on May 7. The District will release an RFP for skate park design and construction soon.
- **East Park Restroom**. The restroom will likely arrive in late January. The District will likely break ground and do site preparation in mid-January.
- **San Simeon pipeline project**. District staff met with State Parks last week. The fourth pipeline alignment alternative is the preferred alternative for State Parks staff. This fourth alignment alternative is along Highway 1, and it takes any infrastructure out of the wetlands and nature preserve. State Parks will write a letter of support for this alternative. This alignment may qualify the project for a CEQA categorical exemption and avoid a federal review.

  Public Comment

  None
- **Zero Liquid Discharge.** The contractor will be out Wednesday for a site visit. The District will receive an update after that. The pilot project is planned for October.
- **Stuart Street Tank**. This project is still on schedule. More geotechnical work is still being completed. The District is currently completing a Section 106 review.
- **San Simeon Well #3.** The District is still waiting on the contractor to provide a bond.

2. PUBLIC COMMENT (TIME: 2:51)

None.

3. CONSENT AGENDA (TIME: 2:52)

3.A Consideration to Approve the April 8, 2024 Regular Meeting Minutes and

Committee Member Amodei moved to adopt April 8, 2024 regular minutes as written.

Committee Member Siebuhr seconded the motion.

The motion was approved: 5-Ayes; 0-Nays; 0-Abstain; 0-Absent

3.B Consideration to Approve the April 15, 2024 Special Meeting Minutes

Committee Member Meeks moved to adopt April 15, 2024 special minutes as written.

Committee Member Webb seconded the motion.

The motion was approved: 5-Ayes; 0-Nays; 0-Abstain; 0-Absent

4. REGULAR BUSINESS

4.A Receive Presentation on Co-Generation Options for Cambria (Time: 2:02 pm)

Mr. Pierson presented a proposal for a co-generation unit that could produce power from wood chips produced during fire suppression. Mr. Pierson introduced Jim DiPasqulae from the U.S. Forest Service's Wood and Biomass Utilization program. The Forest Service has grant funding of up to $300,000 to support implementing co-generation projects. The Forest Service also has a Wood Energy Technical Assistance Team to help determine the size and type of facility that might be the best for local conditions.

Mr. Pierson has investigated a biomass co-generation unit from All Power Labs. It only works on wood chips, not green waste.

Chairperson Dean asked what the expense might be beyond the $300,000 grant. It is unclear until The District get quotes from All Power Labs.

Committee member Weeks asked what fuel is used to burn the wood chips. Mr. Pierson states that it is likely some type of fossil fuel to ignite the process, but the system runs itself after that.

Chairperson Dean asks if there is room at the treatment plant for a unit. Utility Manager Green believes there is room.

Chairperson Dean asks if there is an operating unit that staff or Board Members could vised. Mr. Pierson believes there is a similar unit operating in Berkeley.

Public Comment

Mr. Dudzik points out one advantage of this system is that the District can run the unit when power is needed. M. Dudzik states other municipalities are looking at the same type of technologies – particularly in the Sacramento area.

Chairperson Dean reads a written question from Ms. Heinrichs. Ms. Heinrichs asked if the unit requires one-half ton of waste daily to offset the cost of the unit. Mr. Pierson says the requirements are currently unknown. My Heinrichs asked if the technology is newer than what the District looked at previously. Mr. Pierson says yes, this is newer technology. Ms. Heinrichs asked if we believe there is adequate waste for this unit. Mr. Pierson states yes, there is currently adequate waste to feed the unit.

Chairperson Dean states it would be beneficial to have further conversation with PG&E, All Power Labs, and the local Air Resources Control Board. Staff will research the options and costs, then bring a proposal back to the R&I Committee.

Committee member Amodei asks if there is a community similar to Cambria that is doing this. Mr. Pierson is not aware of one.

4.B Receive Updated Report from Ad Hoc Committee on Climate Change, Discussion and Consideration to Forward Report to the Board of Directors (Time: 2:54)

Chairperson Dean presented the background of the District's climate change policy.

Committee member Meeks summarizes the Climate Change Planning and Policy memo that will be forwarded to the Boad of Directors.

Chairperson Dean, committee member Webb, and committee member Williams provide editorial suggestions to the Climate Change Planning and Policy memo and the cover memorandum.

Chairperson Dean suggests the report link to SLO County and SLO city codes for lighting and night sky preservation.

Committee Member Williams moved to forward the report, as amended, to the Board of Directors.

Committee Member Meeks seconded the motion.

The motion was approved: 5-Ayes; 0-Nays; 0-Abstain; 0-Absent

4.C Receive Presentation on Advanced Clean Fleet and Regulations, Discussion and Consideration to Forward a Recommendation to the Board of Directors (Time: 3:21)

Program Manager Tristan Reaper provided background information on the Advanced Clean Fleet Regulations. Half the vehicles over 8,500 pounds purchased by the District must be electric vehicles. PG&E is offering incentives to install new charging stations. The incentive ends June 30, 2024.

Public Comments

Ms. Larsen suggested the District start early because the process can be long, and there are current funding opportunities.

Committee Member Meeks moved to forward the recommendation to the Board of Directors that the District apply for the PG&E incentives and commit to installing one charger and buy two electric vehicles.

Committee Member Amodei seconded the motion.

The motion was approved: 5-Ayes; 0-Nays; 0-Abstain; 0-Absent

5. FUTURE AGENDA ITEM(S) (TIME: 3:37)

Chairperson Dean asked for any future agenda items.

Chairperson Dean states that the June R&I agenda will include the following:

- The annual Water Supply and Demand Assessment report
- The possible transfer of a County-owned USGS stream gauge on San Simeon Creek to the District
- A proposal to work with Creeklands Conservancy on off-stream storage and water supply enhancement.

Ms. Amodei requests that the R&I Committee receive a report on the grant application in June.

Mr. Williams requests that the R&I Committee receive an update on the Zero Liquid Discharge program in June.

Chairperson Dean states that the July R&I committee meeting will include reports about the status of the Source Global hydro-panel and the geophysics projects.

6. ADJOURN

Chairperson Dean adjourned the meeting at 3:40 p.m.

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Resources and Infrastructure Committee AGENDA NO. **4.A.**

FROM: James Green, Utilities Department Manager

Meeting Date: July 15, 2024 Subject: Receive and Discussion Information Update on Stuart Street Tanks

RECOMMENDATIONS:
Receive and discuss project information and updates.

DISCUSSION:
The Stuart Street Tank Replacement Project (Project) kicked off at the beginning of February with the completion of a contract and an issuance of a Notice to Proceed for our consultants MKN, who were awarded the project. District consultants began data gathering and surveying for permitting requirements. Results from geotechnical investigations revealed that replacing both tanks on the existing foundations would not comply with current California Building Code (CBC) requirements. The existing footing is 12" deep. Updated building code requirements have increased the required depth of ringwall foundations for domestic storage tanks to 30" to provide enough strength and support for seismic-related events.

Other code requirements, such as the required setback of the tanks from Stuart St, the distance between the tanks, and accessibility to the perimeter of both tanks for maintenance, prompted another modification to the design. The south retaining wall of the tank site will need to be moved 10' outward to accommodate the reorientation of Tank #2 and the accessibility perimeter. (Attachment 1, Preliminary Layout)

Concern for EPA funding ($375,000) being at risk was quelled when District Staff and consultants met with the United States Environmental Protection Agency (EPA) Project Officer to confirm that the small change in scope would not jeopardize funding for the project. A Categorical Exclusion and modification to the scope and application package was completed and submitted to the EPA in early April. Further "Crosscutter" requirements, such as Section 106 of the National Historic Preservation Act (NHPA), U.S. Fish and Wildlife, and Endangered Species Act (ESA), are being completed.

District staff and consultants presented the updated project in a pre-application meeting with San Luis Obispo County Planning. County Planning confirmed that a Coastal Development Permit (CDP) would be required due to the Project's expanded scope. Final meeting notes with County Planning are attached. (Attachment 2) The project must be submitted to County Planning for review, followed by a hearing in front of the Planning Commission. Staff and our consultants expect the Project hearing to occur in late fall.

Attachments: NEPA CATEX Application
Pre-Application Meeting notes, County Planning
Preliminary Design
Project Description

Categorical Exclusion and Extraordinary Circumstances Review Form
United States Environmental Protection Agency
Region

I. General Information

Project Name	Grant Program / Funding Authority	Grant Id Number (if known)
Stuart Street Tank Reconstruction	EPA - STAG	

Grant Applicant Organization

Cambria Community Services District

Project Location Description *(street address/city/state/ZIP code; site characteristics)*

1975 Stuart St., Cambria, CA 93428; Current Tank Locations

Project Description (*summary of project scope*)

Refurbishment of Two Existing Potable Water Supply Tanks

II. EPA Contact for Environmental Review on this Project (If different from Responsible Official)

Name/Title	Email	Phone Number

III.A. Categorical Exclusion Eligibility *(Check YES or NO)* Complete the following questions in their entirety to determine if the project is eligible for a Categorical Exclusion (CATEX) pursuant to 40 CFR § 6.204(a)(1)(ii) or (iii). Additionally, supporting statements and documentation can be included in Attachment 1.

		YES	NO	
If yes to any, CATEX applies	**40 CFR § 6.204(a)(1)(ii). Does the project involve actions relating to existing infrastructure systems (e.g., sewer systems; drinking water supply systems; and stormwater systems, including combined sewer overflow systems) and involve**:			
		☐	☑	Minor upgrading
		☑	☐	Minor expansion of system capacity or rehabilitation (including functional replacement) of the existing system and its components (such as the sewer collection network and treatment system; the system to collect, treat, store and distribute drinking water; and stormwater systems, including combined sewer overflow systems)
		☐	☑	Construction of new minor ancillary facilities next to or on the same property as existing facilities
If yes to any, CATEX does not apply	Will the project include actions that:			
		☐	☑	Involve new or relocated discharges to surface or ground water
		☐	☑	Will likely result in the substantial increase in the volume or the loading of pollutant to the receiving water
		☐	☑	Will provide capacity to serve a population 30% greater than the existing population
		☐	☑	Are not supported by the state, or other regional growth plan or strategy
		☐	☑	Directly or ind :e to upgrading or extending infrastructure systems primarily for th elopment
If yes to any, CATEX applies	**40 CFR § 6.204(a)(1)(iii). Actions in unsewered communities involving:**			
		☑	☐	Replacement of existing onsite systems
If yes to any, CATEX does not apply	Will the project include actions that:			
		☐	☑	Involve relocated discharges
		☐	☑	Will likely result in the substantial increase in the volume or the loading of pollutants from existing sources

possible retaining wall

is there replacement of onsite systems in an unsewered community?

Project Name	Grant Id Number (if known)
Stuart Street Tank Refurbishment	

III.B. Extraordinary Circumstances *(Check YES or NO)* Complete the following questions in their entirety to determine if the project involves any of the following extraordinary circumstances which would make it ineligible for a CATEX pursuant to 40 CFR § 6.204(b)(1) through (b)(10). Additionally, supporting statements and documentation can be included in Attachment 1.

YES	NO	
☐	☑	1) Is the action known or expected to have potentially significant environmental impacts on the quality of the human environment either individually or cumulatively over time?
☐	☑	2) Is the action known or expected to have disproportionately high and adverse human health or environmental effects on any community, including minority communities, low-income communities, or federally-recognized Indian tribal communities?
☐	☑	3) Is the action known or expected to significantly affect federally listed threatened or endangered species or their critical habitat?
☐	☑	4) Is the action known or expected to significantly affect national natural landmarks or any property with naturally significant historic, architectural, prehistoric, archaeological, or cultural value, including but not limited to, property listed on or eligible for the National Register of Historic Places?
☐	☑	5) Is the action known or expected to significantly affect environmentally important natural resource areas such as wetlands, floodplains, significant agricultural lands, aquifer recharge zones, coastal zones, barrier islands, wild and scenic rivers, and significant fish or wildlife habitat?
☐	☑	6) Is the action known or expected to cause significant adverse air quality effects?
☐	☑	7) Is the action known or expected to have a significant effect on the pattern and type of land use (industrial, commercial, agricultural, recreational, residential) or growth and distribution of population, including altering the character of existing residential areas or may not be consistent with state or local government, or federally-recognized Indian tribe approved land use plans or federal land management plans?
☐	☑	8) Is the action known or expected to significantly cause significant public controversy about potential environmental impacts of the proposed action?
☐	☑	9) Is the action known or expected to be associated with providing financial assistance to a federal agency through an interagency agreement for a project that is known or expected to have potentially significant environmental impacts?
☐	☑	10) Is the action known or expected to conflict with federal, state, or local government, or federally-recognized Indian tribe environmental resource-protection, or land-use laws or regulations?

Title of Project	Grant Id Number (if known)
Stuart Street Tank Refurbishment	

III.C. Extraordinary Circumstances Statement *(Check ONLY ONE box)* If the responses to Section III.A indicate the project is CATEX eligible, and if a **NO** response was recorded for each of the questions in Section III.B, then no Extraordinary Circumstances are present pursuant to 40 CFR § 6.204(b) and one of the following statements should be selected.

☑ 1) N**o extraordinary circumstances apply** to the proposed action pursuant to 40 CFR §§ 6.204(a)(1) and 6.204(b). This statement is based on either past experience with similar actions **at the proposed action site** resulting in a CATEX and/or information gathered as part of previous NEPA or environmental due diligence review conducted **at the proposed action site**. Provide any supporting documentation or references in Attachment I.

☐ 2) A statement and supporting documentation is attached explaining why no extraordinary circumstances exist or apply to the proposed action pursuant to 40 CFR §§ 6.204(a)(1) and 6.204(b).

IV. NEPA Review Determination and Responsible Official Signature

Sections I through III must be completed to satisfy EPA's documentation requirements for CATEX eligibility. If completion of this form indicates that a CATEX *does apply*, the Responsible Official must sign below.

Categorical Exclusion Determination The EPA finds that the proposed action is eligible for exclusion from detailed environmental review under 40 CFR § 6.204(a)(1), and will not involve any of the extraordinary circumstances delineated under 40 CFR § 6.204(b)(1) through (b)(10). Consequently, the EPA will not prepare an environmental impact statement or an environmental assessment for the proposed project. The EPA may revoke this categorical exclusion if changes in the proposed action render it ineligible for exclusion or if new evidence emerges which indicates that serious local or environmental issues exist or federal, state, or local laws would be violated.

As the Responsible Official, I have determined that **this action is eligible for a Categorical Exclusion** per the substantive environmental review requirements under EPA regulations at 40 CFR § 6.204. Section III.C of this form has been completed providing the required Extraordinary Circumstances Statement.

Signature of Responsible Official	Title	Date

NOTE: Signed Categorical Exclusion Determinations should be uploaded to the EPA NEPA Compliance Database (through Central Data Exchange (CDX)).

Title of Project	Grant Id Number
Stuart Street Tank Refurbishment	

Attachment 1. CATEX Eligibility and/or Extraordinary Circumstances Statement(s)

The space below may be used for a statement and supporting documentation explaining CATEX eligibility why no extraordinary circumstances exist or apply to the proposed action pursuant to 40 CFR §§ 6.204(a)(1) and 6.204(b). Attach additional pages as needed.

These existing domestic water storage tanks have surpassed their operational life expectancy. This project includes refurbishment of existing 125,000- and 212,000-gallon tanks, representing approximately 20% of the storage available within the potable distribution system. Reliable system storage is critical to ensure adequate flows for fire suppression, sanitation, and human consumption.

Like-for-like refurbishment of the tanks will include:

welded tanks will also be more aesthetically appealing

1. No change in pattern or type of land use. Stuart Street Tank Site is located at 1975 Stuart Street, on a lot full owned by the CCSD. The existing land uses to the north, south, east, and west are single-family residential uses interspersed with vacant lands (see Site Map on the following page)

2. No negative impact of the quality of the human environment by maintaining design and build consistent a small-scale appearance appropriate for the character of the neighborhood. Potential noise sources from the proposed Project would include construction and operation-related sources. Such noise levels would be sporadic rather than continuous in natures due to the different types of construction equipment used. Construction-related noise impacts are short-term; no additional long-term noise impacts will occur.

3. New exterior coatings will Increase aesthetic appearance of the project site.

4. No anticipated significant public controversy over the environmental impacts of a like-for-like refurbishment.

5. No conflict with any State or Federal laws or regulations.

6. The single-family residential neighborhood location of the current tanks does not include natural resource areas that would be disturbed or threatened.

7. The project would generate short-term construction emissions but would not generate an increase in pollutant emissions due to additional vehicular traffic or stationary sources. Following construction the project would not result in any long-term air quality emissions.

8.The surrounding area's vegetation consists of sensitive Monterey Pine Forest Habitat. Native trees and undergrowth outside of the the project area shall be left undisturbed. Materials, including debris and dirt, shall not be stockpiled within 15 feet of any tree, and shall be minimized under tree drip lines as required by the land use permit and the Fire Safety Plan. All areas of the site disturbed by project construction shall be re-vegetated with native, drought and fire resistant species that are compatible with the habitat values of the surrounding forest.

No retention or filtration facilities will be constructed. Clarify this is applies to construction phase only

9. The local Federally or State-listed Threatened or Endangered species have highly specialized habitat requirements that do not occur on the project site and therefore, these species are not expected to be negatively impacted.

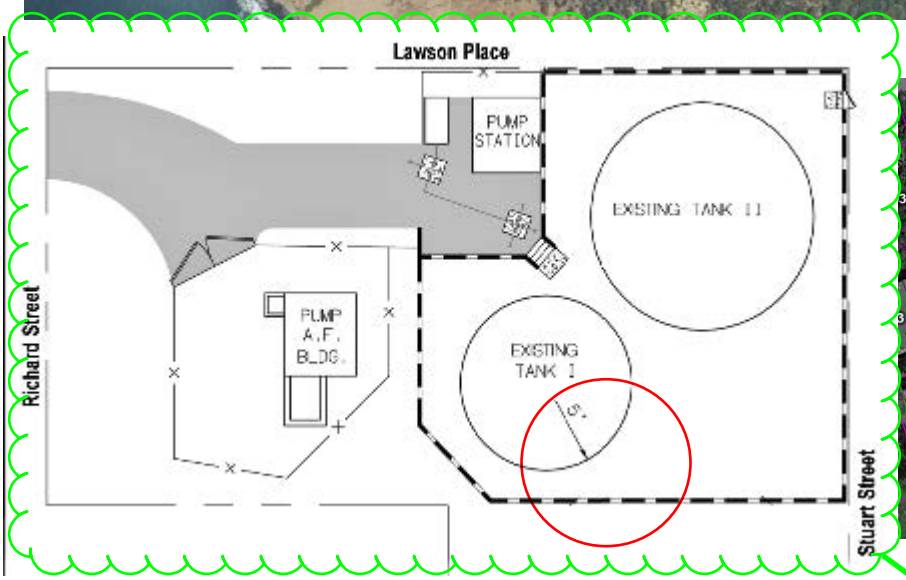
10. All runoff from impervious surfaces shall be collected and retained on-site to the greatest extent possible. Run-off not able to be retained on-site shall be passed through an effective erosion control device or filtration system. The changes in drainage patterns would occur with implementation of the Project.

11. The refurbishment project does not increase the capacity of the current tanks and therefore, will not create or facilitate an increased demand for water.

Title of Project	Grant Id Number
Stuart Street Tank Refurbishment	

Attachment 1. CATEX Eligibility and/or Extraordinary Circumstances Statement(s)

The space below may be used for a statement and supporting documentation explaining CATEX eligibility why no extraordinary circumstances exist or apply to the proposed action pursuant to 40 CFR §§ 6.204(a)(1) and 6.204(b). Attach additional pages as needed.



Construction Phases:

I. Staging for dismantling (Set up on CCSD Property on Stuart St.)
II. Dismantle Tank I (125,00 Gallon)
III. Install new Tank 1
IV. Tank I test/ Commission new tank.
V. Dismantle Tank II (212,000 Gallon)
VI. Install Tank II
VII. Testing and Commissioning of new tank.
VIII. Clean up and restoration of area.

suggest using the figure from MKN that shows existing and proposed locations, along with overall property boundary. The Figure here would suggest the new location is beyond the property (the fence/wall line looks like a property line).

PRE-APPLICATION MEETING SUMMARY

PRE2024-00061

Meeting Date and Time:
June 12, 2024 – 9:00 AM

Attendees:

Applicant Team:	Tristan Reaper (Cambria CSD)	treaper@cambriacsd.org
	Jim Green (Cambria CSD)	jgreen@cambriacsd.org
	Chris Price (Rincon)	cprice@rinconconsultants.com
	Nicole West (Rincon)	nwest@rinconconsultants.com
	Jon Hanlon (MKN & Associates)	jhanlon@mknassociates.us
Planning Division:	Nicole Ellis	nellis@co.slo.ca.us
	Mason Denning	mdenning@co.slo.ca.us
Building Division:	Sylvia Aldana	saldana@co.slo.ca.us
	Jayne Ramos	jaramos@co.slo.ca.us

Project Description (as Submitted by Applicant):
The Cambria Community Services District (CCSD) is proposing to replace two water tanks located at 1975 Stuart Street (APN 024-142-043) in the unincorporated community of Cambria. The 0.33 acre project site is located in the Coastal Zone with a land use and zoning designation of Residential Single Family. The project site currently contains two water tanks and ancillary infrastructure, a retaining wall, and fencing. Existing Tank 1 is 24 feet tall and 39 feet in diameter and has a storage capacity of 212,000 gallons. Existing Tank 2 is 24 feet tall and 30 feet in diameter and has a storage capacity of 125,000 gallons. CCSD has determined the two tanks have surpassed their operational life expectancy, are currently experiencing leaking and corrosion, and require replacement. The project would involve a like-for-like replacement of both tanks and not change the storage capacity of either tank. Only very minor changes to the existing infrastructure are proposed including increasing the height of Tank 1 by approximately 2 feet and increasing the height of Tank 2 by approximately 2 feet. Additionally, Tank 2 replacement would be constructed approximately 6.2 feet south of the existing Tank 2 site to provide a 10-foot space between Tank 1 and Tank 2. Other project components include replacement of the existing ringwall foundations and anchorage systems of the tanks to meet applicable seismic code requirements. In addition, existing eight-inch pipelines at the tank sites would be replaced. Gravel would also be added adjacent to the tanks for the purposes of weed and erosion control. To replace Tank 2, the existing retaining wall and chain-link fence would be reconstructed 10 feet south of its southern border to provide the space required for the slight relocation of Tank 2. No additional lighting is proposed. A detailed project description is included in the attached Project Description.

Given the scope and nature of the project, we believe that the project meets the requirements for an exemption from a Coastal Development Permit, for the reasons outlined below. The County's zoning code establishes the criteria for such exemption under Section 23.03.040.d (1) whereby "all repair and

maintenance activities that do not result in any change to the approved land use of the site or building, or the addition to, enlargement or expansion of the object of such repair or maintenance."

Meanwhile, Section 23.03.040.d (8)(iii) provides an exemption specifically for public projects that involve "the installation, testing, and placement in service or the replacement of any necessary utility connection between an existing service facility and any development approved pursuant to this division; provided that the county may, where necessary, require reasonable conditions to mitigate any adverse impacts on coastal resources including scenic resources." Given that only very slight changes to the existing infrastructure are proposed and the overall capacity and function of the facility will remain unchanged, we request staff confirm the project qualifies for a Coastal Development Permit Exemption. Otherwise, if staff believes the project is not exempt from Coastal Development Permit requirements, we would appreciate feedback on any policy/ordinance consistency concerns, and whether the project triggers any unique application requirements for processing of a Coastal Development Permit.

Project Location:
1975 Stuart Street, Cambria
APN: 024-142-043

Land Use Designation and Acreage:
Residential Single-Family (RSF) – 0.33 Acres
Average Slope: 12%

Combining Designations:
Coastal Zone, Terrestrial Habitat, Geologic Study Area (GSA)

Permit Records:

PERMITS (1) PLANS (5)

Permi...	Permit Type	Permit Wo...	Permi...	Applic... ↓	Expira...	Final ...	Descr...	Main ...
PMT2002-22961	PMTG - Grading Permit	Major Grading - over 10% slope or 5000 cu yds	Expired	10/02/1991	03/07/1994		GRADING FOR WATER SYSTEM	1000 ELLIS ST
DRC2013-00037	Land Use (PRE 7/1/2021)	Conditional Use Permit	Withdrawn	11/01/2013	01/30/2024		INSTALLATION OF A NEW 350,000 GALLON POTABLE WATER STORAGE TANK WITH A DIAMETER OF 52 FEET, HEIGHT OF 26.5 FEET, AND FOOTPRINT OF 2,142 SQUARE FEET.	1975 STUART ST
ZON2013-00096	Zoning Clearance (PRE 7/1/2021)	Tree Removal	Approved	08/15/2013	02/25/2013		REQUEST TO REMOVE THREE (3) CYPRESS TREES LOCATED ALONG FENCE ON RIGHT SIDE OF PROPERTY WHEN FACING FROM RICHARD AVENUE; TREES ARE CAUSING EXTENSIVE DAMAGE TO NEARBY WATER TANKS. THREE (3) CYPRESS TREES BETWEEN WATER STORAGE TANKS AND HOUSE MARKED FOR INSPECTION. FIRST TREE HAS ALTERNATE LEADERS, DAMAGE TO BASE AND EXCESS WIND LOAD. SECOND TREE IS DIRECTLY ADJACENT TO FIRST TREE THAT WILL BE REMOVED, HAS DAMAGE TO BASE AND EXCESS WIND LOAD. THIRD TREE IS ADJACENT TO SECOND TREE THAT WILL BE REMOVED AND HAS DAMAGE TO BASE AND LEAN. O.K. TO REMOVE THREE (3) CYPRESS TREES.	1975 STUART ST
SUB2003-00086	Subdivision (PRE 7/1/2021)	Voluntary Merger	Recorded	02/26/2004	05/07/2004		PROP 8 TO 1 MERGER (CCSD CASE #20)	1975 STUART ST
D910093P	Land Use (PRE 7/1/2021)	Minor Use Permit	Completed	10/22/1996			WATER STORAGE TANKS	1975 STUART ST

Applicable Planning Standards:

- North Coast Area Plan (NCAP) – Cambria Urban Area Standards – Lodge Hill Neighborhood
  - Refer to Page 139 for the beginning of the Cambria Urban Area Standards / Combining Designation Standards (Page 7-19).
  - Communitywide Standards begin on Page 146 (Page 7-26), refer to items:
    - **a.** 10 – Site Review
    - **b.** 11 – Erosion Control
    - **c.** 12 – Landscaping
    - **d.** 13 – Exterior Lighting
  - Residential Single-Family Standards begin on Page 175 (Page 7-55).
- Coastal Zone Land Use Ordinance (CZLUO) – Title 23
- Coastal Zone Framework for Planning – Includes Coastal Table O
- Coastal Plan Policies

Please refer to Title 23 (Coastal Zone Land Use Ordinance) for development standards which are not specifically listed in the North Coast Area Plan.
https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT23COZOLAUS

23.08.280 - Transportation, Utilities and Communication (S-13).
https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT23COZOLAUS_CH23.08SPUS_23.08.280TRUTCOS-

Planning Division Comments:
Due to the scope of work consisting of full removal and installation of new water tanks and increase in tank heights by 2-feet and a relocation of one tank, the project does not qualify for CDP exemptions as referenced in the Project Description (as Submitted by Applicant), and in which code text has been copied below, and instead is considered new "development" pursuant to the Coastal Act and County Code.

d. Exemptions from permit requirements. The following types of development within the Coastal Zone are exempt from the land use permit requirements of this title:

(1) All repair and maintenance activities that do not result in any change to the approved land use of the site or building, or the addition to, enlargement or expansion of the object of such repair or maintenance; or

(8) Public works projects, where such development:

(iii) Is the installation, testing, and placement in service or the replacement of any necessary utility connection between an existing service facility and any development approved pursuant to this division; provided that the county may, where necessary, require reasonable conditions to mitigate any adverse impacts on coastal resources including scenic resources; or

Therefore, the CSD will need to apply for either a new MUP/CDP or an Amendment to D910093P (original land use entitlement for establishment of the water storage tanks). Please work with County permit intake staff on the appropriate and best level of permit and to determine whether a partial fee waiver is supportable for the applicant (public agency) and scope of work.

- FYI: If a Land Use Permit application is submitted within one year of the meeting, the Department will credit the L52 (pre-application planning fee) toward the application fees.

Front and rear setbacks: Per the North Coast Area Plan, a minimum of 25' is required for the combined front and rear setback (with no less than 10' on the front and also no less than 10' on the rear).

Refer to CZLUO Section 23.04.108 - Front Setbacks. To review whether there may be certain exceptions available for this specific lot orientation and topography and the scope of work. https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT23COZOLAUS_CH23.04SIDEST_23.04.108FRSE

and 23.04.104 - Exceptions to Setback Standards. https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT23COZOLAUS_CH23.04SIDEST_23.04.104EXSEST

Side setbacks: Per the North Coast Area Plan, a minimum of 12' is required for the combined side setback (with no less than 5' on either side).

Landscape screening: Use existing natural vegetation and trees as a first priority. Provide site photos and potential renderings/simulations to help County determine whether additional landscape screening will be needed, and if so, where and plant/tree varieties.

Noted: CSD antenna is not a private wireless facility installation. Therefore, temporary relocation of antenna while tanks are installed is ok.

- Applicant/Agent team provided that no trees will be removed as a result of this project, BRA memo is being prepared to address TH, Geologic Tech Report is being prepared to address

GSA (by EarthSystems), CSD is preparing an addendum to the previously approved IS/MND (CSD is lead agency).

- This parcel is located within a Sensitive Coastal Resource Area (due to Terrestrial Habitat) and development would be considered appealable development. CZLUO Section 23.01.043.c.3. Therefore, a discretionary land use permit would be needed for future development and the project would be appealable to the Coastal Commission (if an appeal is received).
    - You may also obtain records related to a site through a Public Records Act request to gather any prior land use permit/entitlement records, construction permits, etc. related to this property at the following link: Public Records Act Request.
- Building / tank color shall be similar to surrounding natural colors and no brighter than 6 in chroma and value on the Munsell Color Scale. – Green colors typical for water tanks. Non reflective materials/paint. Polyurethane paint proposed. Applicant/agent to provide a paint sample/brochure (PDF ok).
- Retaining wall setback to corner near S / SE property line is okay.
- S – Special Use is allowable subject to special standards and/or processing requirements, unless otherwise limited by a specific planning area standard. Coastal Table O indicates where in the Coastal Zone Land Use Ordinance the special standards that apply to uses may be found.
- S13 uses refer to CZLUO Section 23.08.280 – Transportation, Utilities, and Communication.
- Public Utility Facilities: Fixed-base structures and facilities serving as junction points for transferring utility services from one transmission voltage to another or to local distribution and service voltages. These uses include any of the following facilities: electrical substations and switching stations; telephone switching facilities; natural gas regulating and distribution facilities; public water system wells, treatment plants and storage; and community wastewater treatment plants, settling ponds and disposal fields. Nothing in this definition is intended to require a land use permit where Government Code Section 53091 would exempt local agencies from permit requirements, except in the coastal zone where permitting requirements are as set forth in the Local Coastal Plan. These uses do not include those uses that are not directly and immediately used for the production, generation, storage, or transmission of water, wastewater, or electrical power such as office or customer service centers (classified in "Offices"), or equipment and material storage yards (classified in Storage Yards and Sales Lots").

USE GROUP		PAGE NUMBER OF USE	Agriculture – Prime Soils	Agriculture - Non-Prime Soils	Rural Lands	Recreation	Residential Rural	Residential Suburban	Residential Single-Family
J) TRANSPORTATION									
Airfields & Landing Strips	1		S-13	S-13	S-13	S-13	S-13		
Harbors	2								
Marine Terminals & Piers	3					S-5			
Pipelines & Transmission Lines	4		S-13	S-13	S-13	S-13	S-13	S-13	S-13
Public Utility Facilities	5		S-13	S-13	S-13		S-13	S-13	S-13

- Communications Facilities: Public, commercial, and private electromagnetic and photoelectrical transmission, repeater and receiving stations for radio, television, telegraph, telephone, data network and other microwave applications; includes earth stations for satellite-based communications.

USE GROUP		PAGE NUMBER OF USE	Agriculture – Prime Soils	Agriculture – Non-Prime Soils	Rural Lands	Recreation	Residential Rural	Residential Suburban	Residential Single-Family
A) AGRICULTURE									
Ag Accessory Structures	1	6-39	S-3-P	S-3-P	S-3-P	S-3	S-3	S-3	
Ag Processing	2	6-39	S-3	S-3	S-3		S-3		
Animal Raising & Keeping	3	6-40	S-3	S-3	S-3	S-3	S-3	S-3	S-3
Aquaculture	4	6-40		S-3	S-3		S-3		
Crop Production & Grazing	5	6-44	P	P	P	A	A	S-18	S-18
Farm Equipment & Supplies	6	6-45		S-3	S-3		S-3		
Nursery Specialties – Soil Dependent	7	6-51	S-3-P	S-3-P	S-3		S-3	S-3	
Nursery Specialties – Non-Soil Dependent	8	6-52		S-3	S-3		S-3	S-3	
Specialized Animal Facilities	9	6-58	S-3	S-3-P	S-3	S-3	S-3	S-3	S-3
B) COMMUNICATIONS									
Broadcasting Studios	1	6-41							
Communications Facilities	2	6-43		S-13	S-13	S-13	S-13	S-13	S-13

Section 23.08.284 - Communication Facilities.
https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT23COZOLAUS_CH23.08SPUS_23.08.284COFA

Building Division Comments:

- Tanks would be self-permitted due to facility use (no building permit needed for the water tanks); fence may require a building permit.
    - Fence above 8 feet would require a permit.
    - Applicant/Agent team explained that existing chain link fence is 6' tall.
- Building permit required for the retaining wall relocation work
    - Due to surcharge / fill behind wall.
    - Applicant/Agent team explained that the existing retaining wall along the south PL would be shifted due to small tank relocation
    - The following are email comments from building following the pre-application meeting:

1. In regard to this preliminary review, the county has limited jurisdiction to required building permits for construction of facilities used for the production, generation, storage or transmission of utilities. The Public Utilities Commission regulates public utilities. The Public Utilities Code provides that the PUC may establish standards of construction and equipment; may grant certificates of public convenience and necessity; or make decisions, orders, and rules pertaining to public utilities. If such orders conflict with any County ordinance, the PUC order or rule prevails. Therefore, PUC regulations is paramount. California Government Code states that, "Building ordinance of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, or transmission of water, wastewater, or electrical energy by a local agency. If this project does not fall under the jurisdiction of the public utilities commission, then the work to be completed for grading or accessory buildings for the follow-up development plan will require a building permit and the following will apply. The project shall comply with current California Building codes adopted by the County of San Luis Obispo and Title 19 of the SLO County Codes

2. California licensed Architect or Engineer is required to submit the plans for this project per BPC 5536.1.
    a. A building permits will be required for the fence if it is over 8 ft high.
    b. Permit will be required for retaining wall.

COMBINING DESIGNATIONS: The following standards apply to lands in the Local Coastal Plan (LCP) combining designations, as listed below.

1. Monterey Pine Forest Habitat (SRA) (TH) - Purpose.

The purpose of these standards is to minimize tree removal and avoid impacts to the sensitive Monterey pine forest habitat. Applications for development within this SRA may require the preparation of a biological report, depending on the result of a mandatory site review. In the event that the site review indicates that the site may contain environmentally sensitive habitat areas as defined in Coastal Act section 30107.5, a biological report that includes information identified in Section 23.07.170 of the Coastal Zone Land Use Ordinance, as well as any additional information needed to address the development standards below, shall be required. The determination of the need for a biology report shall consider factors including but not limited to the size and connectivity of the forest area, potential presence of special status plant or animal species, and the health and condition of the forest area.

All development within Monterey pine forest (TH) shall include the following minimum standards:

A. A "project limit area" shall be established in a manner that avoids Monterey pine forest impacts to the maximum extent feasible, is located on the least sensitive portion of the site, and safeguards the biological continuance of the habitat. Particular attention must be give to locations which are part of larger continuous undisturbed forested areas, show signs of forest regeneration, include a healthy assemblage of understory vegetation, support other sensitive species, provide a solid tree canopy and species nesting areas, and that will minimize loss of Monterey pines, oaks, and forest habitat. The project limit area shall include all areas of the site where vegetation will need to be trimmed or removed for fire safety purposes.

B. Applications for new development within the Monterey pine forest shall demonstrate that no native vegetation outside the "project limit area" shall be removed, except for trees identified as hazardous by a qualified professional. New development shall be sited to ensure that any required vegetation removal will be done fully on private property and will not encroach on any public lands or sensitive habitat areas. If development cannot be sited to avoid encroachment within sensitive habitat areas, such encroachments shall be minimized to the maximum extent feasible and appropriate mitigation in support of habitat restoration shall be required.

C. **Plan Requirements.** All site, construction and grading plans submitted to the County shall identify by species and diameter all Monterey pine trees that are six inches or more in diameter 4.5 feet above ground and oak trees four inches or more in diameter 4.5 feet above ground identified by species and diameter. The plans shall indicate which trees are to be retained and which trees are proposed for removal. In addition, such plans shall clearly show:

(1) The "project limit area" shall include all areas of grading (including cut and fill areas, utility trenching and offsite improvements) and vegetation removal, the development footprint (i.e., all structures and/or site disturbance) necessary fire clearances and staging areas for all construction activities, the location of those activities, and areas for equipment and material storage.

(2) Sturdy and highly visible protective fencing that will be placed along the 'project limit area'. Plan notes shall indicate this fence should remain in place during the duration of project construction to protect vegetation from construction activities.

(3) Plan notes shall indicate native trees and undergrowth outside of the "project limit area" shall be left undisturbed.

(4) Identify any necessary tree trimming. Plan notes shall indicate a skilled arborist, or accepted arborist's techniques, will be used when removing tree limbs.

(5) Plan notes shall indicate wherever soil compaction from construction will occur within driplines that the compacted root zone area shall be aerated by using one of the following techniques:

a. Injecting pressurized water.

b. Careful shallow ripping that radiates out from the trunk (no cross-root ripping).

c. Other County-approved techniques.

(6) Plan notes shall indicate no more than one-third of the area of the drip line around any tree to be retained should be disturbed, or as recommended in an arborist's or biologist's report.

D. **Notice of pending tree removal application.** Where Plot Plan approval is required for a tree removal permit, a notice shall be posted by the property owner or representative near the front property line on the subject site. The notice shall be maintained in good condition by the property owner until permit issuance.

E. **Construction Practices.** Construction practices to protect Monterey pines, oak trees and significant understory vegetation shall be implemented. These construction practices are to include at minimum;

(1) All plan notes required in Standard C. above shall be implemented.

(2) **Protective Measures.** Practices to protect root systems, trees and other vegetation shall include but not be limited to: methods prescribed in the Cambria Forest Management Plan; avoiding compaction of the root zone; installing orange construction fencing around protected areas shown on the

site plan; protecting tree trunks and other vegetation from construction equipment by wood fencing or other barriers or wrapping with heavy materials; disposing of waste, paints, solvents, etc. off-site by approved environmental standards and best practices; and using and storing equipment carefully.

(3) **Stockpiling of Materials.** Materials, including debris and dirt, shall not be stockpiled within 15 feet of any tree, and shall be minimized under tree driplines as required by the land use permit and the Fire Safety Plan. Stockpiled materials shall be removed frequently throughout construction. All stockpiled materials shall be removed before final inspection.

(4) **Construction Practices.** Excavation work shall be planned to avoid root systems of all on-site trees and trees on abutting properties. Any trenching for utilities that may occur within the dripline of trees on the project site shall be hand dug to avoid the root system of the tree.

(5) **Driveway Placement.** When remodeling or replacing existing residences, avoid moving established driveways if trees or significant vegetation would be negatively impacted.

F. Replacement of Vegetation. Any Monterey pine trees that are six inches or more in diameter 4.5 feet above ground removed shall be replaced at a 4:1 ratio. Any oak trees that are four inches or more in diameter 4.5 feet above ground removed shall be replaced at a 6:1 ratio. All open areas of the site disturbed by project construction are to be seeded with native, drought and fire resistant species that are compatible with the habitat valve of the surrounding forest. Replacement vegetation shall be planted in conformance with the following measures:

(1) A replanting plan shall be prepared as a part of the application. Elements of this plan shall include the type, size and location of vegetation; a description of irrigation plans; and plan notes indicating compliance with the standards of this section. Any proposed on-site or off-site replanting plan must be approved by the County Planning and Building Department prior to issuance of building permits.

(2) Container sizes for all replacement seedlings shall be one gallon, unless approved by the Director of Planning and Building. *Pinus radiata var. macrocarpa*, the native Monterey Pine tree, shall be used for replanting of any pine tree removed. No out of area Monterey Pine stock shall be used.

(3) New trees shall be planted to reinforce the forest character on the site and in the street frontage, and to screen proposed development.

If insufficient area exists to plant all or any of the replacement vegetation on site, then the replanting plan shall identify an appropriate off-site area and owned or managed by an appropriate government agency or nonprofit organization.

If an off-site replanting is chosen, the replanting must occur with the review and approval of the Environmental Coordinator, and shall be verified by submittal of a letter from the appropriate agency or organization to the Environmental Coordinator. All replacement conditions and monitoring measures (e.g., number of trees, maintenance, etc.) shall apply.

(4) To prevent or reduce the spread of disease from pine pitch canker, bark beetles or other diseases affecting the forest, the following measures shall be followed:

a. Infected or contaminated material shall not be transported to areas that are free of the disease;

b. When cutting or pruning a diseased tree, tools shall be cleaned with a disinfectant before using them on uninfected branches or other trees;

c. Disease and insect buildup shall be avoided by promptly removing and disposing of dead pine material by either burning (where and when allowed), burying, tarping with clear plastic for six months, or chipping. If material is chipped, it should be left as a thin layer on site;

d. Plant material shall be covered or enclosed when it is taken off-site to avoid dispersal of material contaminated with bark beetles.

(5) Prior to final building permit inspection, the applicant shall provide a letter to the County prepared by a qualified nurseryman or landscape contractor that the revegetation plan has been properly implemented; and

(6) All new plants shall be maintained until successfully established. This shall include caging from animals (e.g., deer, rodents), periodic weeding and adequate watering (e.g., drip-irrigation system). If possible, planting during the warmest, driest months (June through September) shall be avoided. In addition, standard planting procedures (e.g., planting tablets, initial deep watering) shall be used.

(7) Maintenance shall be often enough to keep weeds at least 3 feet away from each planting, provide adequate moisture to all plants, and ensure all other components (e.g., irrigation system, caging) are kept in good working order.

(8) The health and maintenance of replacement vegetation shall be monitored at least once a year from the date of final building permit inspection for a period of time no less than three years, or until the vegetation is successfully established, whichever comes later. Monitoring reports shall be prepared by an expert competent in landscape planting and maintenance of the Monterey pine forest, and reports shall be submitted to and approved by the County.

G. **Understory Vegetation Removal.** No understory vegetation shall be removed until a permit has been issued or unless an immediate hazardous condition exists. Understory vegetation removal to create, improve, or maintain adequate defensible space and Fire Hazard Fuel Reduction shall be the minimum necessary. Evidence used to determine whether understory vegetation has been removed without a permit will include, but is not limited to, all photo documentation available. At the time of permit application, if there is evidence that the understory has been cleared without a permit or if there is evidence that the understory has been cleared outside of the approved 'project limit area,' 20 plants from the following list shall be planted on-site for every 1,000 square feet affected. At least four different species shall be used of approximately equal amounts. All plants shall be from container stock of one-gallon or less. All planting shall be subject to the "Replacement of Vegetation" requirements described above.

(1) **Acceptable Species.** The following are considered acceptable for replacement:

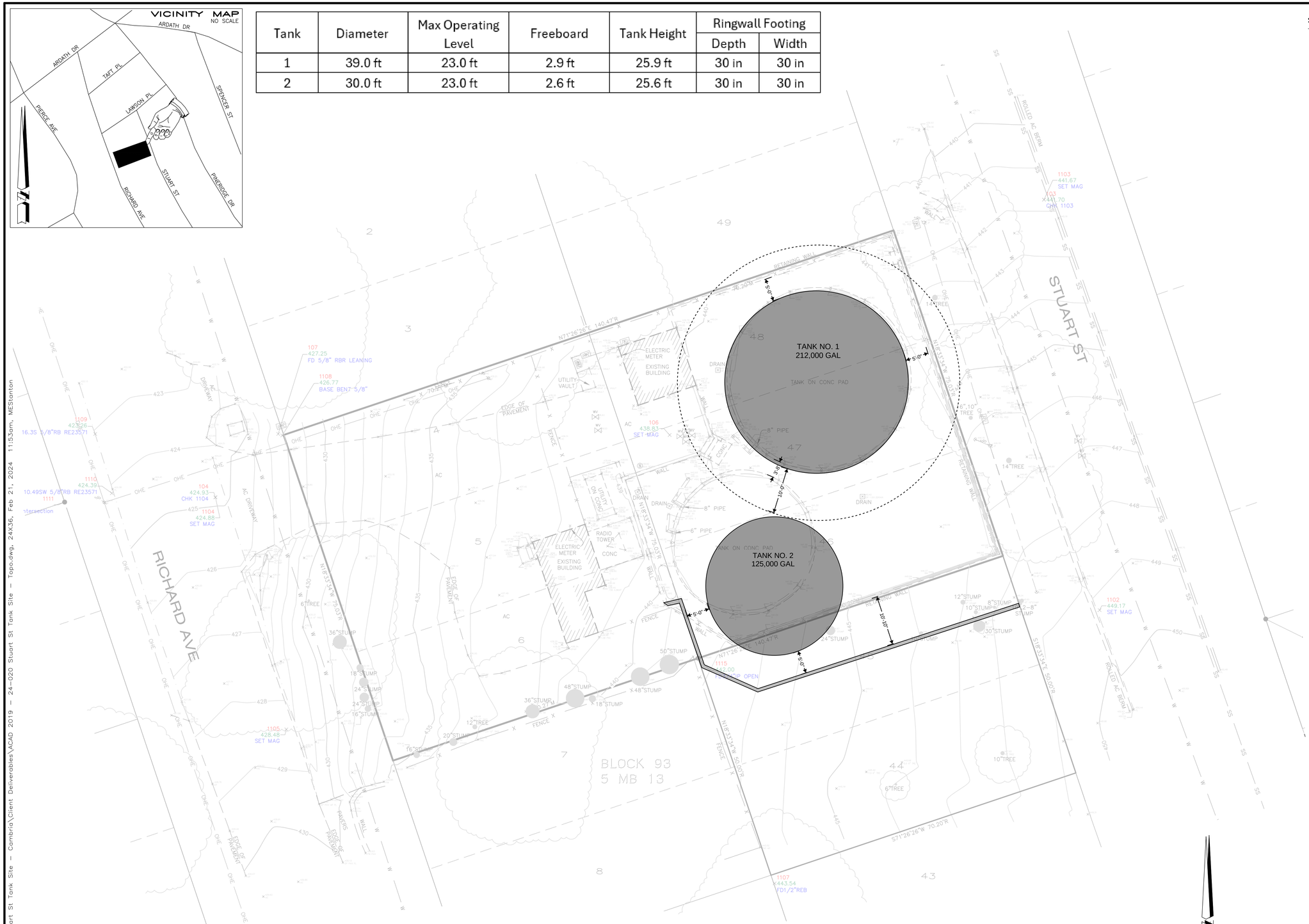
Quercus agrifolia (Coast Live Oak) - no more than two seedlings per 1,000 square feet
Arctostaphylos tomentosa (Manzanita)
Heteromeles arbutifolia (Toyon)
Rhamnus californica (Coffeeberry)
Rubus ursinus (California Blackberry)
Symphoricarpos mollis (Creeping Snowberry)
Vaccinium ovatum (Evergreen Huckleberry)
Ribes menziesii (Gooseberry)
Lonicera hispidula (Honeysuckle)

H. **Clustering of Development Required.** Clustering shall be required for new land divisions or multi-family residential development projects within the Monterey Pine Forest Habitat areas. New land divisions or multi-family residential development shall ensure that all future development shall be located entirely outside of ESHA and necessary buffers consistent with Coastal Zone Land Use Ordinance Section 23.07.170. All of the ESHA and buffers shall be retained and protected as Open Space. When feasible, new development shall be restricted to slopes less than 20 percent.

** Please see Coastal Table O link above, within the Planning Standards category of the notes.

** Additionally, please see the CZLUO (Title 23) linked above, within the Planning Standards category.

Tank	Diameter	Max Operating Level	Freeboard	Tank Height	Ringwall Footing	
					Depth	Width
1	39.0 ft	23.0 ft	2.9 ft	25.9 ft	30 in	30 in
2	30.0 ft	23.0 ft	2.6 ft	25.6 ft	30 in	30 in



SYMBOL LEGEND:

FENCE LINE	RETAINING WALL
SEWER MAIN	PG&E BOX
WATER MAIN	GAS METER
GAS MAIN	TELEPHONE BOX
ELEC/TELEPHONE/CABLE	SIGNAL BOX
CL OF OVERHEAD ELECTRIC BETWEEN POLES	CABLE T.V. BOX
DROP INLET AT CURB	ELECTRIC BOX
DROP INLET	TELEPHONE MANHOLE
STORM DRAIN MANHOLE	STREET LIGHT
FIRE HYDRANT	JOINT POLE
WATER WELL	POWER POLE
WATER VALVE	GUY WIRE
WATER METER	MONITORING WELL
SEWER MANHOLE	BENCH MARK
SEWER CLEANOUT	

ABBREVIATIONS

AC	ASPHALT CONCRETE	IP	IRON PIPE
AP	ANGLE POINT	GB	GRADE BREAK
BM	BENCH MARK	GM	GAS METER
BLDG	BUILDING	HP	HIGH POINT
BOW	BACK OF WALK	LT	LIGHT
CB	CATCH BASIN	MH	MANHOLE
CF	CURB FACE	PP	POWER POLE
CO	CLEAN OUT	PVC	POLYVINYL PIPE
COL	COLUMN	RB	REBAR
COR	CORNER	RCP	REINFORCED CONCRETE PIPE
CONC	CONCRETE	R10	CANOPY RADIUS
CMP	CORRUGATED METAL PIPE	SD	STORM DRAIN
CMU	CONCRETE MASONRY UNITS	SL	POINT ON SLOPE
CRN	CROWN OF STREET	SS	SEWER
DI	DROP INLET	STP	STEP
EG	EXISTING GRADE	STR	STAIRS
EP	EDGE OF PAVEMENT	TOP	TOP OF SLOPE
FD	FOUND	TOE	TOE OF SLOPE
FL	FLOW LINE	TW	TOP OF WALL
FF	FINISH FLOOR	W	WATER
FOW	FACE OF WALL	WL	WALL
HSE	HOUSE COR	WM	WATER METER
GR	GRASS	WV	WATER VALVE
GM	GAS METER		
IP	IRON PIPE		

SURVEYOR'S STATEMENT:

THIS MAP REPRESENTS A FIELD SURVEY OF SURFACE FEATURES AND ELEVATIONS PERFORMED ON FEBRUARY 6TH, 2024.

2/21/24

MICHAEL B. STANTON, PLS 5702 — DATE

LICENSED LAND SURVEYOR — MICHAEL B. STANTON — LIC. NO. 5702 — STATE OF CALIFORNIA

SURVEYOR'S NOTES:

1. NO TITLE SEARCH (TITLE REPORT) WAS PROVIDED TO THE SURVEYOR. EASEMENTS OR OTHER FEE CONVEYANCES WHICH MAY AFFECT THE SUBJECT PROPERTY HAVE NOT BEEN PLOTTED.

2. ONLY THE SURFACE EVIDENCE OF UNDERGROUND UTILITIES HAVE BEEN MEASURED IN THE FIELD ON THIS SURVEY. IF APPROXIMATE UNDERGROUND ALIGNMENTS ARE SHOWN, I MAKE NO WARRANTY AS TO THE ACTUAL LOCATION, TYPE OR DEPTH OF THOSE UNDERGROUND UTILITIES. CALL UNDERGROUND SERVICE ALERT (USA) AT 1-800-642-2444 TO VERIFY THE ACTUAL LOCATION OF UTILITIES PRIOR TO ANY EXCAVATION. THE SURVEYOR ALSO HAS MADE NO INVESTIGATION AS TO SUBSURFACE ENVIRONMENTAL CONDITIONS THAT WOULD AFFECT THE USE OR DEVELOPMENT OF THIS PROPERTY.

3. IT WILL BE THE ARCHITECT'S RESPONSIBILITY TO VERIFY SETBACK AND HEIGHT RESTRICTIONS WITH THE LOCAL GOVERNING AGENCY.

4. THE SIGNED AND SEALED ORIGINAL DRAWING OF THIS MAP CONSTITUTES THE FINAL WORK PRODUCT. MBS LAND SURVEYS WILL NOT BE LIABLE FOR ELECTRONIC VERSIONS OF THIS MAP PROVIDED TO OTHER PARTIES.

5. THE BOUNDARY LINES SHOWN HEREON WERE COMPILED FROM RECORD INFORMATION (I.E. RECORDED MAPS OR DEEDS) AND ARE NOT INTENDED TO REPRESENT THE TRUE OR ACTUAL BOUNDARY LINES OF THE SUBJECT PROPERTY. TO DETERMINE THE ACTUAL BOUNDARIES OF THE PARCEL WILL REQUIRE A COMPLETE BOUNDARY SURVEY, THE SETTING OF PROPERTY MONUMENTS AND THE FILING OF A CORNER RECORD OR RECORD OF SURVEY IN CONFORMANCE WITH STATE LAW (LS ACT SEC. 8762). APPROXIMATE DIMENSIONAL TIES FROM THE BOUNDARY LINES SHOWN TO PHYSICAL FEATURES (E.G. BUILDINGS, FENCES, WALLS OR TREES, ETC.) SHOWN ON THIS MAP CAN BE DERIVED BY SCALING THE FINISHED WORK PRODUCT WHICH IS PLOTTED AT THE SCALE INDICATED.

POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
103	2400370.33	5646865.48	441.70	CHK 1103
104	2400305.32	5646684.58	424.93	CHK 1104
1102	2400280.67	5646877.62	449.17	SET MAG
1105	2400254.63	5646700.07	428.48	SET MAG

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.

SITE DATA:

ASSESSOR'S PARCEL NO. 024-142-043

TOPOGRAPHIC MAP
STUART ST TANK SITE

LOTS 4-6 & 44-48 OF BLOCK 93 OF CAMBRIA PINES MANOR UNIT NO. 4 AS SHOWN ON MAP FILED IN BOOK 5 AT PAGE 13, IN THE CITY OF CAMBRIA, COUNTY OF SAN LUIS OBISPO, CALIFORNIA

AT THE REQUEST OF JON HANLON, PE

MBS LAND SURVEYS
MICHAEL B. STANTON, PLS 5702
3559 SOUTH HIGUERA ST.
SAN LUIS OBISPO, CA 93401
805-594-1960

February 21, 2024 JOB #24-020

N:\2024\24-020 Stuart St Tank Site - Cambria\Client Deliverables\ACAD 2019 - 24-020 Stuart St Tank Site - Topo.dwg, 24X36, Feb 21, 2024 11:53am, MEStanton

Stuart Street Water Tanks Replacement Project

Project Description

prepared by

Cambria Community Services District
1316 Tamsen Street, Suite 201
Cambria, California 93428

prepared with the assistance of

Rincon Consultants
1530 Monterey Street, Suite D
San Luis Obispo, California 93401

May 2024

RINCON CONSULTANTS, INC. SINCE 1994

Table of Contents

Figures

1 Project Description

1.1 Project Location and Setting

The project site is located at the Stuart Street Tank Site at 1975 Stuart Street. The project site is approximately 0.33-acre, located within a residential neighborhood in the eastern portion of Cambria. The project site is bounded to the east by Stuart Street, west by Richard Avenue, and residences to the north and south. The project site currently contains two water tanks and ancillary infrastructure, a retaining wall, and fencing. Tank 1 is 24 feet tall and 39 feet in diameter and has a storage capacity of 212,000 gallons. Tank 2 is 24 feet tall and 30 feet in diameter and has a storage capacity of 125,000 gallons. Vegetation surrounding the project site consists of Monterey Pine, native trees, and shrubs. Figure 1 shows the regional location of the project site. Figure 2 shows the project site. Figure 3 shows the site plan for the proposed project.

1.2 Project Description

Tank 1 and Tank 2 have surpassed their operational life expectancy, are currently experiencing leaking and corrosion, and require replacement. The proposed project would involve the like-for-like replacement of Tank 1 and Tank 2. Tank 1 would be replaced with a 212,000-gallon tank that would be 26 feet tall and 39 feet in diameter. Tank 2 would be replaced with a 125,000-gallon tank that would be 26 feet tall and 30 feet in diameter. The proposed project would not change the storage capacity of the two tanks. The Tank 1 replacement would be constructed on the existing Tank 1 site, while the Tank 2 replacement would be constructed south of the existing Tank 2 site to provide a 10-foot space between Tank 1 and Tank 2. Unlike the current tanks, which are bolted and white, the replacement tanks would be welded steel and tan. As part of the replacement of the tanks, the ringwall foundations and anchorage systems of the tanks would also be replaced to meet applicable seismic code requirements. In addition, existing eight-inch tank connection pipelines at the tank sites would be replaced. Gravel would also be added adjacent to the tanks for the purposes of weed and erosion control. The existing retaining wall would be reconstructed 10 feet south of its southern border to provide the space required for the Tank 2 site improvements. The chain link-fence at the existing retaining wall would also be relocated to the location of the reconstructed retaining wall. No additional lighting is proposed. No trees would be removed.

Construction

The proposed project would be constructed in two phases. Phase I would involve the replacement of Tank 1 and Phase II would involve the replacement of Tank 2. Construction of the overall proposed project is anticipated to last approximately 12 months, starting in February 2025 and completing in February 2026. Phase I is anticipated to last approximately 7 months, starting in February 2025 and completing in September 2025. Phase II is anticipated to last approximately 5 months, starting in September 2025 and completing in February 2026.

Both phases would include demolition, site preparation, grading, tank construction, paving/piping connections, retaining wall modifications, and architectural coating activities. Construction staging would occur at a CCSD-owned lot south of the project site. Construction workers would park either at the staging area or on the driveway at the project site entrance, accessed from Richard Avenue. Construction is anticipated to require approximately 430 cubic yards of cut soil which would be

exported and disposed of off-site. Construction and demolition waste are anticipated to be disposed of at the City of Paso Robles Landfill, which has a remaining capacity of 4,216,402 cubic yards and an estimated closure date of 2051 (California Department of Resources, Recycling, and Recovery [CalRecycle] 2024).

Operation

Following the completion of construction, the proposed project would not result in changes to existing operations. The proposed project would not require additional CCSD staff or additional trips to the project site. Scheduled maintenance activities associated with the replacement tanks would be similar to the existing tanks.

Figure 1 Regional Location

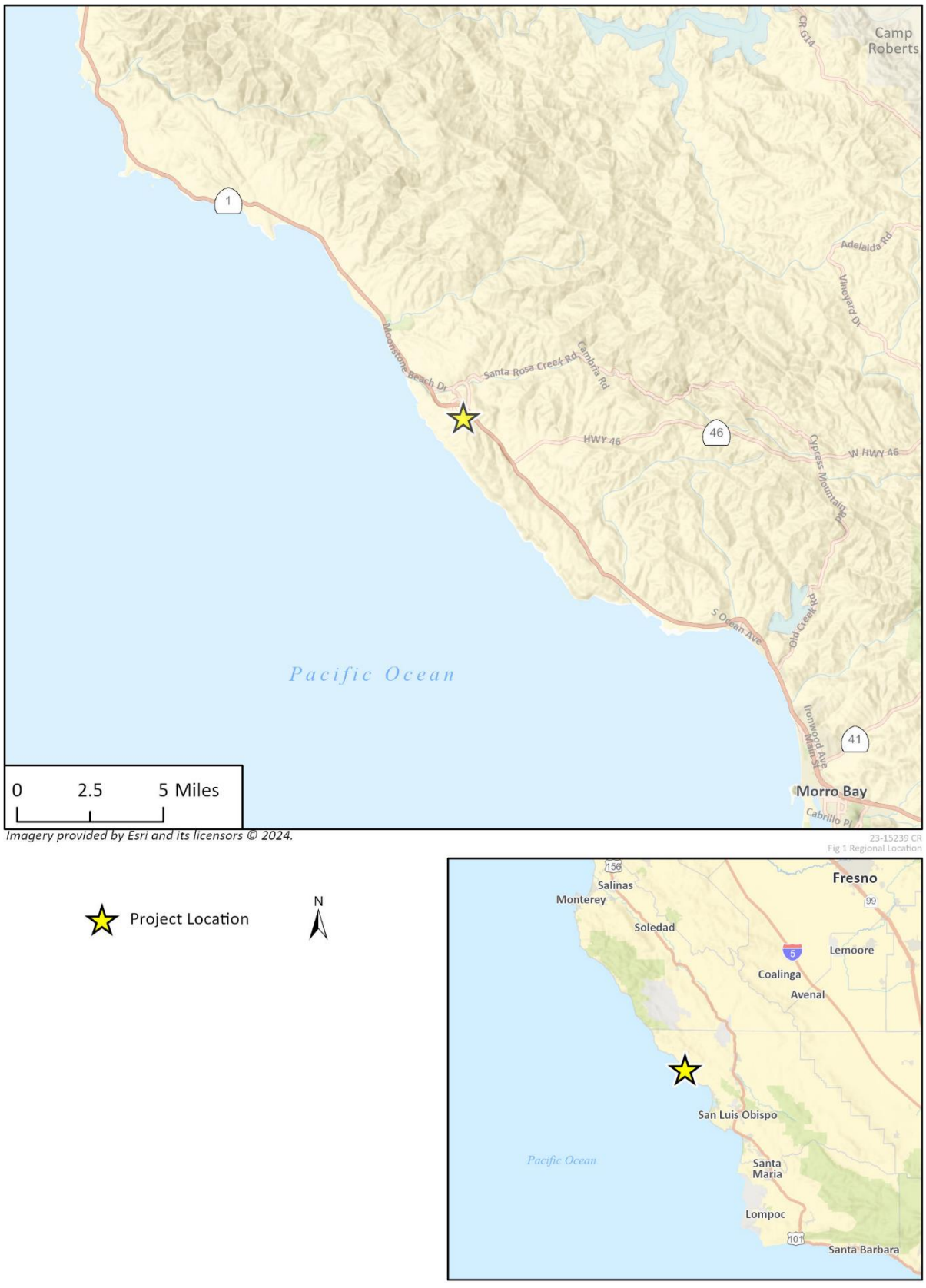
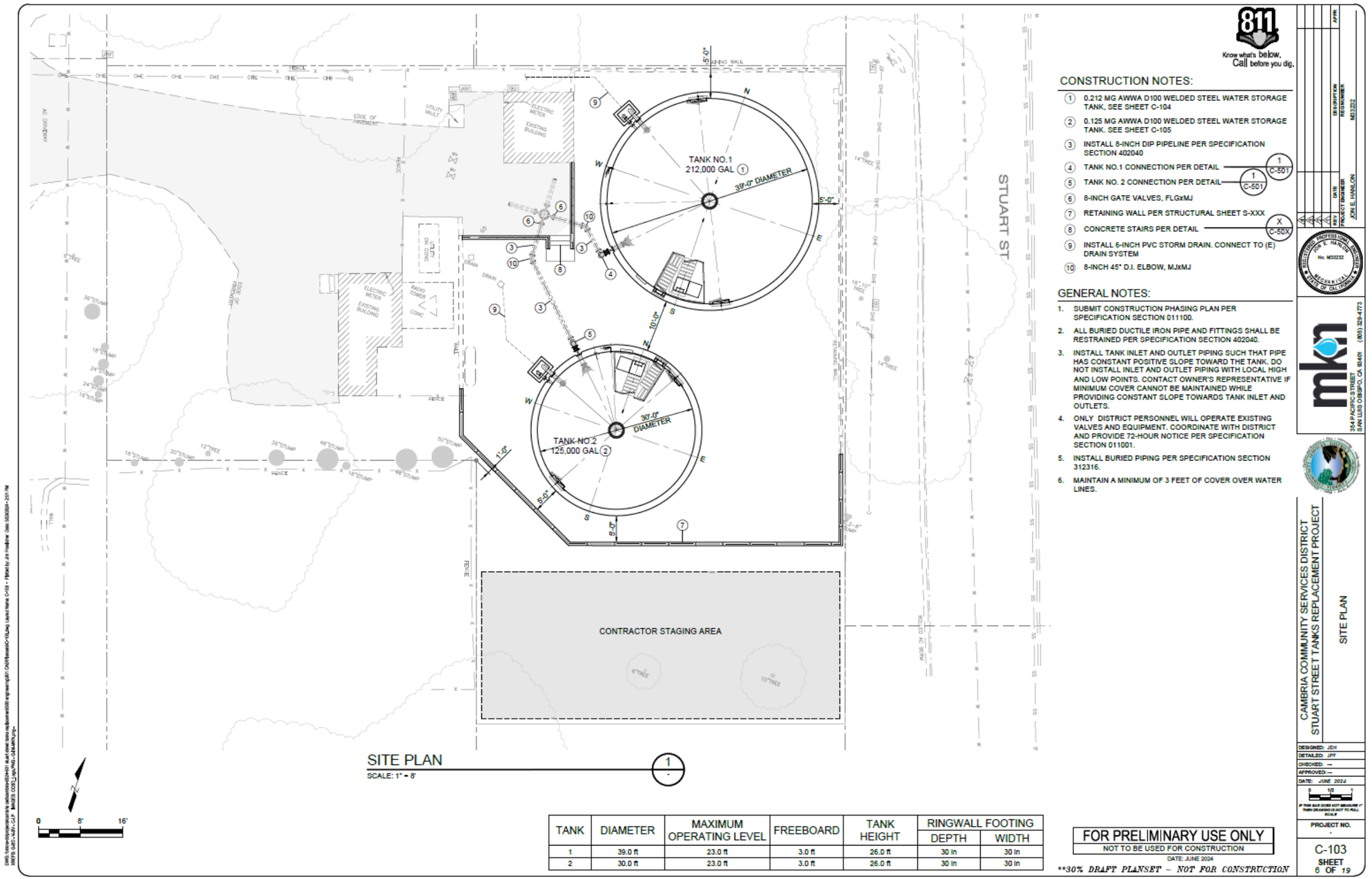


Figure 2 Project Site Location

Imagery provided by Microsoft Bing and its licensors © 2024.

23-15239 CR
Fig 2 Project Site

Figure 3 Project Site Plan



TANK	DIAMETER	MAXIMUM OPERATING LEVEL	FREEBOARD	TANK HEIGHT	RINGWALL FOOTING	
					DEPTH	WIDTH
1	39.0 ft	23.0 ft	3.0 ft	26.0 ft	30 in	30 in
2	30.0 ft	23.0 ft	3.0 ft	26.0 ft	30 in	30 in

2 References

California Department of Resources, Recycling, and Recovery (CalRecycle). 2024. City of Paso Robles Landfill (40-AA-0001). https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1506?siteID=3168 (accessed April 2024).

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Resources and Infrastructure Committee AGENDA NO. **4.B.**

FROM: James Green, Utilities Department Manager

Meeting Date: July 15, 2024	Subject:	Receive and Discuss Information Update on San Simeon Transmission Line Replacement

RECOMMENDATIONS:
Project information and updates.

DISCUSSION:
District Staff held meetings in May with State Parks (SP) to receive input on the alignment alternatives. State Parks' preferred selection for the pipeline alignment is Alternative #4, which routes the pipeline around the outside of the Natural Preserve (Preserve) on previously disturbed areas. The Natural Preserve element provides the wetland area with the highest terrestrial protection level. An avoidance area map was provided to the District and District consultants to assist in locating an area for installation with zero impact on the Preserve. State Parks staff noted that avoiding the Preserve and routing the pipeline along Highway 1, through the Washburn Day-Use entrance road and parking lot, and through an already existing utility corridor to connect with the existing pipelines at Washburn Campground Road could potentially qualify the project for a CEQA exemption (CEQA Section 15303) and could eliminate federal review. The utility corridor already serves several other utilities.

In early June, *a Washburn Area Alternative Exhibit* was designed and submitted (Attachment #). Staff discussed alternative installation locations and methods within the Washburn Day Use Area with our consultants. Among the topics were areas for avoidance, installation pit locations, and constructing a new interconnection location on District property to remove the pipeline infrastructure from the State Parks pedestrian bridge.

Project consultants have expressed difficulty reaching Caltrans to schedule a collaborative project meeting. Staff have shared and discussed the *Washburn Area Alternative Exhibit* with State Parks and requested their assistance in contacting Caltrans to schedule a stakeholder meeting. Recently, State Parks officials provided contact information for the Encroachment Engineer from Caltrans. District staff has contacted the Encroachment Engineer to coordinate a meeting time. The District and consultants will work with Caltrans to understand their requirements and concerns.

Alternative 4, being outside the Natural Preserve, is preferred by SP as it lies entirely in previously disturbed areas and would utilize a utility easement with other infrastructure. However, it still has substantial cultural significance in the alignment area and will require extensive surveying and monitoring during construction. Even considering the existing utility corridor, full-time biological and archeological monitoring is required during clearing, excavation, and trenching. Geotechnical investigations have been performed for Alternative #4, but additional testing is required in the Washburn Day-Use area.

District staff are anticipating a meeting with District Consultants, State Parks staff, and Caltrans Encroachment Engineers to review the Alternative #4 alignment and receive input from Caltrans.

Attachments: Yeh and Associates, Inc. Geotechnical Memorandum
SWCA Preliminary Environmental Constraints Memorandum
Washburn Area Alternative Exhibit

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

REGISTERED PROFESSIONAL ENGINEER
JUDD J. KING
No. 2903
GEOTECHNICAL
STATE OF CALIFORNIA

GEOTECHNICAL MEMORANDUM
391 Front Street, Suite D
Grover Beach, CA 93433
(805) 481-9590
www.yeh-eng.com

Date: **December 20, 2023** **Project No. 223-121**
To: **Mr. Larry Kraemer, PE**
From: **Luke Salemme, EIT, Judd King, PE, GE - Yeh and Associates**

Subject: **Cambria Community Services District Water and Wastewater Pipeline Replacement Project, Cambria, CA**

Yeh and Associates is providing geotechnical services for the design of the Cambria Community Service District's (District) Water and Wastewater Pipeline Replacement Project in response to a failure that occurred along the existing water pipeline in December 2021 within an existing easement at San Simeon State Park. Our services are being provided per task order for consulting services with Cannon for project number 23011, dated August 22, 2023.

Yeh and Associates visited the site on the afternoon of November 14, 2023, to review site geology and geomorphologic conditions that may impact the proposed alternative realignments for the pipelines. Yeh also took various photographs and measurements including the water depth of San Simeon Creek. The location of existing wells and proposed boring locations for further exploration were also reviewed. This memorandum summarizes the existing conditions at the site and alternatives for the pipeline's realignment/replacement.

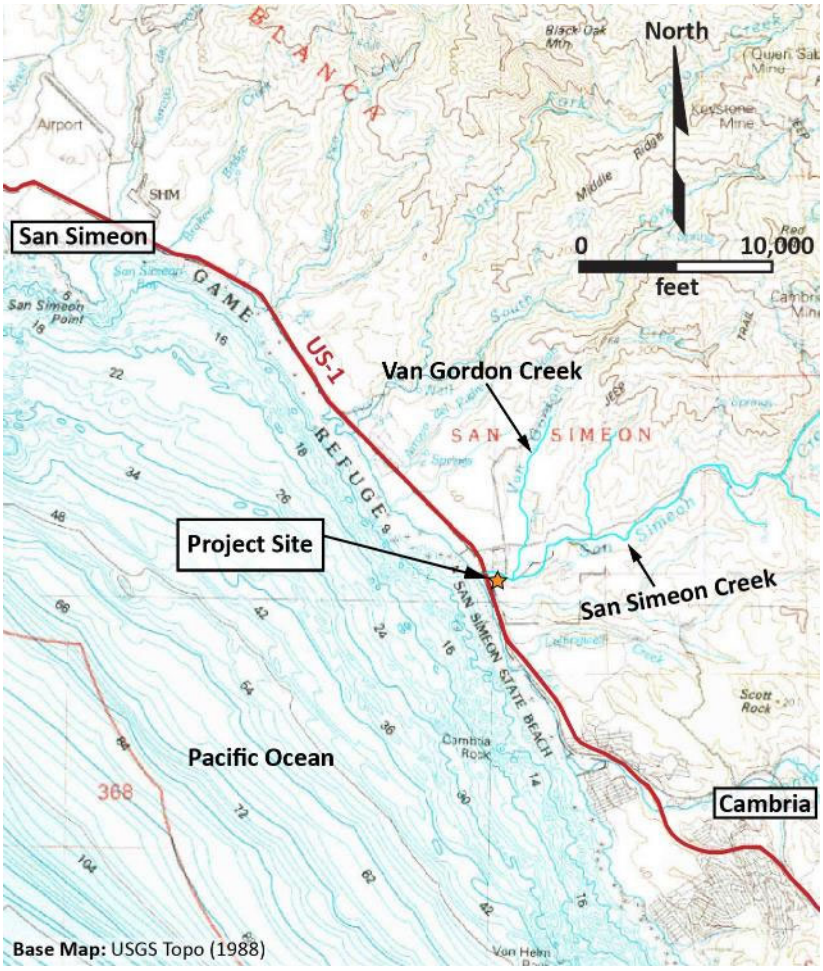


Figure 1: Project Location Map

1. Existing Site Conditions

The project site is located off Highway 1 in Hearst San Simeon State Park in the northern area of Cambria, California. The location of the project site is shown in Figure 1. The site geography is primarily wetlands adjacent to San Simeon Creek (See Figure 2 and Plate 1). Van Gordon Creek, the westernmost tributary, intersects San Simeon Creek in the vicinity of the project site. Elevations in the site vicinity range from approximately elevation 6 to 95 feet[1].

A vehicle bridge and adjacent pedestrian bridge cross San Simeon Creek with existing utilities connected to the underside of the bridges (See Figure 3). The vertical distance from the vehicle bridge deck to the bottom of the creek was 17 feet and 14 feet to the water surface on November 14, 2023, at approximately 3 pm. The water level at this portion of the creek may be tidal dependent due to its proximity to the ocean and observed water-line marks on the sides of the creek. Additionally, soil adjacent to the northern bridge abutment had been scoured 3 to 4 feet which was likely caused by runoff from storm events from 2023 (See Figure 3).

Figure 2: Wetlands at Project Site

Potable water and treated effluent pipelines traverse State Parks property through wetlands and coastal land along an existing 25-foot-wide easement. We understand that the existing pipes are likely buried 3 to 5 feet in the ground. The December 2021 failure of the 14-inch diameter potable water line was replaced by a temporary overland bypass of fusion-welded 12-inch diameter High Density Polyethene (HDPE) pipe. This pipe traverses the project site on the surface of

[1] CalTopo (2023), Online topography tool, accessed November 20, 2023, https://caltopo.com/map.html#ll=35.59685,-121.11777&z=16&b=mbt

the protected wetlands and is only trenched at its connections to the existing water pipeline near Exotic Gardens Road to the south and Washburn Campground Road near San Simeon Creek to the north. The existing potable water line was abandoned in the ground.

The second pipeline is an existing 12-inch diameter ductile iron pipe that transports treated effluent from the District's wastewater treatment facility located 2.5 miles south of the project site to existing effluent disposal ponds east-northeast of the project site and San Simeon State Park.

Figure 3: San Simeon Creek Conditions below Bridge on 11/14/23

2. Proposed Alternatives

Four alternatives are proposed by Cannon[2] for the water and wastewater pipelines' replacement. The alternatives are shown on Plate 1 and are described below.

2.1 Alternative 1

Alternative 1 includes replacing the two pipelines in the existing 25-foot-wide District easement through the protected wetlands on California State Parks property. The southern connection point to the existing pipelines for this alternative is located off Exotic Gardens Road. The realignment traverses the wetlands on State property, to the northern connection point located approximately 100 feet south of the pedestrian bridge on Washburn Drive inside the State campground. The length of this alignment is approximately 2,400 feet. The existing easement curves to the northeast within the wetlands area prior to the connection at Washburn Campground Road 100 feet south of San Simeon Creek. The new pipes would cross a sensitive habitat where open trenching is not likely allowed. Trenchless methods such as horizontal directional drilling (HDD), pipe bursting, or cured in-place pipe (CIPP) are being considered to replace the pipelines.

[2] Alignment Alternatives Preliminary Design Report, Cambria Community Services District Water and Wastewater Pipeline Replacement Project, by Cannon, dated November 30, 2023

2.2 ALTERNATIVE 2

Alignment 2 includes replacing the two pipelines east of the existing 25-foot-wide District easement through the protected wetlands on California State Parks property. The southern connection point to the existing pipelines for this alternative is located off Exotic Gardens Road. The realignment traverses the wetlands on State property following a straight route to the northern connection point at Washburn Campground Road 100 feet south of San Simeon Creek. The length of this alignment is approximately 2,350 feet. The new pipes would cross a sensitive habitat where open trenching is not allowed. Trenchless methods such as horizontal directional drilling (HDD), pipe bursting, or cured in-place pipe (CIPP) are being considered to replace the pipelines. A new 25-foot-wide utility and access easement would be required for this alignment.

2.3 ALTERNATIVE 3

Alignment 3 includes replacing the two pipelines east of the existing 25-foot-wide District easement through the protected wetlands on California State Parks property. The southern connection point to the existing pipelines for this alternative is located off Exotic Gardens Road. The realignment traverses the wetlands on State property following a straight route beneath San Simeon Creek to the northern connection point located approximately 400 feet northeast of the intersection of Washburn Campground Road and San Simeon Trail Access Road within the District's property about 300 feet north of the pedestrian bridge. The length of this alignment is approximately 2,800 feet. The new pipes would cross sensitive habitats where open trenching is not likely allowed. Trenchless methods such as horizontal directional drilling (HDD), pipe bursting, or cured in-place pipe (CIPP) are being considered to replace the pipelines. A new 25-foot-wide utility and access easement would be required for this alignment.

2.4 ALTERNATIVE 4

Alignment 4 includes replacing the two pipelines outside of the protected wetlands. The southern connection point to the existing pipelines for this alternative is located off Exotic Gardens Road. The alignment extends approximately 140 feet west into the east side of the Caltrans Highway 1 right-of-way, where it continues approximately 2,100 feet north to the San Simeon Trail Access Road. The alignment then turns east and follows the San Simeon Trail Access Road to its northern connection point located approximately 100 feet south of the pedestrian bridge on Washburn Drive inside the State campground. The total length of this alignment is approximately 3,100 feet. This is the only alignment to avoid the protected wetlands on California State Parks property. Trenching is the proposed construction method for this alignment. Due to the size of the water and wastewater pipelines and separation requirements, it is expected that two separate trenches will be required for this alternative with a minimum separation of approximately 6 feet centerline to centerline.

3. GEOLOGIC SETTING

The project is located within the Coast Ranges geomorphic province, which extends from the Transverse Ranges in southern California to the Klamath Mountains in northern California and into Oregon. The province is characterized by north-northwest trending mountain ranges composed of sedimentary, volcanic, and metamorphic rocks. The basal units are predominantly composed of Jurassic and Cretaceous age rocks with Tertiary to Holocene age rocks commonly overlying the older formations along the flanks and foothills of those ranges. Quaternary sediments are found within intervening drainages, valleys, and coastal areas.

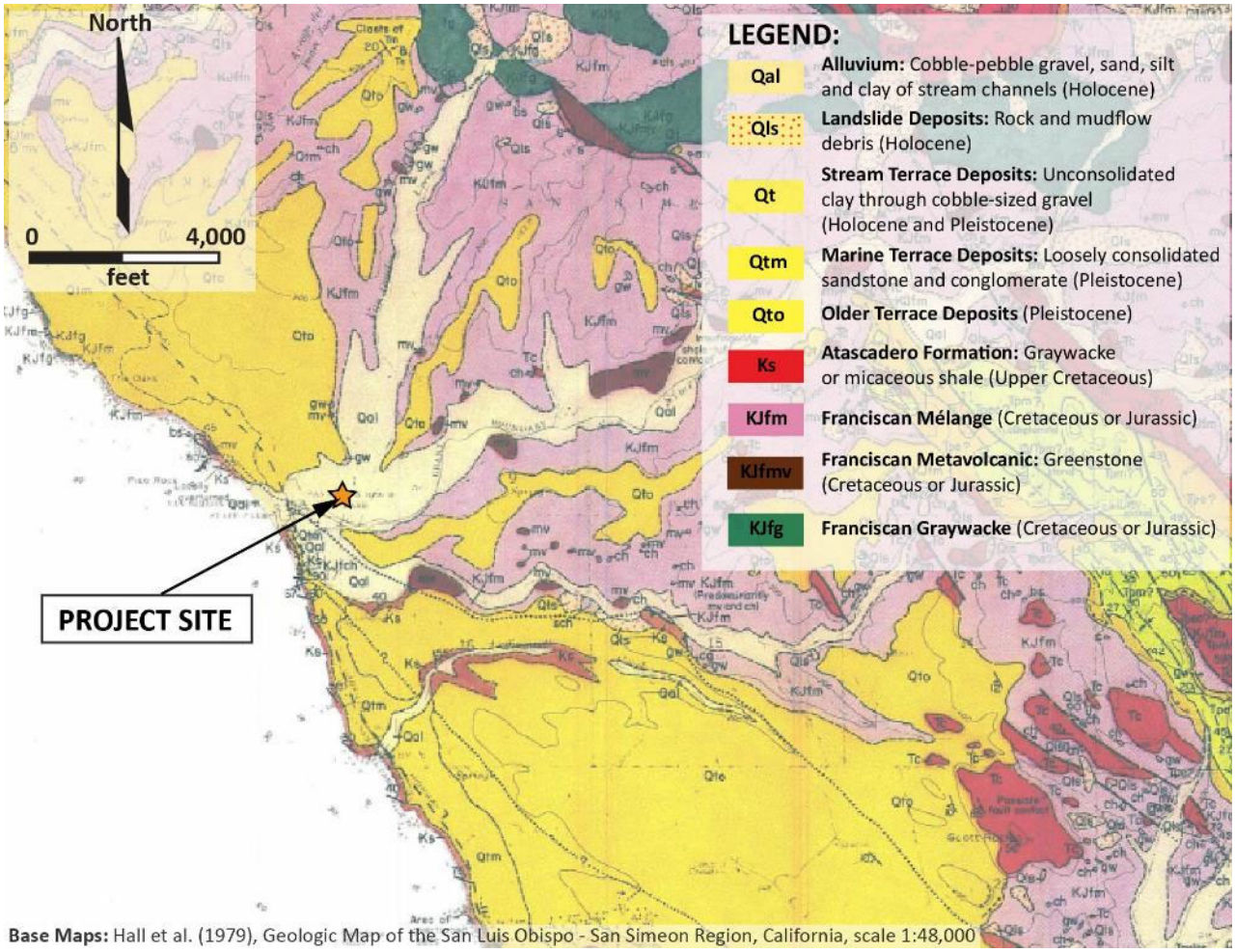


Figure 4: Geologic Map (Hall et al. 1979)

Figure 4 shows a portion of regional geology in the site vicinity as mapped by Hall et al.[3] The site geology is mapped as Alluvial Deposits (Qal) and is described as "cobble – pebble gravel, sand, silt, and clay." Adjacent to the site is mapped Marine Terrace Deposits (Qtm), Older Terrace Deposits

[3] Hall et al. (1979), *Geologic Map of the San Luis Obispo – San Simeon Region, California*, scale 1:48,000.

(Qto), Atascadero Formation (Ks), Franciscan Mélange (KJfm), and Franciscan Metavolcanic (KJfmv). Plate 1 shows the site geology as mapped by Yeh.

4. Subsurface Conditions

Yeh reviewed site conditions and previous data available in the project vicinity. Log of Test Borings (LOTB) for the San Simeon Creek Bridge on Highway 1 (Bridge No. 49-46)[4] [5], a monitoring well installed for the District near San Simeon Creek[6], and as-built plans for the vehicle bridge[7] within the campground that crosses the creek were reviewed. These data are included as Appendix A to this memorandum.

Low-lying wetlands are composed of Alluvial Deposits (Qal) surrounded by hills composed Older Terrace Deposits (Qto) (See Plate 1 and Figure 2). The alluvium is likely composed of clay and silt with various concentrations of gravel ranging between pebbles and cobbles and sand according to existing subsurface data reviewed. Older Terrace Deposits are described as poorly consolidated sand and clay-rich sand. The geologic contact between the alluvium and terrace deposits appears at the toe of the slopes; however, vegetation obscures the contact in many locations. Outcroppings of resistant Metavolcanic Rocks (KJfmv) described as metamorphosed basalt and diabase and Atascadero Formation (Ks) described as graywacke or sandstone and interbedded micaceous shale and siltstone are observed on surrounding hills and adjacent to San Simeon Creek. The depth and lateral extent of these outcrops are unknown, as they are also obscured by vegetation. However, outcrops of these materials were observed along San Simeon Creek and near the wetlands (see Plate 1). Additionally, artificial fill (Af) was observed along segments of San Simeon-Monterey Creek Road and approach embankments for the Highway 1 bridge above San Simeon Creek.

Previous subsurface conditions encountered from borings drilled in 1959 and 1983 for the Highway 1 San Simeon Creek Bridge include thick alluvial deposits composed of very soft to stiff clay with layers of slightly compacted sand and gravel overlying very dense sand and gravel deposits. The boring locations are shown in Plate 1. The overlying clayey layer descends approximately 60 feet below ground surface, with the underlying denser granular material found to the maximum depths explored of approximately 95 feet below ground surface. Groundwater within the borings was encountered at approximately 2 to 5 feet below the ground surface (roughly elevations 2 to 4 feet).

[4] Caltrans (1959), Log of Test Borings, Highway 1 Bridge at San Simeon Creek, Br. No. 49-46
[5] Caltrans (1983), Log of Test Borings, Foundation Report, and Pile Driving Records, Highway 1 Bridge at San Simeon Creek, Br. No. 49-46
[6] State of California (2015), Well Completion Report No. e0283579, Well No. MW4, March 13, 2015
[7] State of California – Department of General Services – Office of the State Architect (1984), *Vehicle Bridge Sections and Details and Abutment Plans & Details*, Sheets 8 and 9, April 9, 1984.

5. Geotechnical Considerations for the Proposed Alternatives

Considerations for each alternative in relation to site geology and subsurface conditions, additional exploration and geotechnical services, constructability considerations, and rough order of magnitude cost of additional geotechnical services are presented below.

5.1 Alternatives 1 and 2

Alternative 1 includes the installation of two new pipelines within the existing District easement that curves to the northeast within the wetlands area. Alternative 2 achieves the same goal as Alternative 1, but the pipeline will be installed in a straighter alignment than Alternative 1 along a new easement. Both alternatives connect to existing infrastructure on Washburn Campground Road approximately 100 feet south of the bridge over San Simeon Creek.

5.1.1 Anticipated Subsurface Conditions

Alternatives 1 and 2 traverse through a range of geologic materials including Older Terrace Deposits (Qto) consisting of poorly consolidated sand and clay-rich sand, Alluvial Deposits (Qal) consisting of clay and silt with lenses of gravel ranging between pebble to cobble size, and sand. This alternative's route passes relatively close to an outcropping of Metavolcanic Rock (KJfmv) near the wetlands area that is composed of metamorphosed basalt and diabase with unknown depth and lateral extent. The groundwater level is likely relatively shallow within the wetlands. Variable soil types and subsurface conditions should be anticipated for these alternatives.

5.1.2 Constructability Considerations

Trenchless methods such as HDD utilize drilling mud to stabilize the borehole and facilitate the removal of soil cuttings. Soil type and particle size are an important factor in the design of the mud as well as the ability of the mud to remove materials from the bore path. Larger materials such as gravel, cobble, and boulders are difficult if not impossible to remove using drilling mud. The materials can also cause borehole instability and collapsing during drilling. Shallow groundwater and subsequent subsurface flow may occur beneath the wetlands due to the proximity of the project site to the Pacific Ocean and San Simeon Creek. Subsurface flow gradients can cause washing of drilling mud and further impact borehole stability and HDD success. The sandy soil combined with gravel ranging between pebbles to cobbles as well as shallow groundwater can impact the capability of conventional HDD methods. In addition, the resistant Metavolcanic Rocks (KJFmv) outcrop would likely inhibit or cause challenges to the HDD process and may require different tooling if it is encountered. The HDD bore path should be at sufficient depth to reduce the potential for inadvertent returns where drilling mud seeps out of the ground surface. Characterization of geotechnical and groundwater conditions will be needed as input to the design.

Pipe bursting is also being considered as a potential method for replacement for Alternative 1. Backfill of the existing pipe and the proximity of soil and rock types where the original pipe is buried is a design consideration. Upsizing the pipe is constrained by the existing pipe diameter and backfill materials. It is likely that native soil was used to backfill the existing pipe. Another consideration is the existing pipe material type and any concrete collars, thrust blocks or repairs which can inhibit the ability to use pipe bursting as an installation method.

5.1.3 Additional Geotechnical Services

Additional geotechnical services for this alternative should include field exploration, laboratory testing, and preparation of a *Geotechnical Report*. Three to five borings are recommended along the proposed alignments to depths of a minimum of 10 feet below proposed bottom of pipeline. Three approximate boring locations are noted on Plate 1 with additional locations to be determined. Borings are proposed at the southern connection point of Exotic Gardens Road, within the Older Terrace Deposits (Qto) close to its contact with the wetlands, and along Washburn Campground Road. A geophysical survey in the form of seismic refraction would enhance the subsurface profile and may act as a substitute for a boring(s) and is recommended. Additionally, seismic refraction would also aid in identifying any rock or materials within the alignment such as the metavolcanic rock outcrop observed near the wetland.

5.1.4 Cost of Additional Geotechnical Services

Rough order of magnitude costs in addition to Yeh's existing contract for geotechnical services for this alternative are anticipated in the range of $75,000 to $90,000. A refined scope of services and cost estimate would be provided following the selection of the preferred alternative based on current fee schedules as well as subcontractor and permitting costs at the time the services are to be performed.

5.2 Alternative 3

Alternative 3 includes installation of two new pipelines within a new District easement located just east of Alternatives 1 and 2. Alternative 3 crosses below San Simeon Creek and connects to existing pipelines on the north side of the creek.

5.2.1 Anticipated Subsurface Conditions

Alternative 3 passes through a range of geologic materials including Older Terrace Deposits (Qto) consisting of poorly consolidated sand and clay-rich sand, Alluvial Deposits (Qal) consisting of clay and silt with gravel ranging between pebble to cobble size, and sand, silt, and clay. This alternative's route passes relatively close to an outcropping of Metavolcanic Rock (KJfmv) composed of metamorphosed basalt and diabase with unknown depth and lateral extent and an Atascadero Formation (Ks) outcrop composed of graywacke or sandstone and interbedded micaceous shale and siltstone observed

adjacent to San Simeon Creek. The anticipated groundwater level is likely relatively shallow where the pipes will pass through the wetlands and the creek.

5.2.2 CONSTRUCTABILITY CONSIDERATIONS

Similar geotechnical considerations as Alternatives 1 and 2 are recommended for this alternative. However, there is also the crossing of the borepath below San Simeon Creek. This additional feature will increase the complications of using HDD for this pipeline replacement. There will be increased potential for inadvertent returns where the HDD borepath crosses below San Simeon Creek.

5.2.3 ADDITIONAL GEOTECHNICAL SERVICES

Additional geotechnical services for this alternative should include field exploration, laboratory testing, and preparation of a *Geotechnical Report*. Four to six borings are anticipated with proposed depths of a minimum of 10 feet below proposed bottom of pipeline alignment. Borings are recommended at the southern connection point of Exotic Gardens Road, within the Older Terrace Deposits (Qto) close to the connection point near the wetlands, along Washburn Campground Road, and in the alluvial plain east of Van Gordon Creek Road. A geophysical survey in the form of seismic refraction would greatly enhance the subsurface profile and may act as a substitute for a boring(s) and is recommended. Additionally, seismic refraction would allow more confidence in this route avoiding the Metavolcanic Rocks (KJfmv). The Atascadero Formation (Ks) outcrop is within areas of high vegetation and extends into San Simeon Creek. Geophysical surveys would be challenging to perform in this area; thus, an additional field visit should be performed to investigate the extents of this outcrop.

5.2.4 COST OF ADDITIONAL GEOTECHNICAL SERVICES

Rough order of magnitude costs in addition to Yeh's existing contract for geotechnical services for this alternative are anticipated in the range of $75,000 to $90,000. A refined scope of services and cost estimate would be provided following the selection of the preferred alternative based on current fee schedules as well as subcontractor and permitting costs at the time the services are to be performed.

5.3 ALTERNATIVE 4

Alternative 4 includes open cut trenching along the edge of the Highway 1 Caltrans right-of-way from the southern connection point at Exotic Gardens Road to the Washburn Day Use Driveway/San Simeon Trail Access Road where the pipes would head east-northeast to connect to the same northern terminus as Alternatives 1 and 2 near Washburn Campground Road.

5.3.1 ANTICIPATED SUBSURFACE CONDITIONS

Alternative 4 passes through a range of geologic materials including Older Terrace Deposits (Qto) consisting of poorly consolidated sand and clay-rich sand and Alluvial Deposits (Qal) consisting of clay

and silt with gravel ranging between pebble to cobble size, and sand. Artificial fill may be encountered beneath San Simeon Trail Access Road. The anticipated groundwater level is likely relatively shallow near San Simeon Creek.

5.3.2 Constructability Considerations

This alternative utilizes open cut methods as it avoids the protected wetlands within the State Park. Open cut excavations in areas with shallow groundwater may require stabilization of trench walls and/or dewatering. If dewatering is necessary, additional permitting may be required as this method reduces the water of the surrounding area and must be disposed of in a separate location or treated prior to disposal within a creek environment. This alternative would also involve working within the Caltrans right-of-way where additional permits and requirements may be necessary. Pipeline placement production rates in along San Simeon Trail Access Road would also be slower than normal production rates for pipeline open trenching due to shallow groundwater and unstable soil conditions.

5.3.3 Additional Geotechnical Services

Additional geotechnical services for this alternative should include field exploration, laboratory testing, and preparation of a *Geotechnical Report*. Five borings are anticipated with proposed depths of a minimum of 10 feet below proposed bottom of pipeline trench. Borings at a minimum are proposed at the southern connection point of Exotic Gardens Road, along Highway 1, and on San Simeon Trail Access Road. A Caltrans Encroachment Permit would be needed to perform the work within the Caltrans right-of-way.

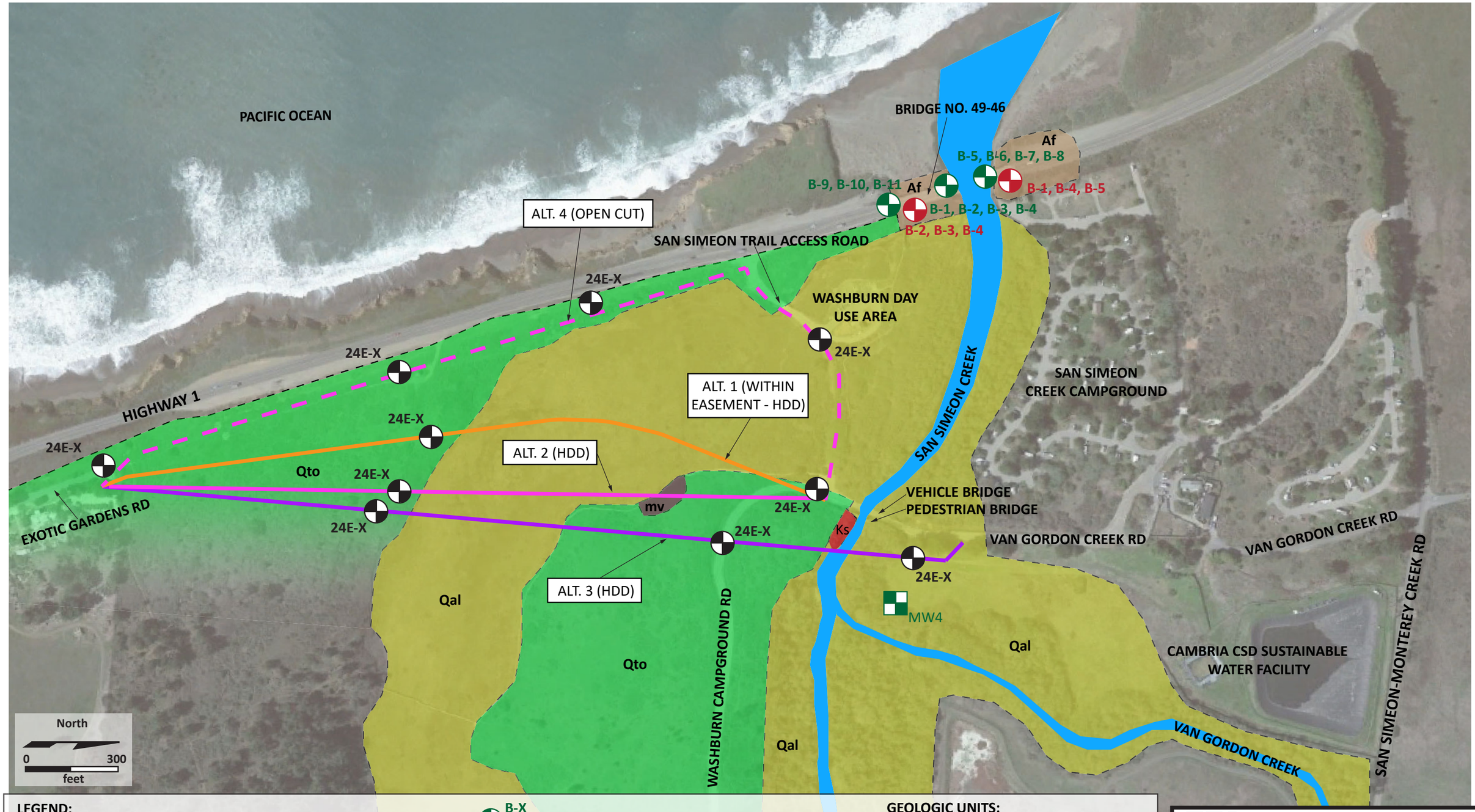
5.3.4 Cost of Additional Geotechnical Services

Rough order of magnitude costs in addition to Yeh's existing contract for geotechnical services for this alternative are anticipated in the range of $50,000 to $60,000. A refined scope of services and cost estimate would be provided following the selection of the preferred alternative based on current fee schedules as well as subcontractor and permitting costs at the time of selection.

6. Preferred Alternative

Alternatives 1 and 2 are the likely preferred options from a geotechnical perspective. They avoid open trenching in soft and saturated ground. These two alternatives do not require the additional 500 feet of pipeline to cross below San Simeon Creek. If avoiding the wetlands and the HDD process altogether is desired, Alternative 4 is the next preferred alternative.

We trust this memorandum meets your needs at this time. Please contact Judd King at 805-801-6416 or jking@yeh-eng.com if you have questions or require additional information.



LEGEND:

: Proposed ALT. 1

: Proposed ALT. 2

: Proposed ALT. 3

: Proposed ALT. 4

NOTE: See 'ALIGNMENT ALTERNATIVES' sheet by Cannon for existing utility alignments.

B-X Approximate LOTB Location (Caltrans 1983)

B-X Approximate LOTB Location (Caltrans 1959)

24E-X Proposed Boring Location (Yeh 2023)

MW4 Approximate Existing Well Location

GEOLOGIC UNITS:

Af Artificial Fill

Qal Alluvium

Qto Older Terrace Deposits

Ks Atascadero Formation

mv Fransican Metavolcanic

– – – – : Approximate Geologic Contact Location

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

FIELD PLAN

PROJECT NAME:	PLATE
CAMBRIA CSD WATER - WASTERWATER PIPELINES Cambria, CA	1
PROJECT NUMBER: 223-121	REVISION DATE: 12/19/2023

Highway 1 Bridge at San Simeon Creek, Br. No. 49-46 (1959)

FED. ROAD DIV. NO.	STATE	PROJ. No.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	CAL.				

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
V	SLO	56	B		

BRIDGE ENGINEER — CIVIL ENGINEER—LICENSE 5585

DATE APPROVED

BRIDGE DEPARTMENT

FIELD STUDY by NELSON 4-59
DRAWN by SUSAK 4-59
CHECKED by KELLEY 4-59

Approval Recommended by: Engineering Geologist / Advance Materials Engineer

CAMBRIA — SAN SIMEON

℄ CONST — SAN SIMEON CK

PLAN
SCALE 1"=20'

PROFILE
SCALE VERT 1"=10'
HORIZ 1"=20'

B-2 · B-3 · B-4 · B-5 · B-1

193+42 ℄ CONST 5'ET — EL 7.5 — B-2 — GWS 3.8 4-11-59 — GWS 4.3 4-13-59

193+98 ℄ CONST 15'ET — EL 5.1 — B-3 — 2.8

195+20 ℄ CONST 7'ET — EL 25.3 — B-4 — Reinforced PCC bridge deck

196+24 ℄ CONST 7'ET — B-5 — 2.9

196+99 ℄ CONST 8'ET — EL 10.1 — B-1 — GWS 3.1 4-10-59

Very loose tan medium sand
Very soft black partly decomposed organic matter.
Slightly compact to compact gray silty gravel.
Dense gray silty gravel
Very soft to very stiff and very loose to compact blue gray organic clayey silt, silty and clayey sand, and sandy silt
Compact gray cemented silt
Soft blue gray silty clay
Dense gray silty sand & sandy silt.
Dense to very dense gray gravel & coarse sand.
Water
Loose gray sand and gravel
Very soft-soft black decomposing organic matter.
Loose black silty gravelly coarse sand.
Soft to stiff and loose to slightly compact organic clayey silt, silty clay, and clayey and silty sand with some wood.
Compact blue gray interbedded silty coarse sand & silty gravel.
Blue gray sandstone

4-1-59 · 4-19-59 · 4-14-59 · 4-10-59

BM T-259
STD. USC&GS DISC IN CURB @ NE COR. 8" PM 49-46 12.8' RT ℄ 'CONST ℄' 197+16.1 EL 25.832

BM 'B'
CHISELED 'B' ON END TOP STR. FACE CURB @ SE COR BR. 49-46 14' RT CONST ℄ 193+21.5 EL 25.142

ENGR. GEOLOGY SECTION

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

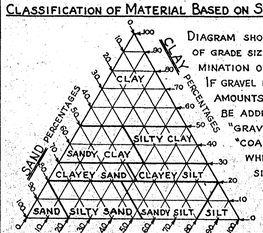


DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES.

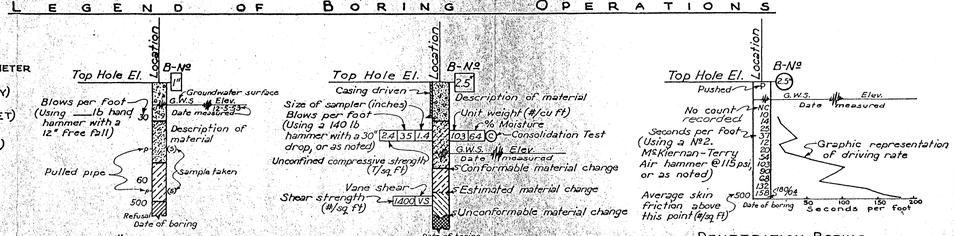
IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE," "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

- PLAN OF ANY BORING
- PENETROMETER
- 2½" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT

LEGEND OF BORING OPERATIONS



NOTES

The contractor's attention is directed to Section 2, Article (c) of the Standard Specifications and to the Special Provisions accompanying this set of plans.

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

SAN SIMEON CREEK BRIDGE WIDENING

LOG OF TEST BORINGS

SCALE As Shown.	BRIDGE 49-46	FILE	DRAWING

PR 6371-3

ENGR. GEOLOGY SECTION

Highway 1 Bridge at San Simeon Creek, Br. No. 49-46 (1983)

DIST	COUNTY	ROUTE	POST MILES — TOTAL PROJECT	SHEET NO	TOTAL SHEETS
05	SLO	1	52.7/53.4	25	25

Robert W. Reynolds #165
ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER
DATE APPROVED: August 22, 1983

BENCH MARK
BM T-259 Elev. 25.63

EXIST. BR NO 49-46

REDUCED PLAN
USE SCALE BELOW
0 1 2 3
3 INCHES ON ORIGINAL PLAN

TO CAMBRIA

TO SAN SIMEON

℄ SURVEY

B-9 B-11 B-10 B-2 B-3 B-4 B-1 B-5 B-6 B-7 B-8

223+00 224+00 225+00 226+00 227+00

B-10: Compact, brown ORGANIC, buff to orange SILTY SAND materials with GRAVEL (Fill)
Very dense, CLAYEY SILTY GRAVEL layers
Dense, buff to red brown, CLAYEY SILTY SAND with SANDSTONE and some ORGANICS (Fill)
Loose, black to blue gray, ORGANIC SILTY SANDY GRAVEL to CLAYEY SILT
SILTY SAND to SANDY SILTY CLAY

B-4: Loose, brown medium SAND to GRAVEL with depth
Very soft, gray CLAY
Slightly compact, brown SAND and GRAVEL
Compact, brown, SILTY SAND and GRAVEL
Slightly compact, blue gray, SAND and GRAVEL with CLAY interbeds
Soft, gray CLAY
Loose, gray, fine SILTY SAND
Soft, gray CLAY with interbeds of gray loose CLAYEY SILT some ORGANICS
Stiff, gray, very SILTY CLAY
Slightly compact, gray CLAYEY SILT
Stiff, gray CLAY to slightly compact CLAYEY fine SAND
Dense, green gray, medium slightly SILTY SAND and GRAVEL (1")
Hard, blue gray, SANDY CLAY
Dense, gray to rust brown, SILTY SAND
Very dense, multi colored weathered SAND and GRAVEL
Slightly compact, gray, very SILTY SAND with wood chunks (GRAVEL stringers with depth
Dense to very dense, SAND and GRAVEL

B-1: Very soft, gray, ORGANIC SANDY CLAY
Slightly compact, blue gray, coarse SILTY SAND
Slightly compact, blue gray, coarse SILTY SAND and GRAVEL
Compact, blue gray, slightly SILTY coarse SAND and GRAVEL (up to 2"ø)
Very soft to soft, gray CLAY
Stiff, gray CLAY
Soft, gray, CLAY with CLAYEY fine SAND seams
Stiff, blue gray CLAY
Stiff, blue gray, CLAY with fine SAND interbeds
Stiff, blue gray CLAY with a little ORGANIC material
Stiff, blue gray CLAY to SILTY CLAY
Slightly compact, gray, interbedded SILTY to CLAYEY fine SAND and stiff SILTY CLAY
Stiff, gray, very SILTY CLAY
Stiff, brown, SANDY CLAY
Slightly compact to dense, brown, very SILTY fine SAND
Dense, gray, fine SAND with some PEBBLES
Compact, gray, SAND SILT and GRAVEL
Stiff, gray SAND CLAY
Compact to very dense, SANDY GRAVEL with compact SAND interbedded

Loose, gray, fine SAND
Very soft, gray, CLAY with some ORGANICS
Very soft, blue gray, SILTY CLAY
Soft, blue gray, CLAY
Soft, blue gray, SILTY CLAY
Stiff, blue gray, SILTY CLAY - some ORGANICS
Stiff, blue gray, SANDY CLAY with slightly compact fine SAND interbeds
Slightly compact, blue gray, CLAYEY to SANDY SILT
Dense, blue gray, SILTY SAND and GRAVEL
Slightly compact, blue gray SILTY SAND
Dense, blue gray, SAND to GRAVEL
Dense, blue gray to buff, white SAND with GRAVEL
Very dense, coarse GRAVEL to SAND, weathered with some SILT
Dense, blue gray to white and buff, GRAVEL and SAND

B-8 PLAN 1"=20'
Stiff, brown to orange buff, SANDY CLAY with GRAVEL (Fill)
Hard, dark gray SANDY CLAY (Fill)
Loose SAND
Soft to stiff, blue gray, SILTY CLAY - highly plastic
Soft, blue gray, SILTY CLAY some GRAVEL
Very soft, blue gray, SILTY CLAY
Slightly compact, black-blue gray SANDY SILT with SILTY CLAY interbeds
Slightly compact, blue gray to brown, SANDY SILT GRAVEL
Slightly compact to loose, blue gray, SANDY SILT to SILTY SAND
Loose, blue gray, SANDY SILT to GRAVEL
Slightly compact, blue gray, SILTY SAND to GRAVEL
Slightly compact, blue gray, SILTY SAND with GRAVEL
GRAVEL and ORGANIC
Slightly compact, blue gray, CLAYEY SILT to SILTY SAND with ORGANIC
Slightly compact, blue gray, SILTY SAND with ORGANIC GRAVEL layers
Dense, blue gray to buff, SANDY GRAVEL
Very dense, blue gray to buff, SANDY GRAVEL

PROFILE
Hor: 1"=20'
Ver: 1"=10'

LEGEND OF BORING OPERATIONS
ROTARY BORING
ROTARY BORING (WET)
AUGER BORING (DRY)
SAMPLER BORING (DRY)
SOIL TUBE
2½" CONE PENETROMETER

LEGEND OF EARTH MATERIALS
GRAVEL
SAND
SILT
CLAY
SANDY CLAY or CLAYEY SAND
SANDY SILT or SILTY SAND
PEAT and/or ORGANIC MATTER
FILL MATERIAL
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

Penetration Index (Blows/Ft)	Granular	Cohesive
0-5	Very loose	Very soft
5-10	Loose	Soft
10-20	Slightly compact	Stiff
20-35	Compact	Very stiff
35-70	Dense	Hard
70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon Field inspection and is not to be construed to imply mechanical analysis

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions	Group Symbols	Typical Names
Fine grained soils: Silts and Clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands with fine silty or clayey fine sands, or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
Fine grained soils: Silts and Clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
Highly Organic Soils	Pt	Peat and other highly organic soils
Coarse grained soils: Gravels (More than half of coarse fraction is larger than No. 4 sieve size): Clean gravels (Little or no fines)	GW	Well graded gravels, gravel sand mixtures, little or no fines
	GP	Poorly graded gravels, gravel sand mixtures, little or no fines
Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel sand silt mixtures
	GC	Clayey gravels, gravel sand clay mixtures
Sands (More than half of coarse fraction is smaller than No. 4 sieve size): Clean sands (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
Sands with fines (Appreciable amount of fines)	SM	Silty sands, sand silt mixtures
	SC	Clayey sands, sand clay mixtures

ENGINEERING GEOLOGY AND TECHNICAL SERVICES BRANCH — TRANSPORTATION LABORATORY

DRAWN BY	ED WONG 3/82	CHARGE UNIT	EXPEND AUTHOR.	SPEC DESIGN
CHECKED BY	R. F. Hagan 728 (PROJECT GEOLOGIST, CEG NO)	A. Goldsmith 771 (APPROVED RECOMMENDED BY, ENGINEERING GEOLOGIST, CEG NO)		

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN
Albert Kaufler (PROJECT ENGINEER, REGISTERED CIVIL ENGINEER NO.)

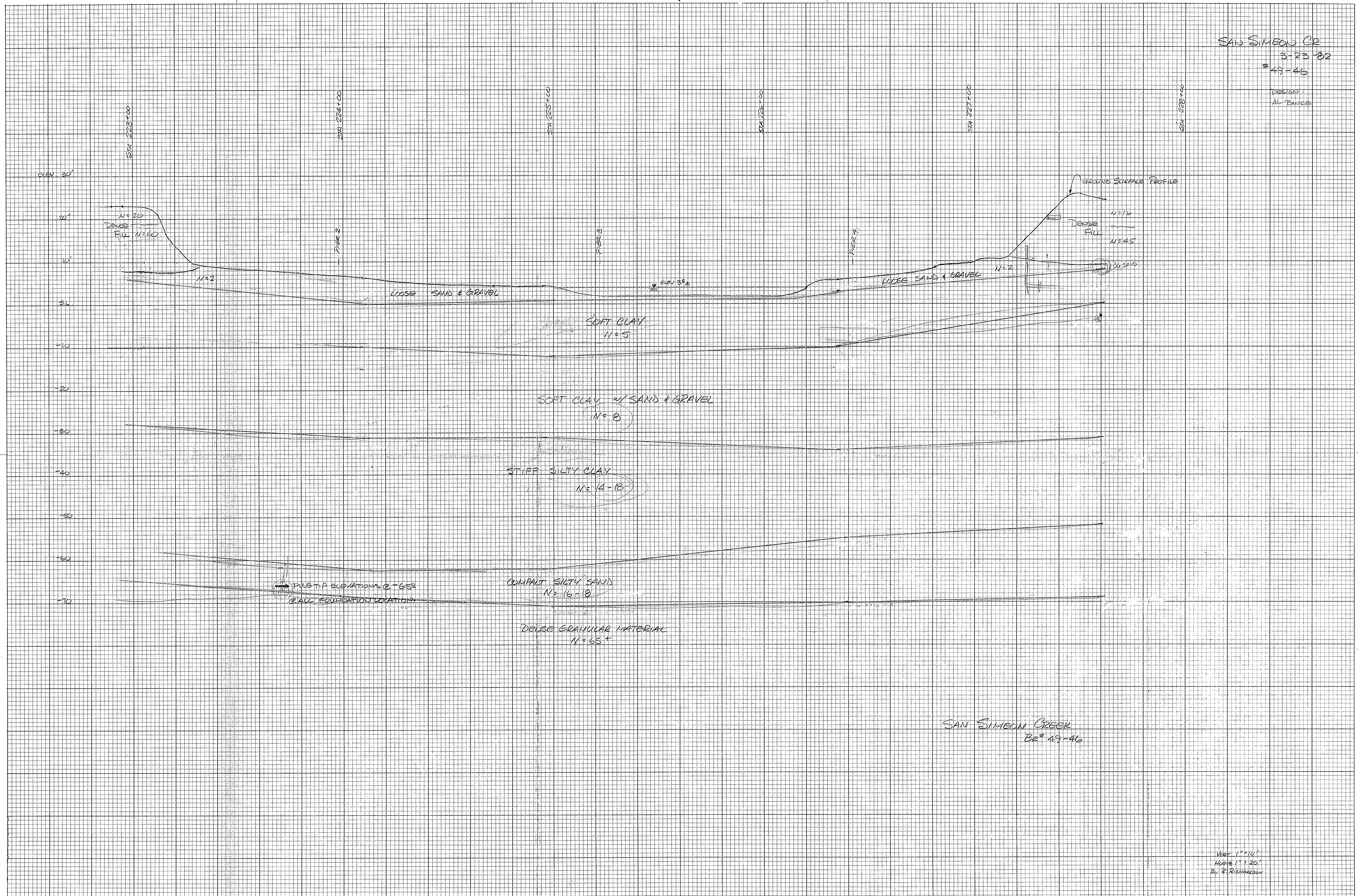
BRIDGE NO. 49-46
POST MILE 52.9

SAN SIMEON CREEK BRIDGE
LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
CU 05201
WO 276801
Disregard prints bearing earlier revision dates →
REVISION DATES (PRELIMINARY STAGE ONLY)
SHEET 10 OF 10

25

CROSS SECTIONS
SCALE: 1 INCH=10 FEET



SAN SIMEON CR
3-23-82
#49-46
DESIGN - AL BANKE
STA 223+00
STA 224+00
STA 225+00
STA 226+00
STA 227+00
STA 228+00
ELEV 30'
20'
10'
0
-10
-20
-30
-40
-50
-60
-70
GROUND SURFACE PROFILE
N=20
DENSE FILL N=60
N=2
PIER 2
PIER 3
PIER 4
N=16
DENSE FILL
N=45
N=2
LOOSE SAND & GRAVEL
LOOSE SAND & GRAVEL
SOFT CLAY
N=5
SOFT CLAY w/ SAND & GRAVEL
N=8
STIFF SILTY CLAY
N=14-18
PILE TIP ELEVATIONS @ -65±
@ ALL FOUNDATION LOCATIONS
COMPACT SILTY SAND
N=16-18
DENSE GRANULAR MATERIAL
N=65+
SAN SIMEON CREEK
BR# 49-46
VERT 1"=10'
HORIZ 1"=20'
BY R. RICHARDSON

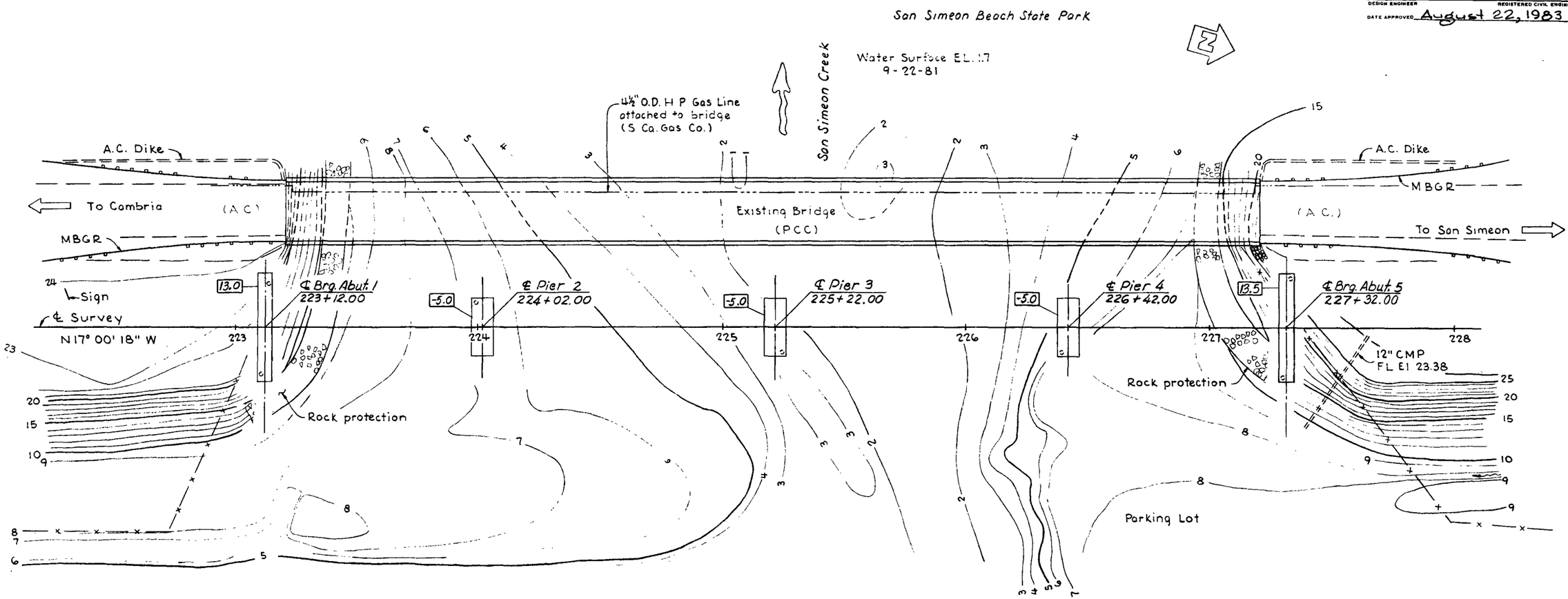
DIST. | COUNTY | ROUTE | POST MILES

Plotted by / Checked by / Inked by / Surveyed by / Date
GROUND
TEMPLATE
Plotted by / Checked by / Planimetered by / Field Book No. / Date

HD-96

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	1	52.7/53.4	18	25

Q. E. Backs — 8553
DESIGN ENGINEER — REGISTERED CIVIL ENGINEER NUMBER
DATE APPROVED August 22, 1983



Note:
Abutments and Piers are on Brg. N72°59'42"E.
0.0 — indicates bottom of footing elevation

B.M T 259
Fd std USC.&G.S bass
disk 35'±Lt "℄ Survey"
227+17±
Elev. 25.63

GENERAL NOTES
LOAD FACTOR DESIGN

DESIGN: AASHTO dated 1981 with interims and as supplemented by BRIDGE DESIGN SPECIFICATIONS inserts.

DEAD LOAD: Includes 35 psf for future wearing surface.

LIVE LOADING: HS20–44 and alternative and permit design load.

REINFORCED CONCRETE: f_y = 60,000 psi
f'_c = 3,250 psi
n = 9
Transverse deck slabs (working Stress Design)
f_s = 20,000 psi
f_c = 1,200 psi
n = 10

PRESTRESSED CONCRETE: See "Prestressing Notes"

HYDROLOGIC SUMMARY

DRAINAGE AREA: 35 square miles

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
DISCHARGE (Cubic feet per second)	9250	10,600
WATER SURFACE (Elevation at bridge)	12	13

Flood plain data are based upon information available when the plans were prepared and are shown to meet Federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.

REDUCED PLAN
USE SCALE BELOW
0 2 3
3 INCHES ON ORIGINAL PLAN

PRELIMINARY INVESTIGATION SECTION											
SCALE 1" = 20'	DATUM MSL adj 1967	PHOTOGRAMMETRY AS OF		DRAWN	By F Yee	10-81	DESIGN	By A. Backs	Checked ME Cowley 8/82	Stat of CALIFORNIA DEPARTMENT OF TRANSPORTATION	STRUCTURES - DESIGN 7	BRIDGE NO. 49-46	SAN SIMEON CREEK BRIDGE
ALIGNMENT TIES PR-4946-2,3		SURVEYED By H D	4-81	TRACED	By F Yee	10-81	DETAILS	By J. Hinton	Checked ME Cowley 8/82		Albert Backs PROJECT ENGINEER REGISTERED CIVIL ENGINEER NO.	POST MILE 52.9	FOUNDATION PLAN
		FIELD CHKD By		CHECKED	By H.D.	11-81	QUANTITIES	By J. Hinton 8-82	Checked Brad Jones				

18

05 0140

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 05201
WO 276801

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY) 8/82 8/82

SHEET	OF
3	10

Stat of California

M morandum

GEOLOGY COPY

Busin ss and Transportati n Agency

To : R. C. Cassano, Chief
Office of Structures Design

Attention: Al Bacher
Design Section 07

Date: April 1, 1982

File : 05-SLO-1-52.9
05201 - 276801

SAN SIMEON CREEK BRIDGE
Bridge No. 49-46

From : **DEPARTMENT OF TRANSPORTATION** - 739-2487
Office of Transportation Laboratory

Subject: Foundation Investigation for San Simeon Creek Bridge

A foundation study was completed at the site during December, 1981 by the Engineering Geology and Technical Services Branch of the Transportation Laboratory. The study consisted of five rotary sample borings and six cone penetration tests. Borings are shown on the "Log of Test Borings" dated March, 1982. Site data from Office of Structures Design 7, Foundation Plan dated October, 1981.

Geology

Two distinct geologic units were encountered at the site: (1) thick deposits of Holocene alluvium composed of very soft to stiff silty clay containing layers of slightly compact sand and gravel, and (2) a basal (Pleistocene?) deposit of dense to very dense sand and gravel. Approximately 15 feet of approach embankment was drilled at the proposed abutment locations.

Groundwater was encountered as high as elevation 3.0 during December, 1981.

Fault and Seismic Data

There are several known active faults in the vicinity of the site. The Rinconada, Cambria, San Simeon and Hosgri Faults are the most active. A horizontal rock acceleration of 0.7g and depth to rock-like material of over 150 feet are recommended for use in the design of the structure.

Foundation Recommendations

Recommendations are for the structure shown on the "General Plan" dated January, 1982.

Class 70C (corrosion resistant) concrete piles are recommended for structure support. The ultimate pile loading for design purposes is 2x design load.

Foundation Data

Support Number	Specified and Probable Pile Tip Elevation
*Abutment 1	-60.0
Pier 2, 3, 4	-65.0
*Abutment 5	-60.0

*All abutment piles should be predrilled to elevation +3.

Piles should "set up" overnight after reaching specified tip before bearing is checked under the hammer.

A Tremmie seal will be required for piers 2, 3, and 4.

Due to the layer of loose saturated sand below the approach fill, liquifaction could take place during a severe earthquake. A type I approach slab is recommended at each abutment.

Report by

Ron Richardson
Assistant Transportation Engineer

RR/rdb

cc: Preliminary Report
R. E. Pending File
District 05 (2)
FHWA: D. F. Bolton (1)
D. Hager
A. Goldschmidt
File (2)

DEPARTMENT OF TRANSPORTATION

PILE QUANTITY & DRIVING RECORD (DRIVEN PILES)

JOB STAMP

05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

CEC 8C78 (REV 8/81)

SHEET NO. 48

BRIDGE NO. 49-46 ITEM DESCRIPT Furnish Pile Class 70C PILING

BRIDGE NAME SAN SIMEON CREEK BRIDGE TYPE PILE USED 24" PRECAST PRESTRESSED

(ABUT) OR BENT NO. 5 FTG _____ FTG TYPE _____ BOTTOM FTG ELEV. 13.50

HAMMER MAKE Del. Mag MODEL 30 E= 54,200 @ 60 BPM

DESIGN BRNG. 70 REQUIRED BRNG. 70 T BLOW/FT AT REQUIRED BRNG. 18

PILE DRIVING INSPECTED BY _____ PILE QUANTITY CALC BY _____ DATE _____

PILE CONCRETE PLACING INSP. BY _____ PILE QUANTITY CHECK BY _____ DATE _____

PILE NO	DATE PILE DRIVEN	BLOWS PER FOOT	DATE PILE CONCRETE PLACED	(1) SPEC. TOP OF PILE ELEV.	(2) SPEC. TIP ELEV.	(3) LENGTH IN LEADS	(4) LENGTH OF CUT OFF	(5) ACTUAL LENGTH IN GROUND (3-4)	(6) ACTUAL TIP ELEV (1-5)	(7) PAY LENGTH * SEE NOTE BELOW	REMARKS	PRE DRILL HOLE DEPTH	LENGTH OF RE-BAR REQ.
1	5-29	31		13.75	-60.00	74		74	-60.25	73.75			
2	5-29	30				74		74	-60.25	73.75			
3	5-30	30				74		74	-60.25	73.75			
4	5-30	4				78					Broke @ 40'± in ground (Rej)		
5	5-30	34				78			-60.25	77.75	Batter		
6	5-30	33				78			-60.25	77.75	Batter		
7	5-30	32				78			-60.25	77.75	Batter		
8	5-30	4		13.75	-60.00	78			-60.25	77.75	~~Batter~~ Retap OK.		
—	5-30	32				77			-59.3	77.0	~~Batter~~ Add'l pile 4A		

SHEET TOTALS	ITEM NO. ____ ____ EA.	ITEM NO. 24 609.2 L.F.	FILE CATEGORY 48

* THE PAY LENGTH IS THE ACTUAL LENGTH IN THE GROUND, EXCEPT THAT NO PAY WILL BE MADE FOR THAT LENGTH OF PILE DRIVEN BELOW THE ELEVATION WHERE SPECIFIED TIP AND/OR SPECIFIED BEARING (WHICHEVER IS LOWER) WAS OBTAINED. ALSO, WHEN STEEL PILES ARE SUBSTITUTED FOR CLASS 45-1, 45-2, OR 70 PILING, THE LOWER LIMIT FOR PAYMENT WILL BE NO LOWER THAN THE SPECIFIED TIP ELEVATION.

DEPARTMENT OF TRANSPORTATION

PILE LAYOUT SHEET

DH-OS C80 (REV. 11 73)

JOB STAMP

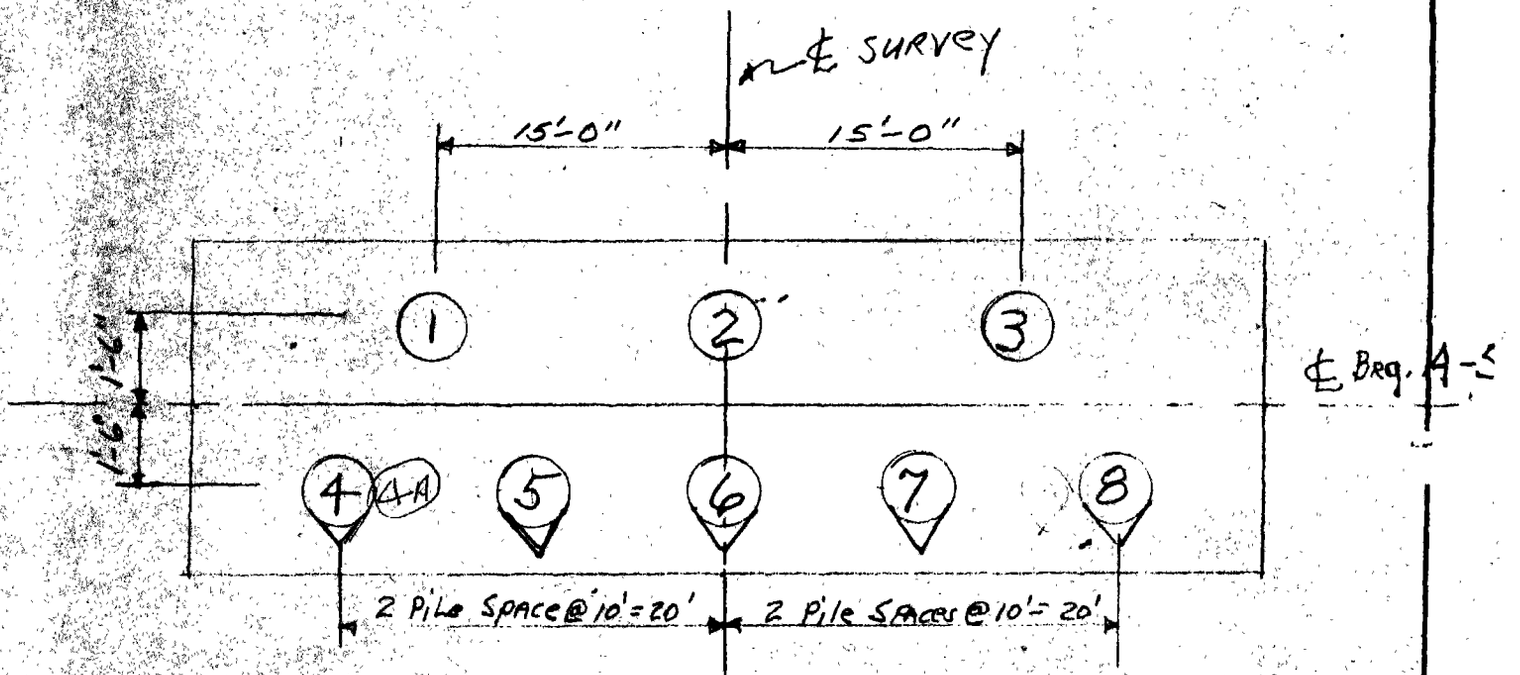
05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

Drawn By C. FOSTER Date 4-10-84 Sheet No _____

Checked By _____ Date _____

Bridge No 49-46 Bridge Name SAN SIMEON CREEK BRIDGE

(Abutment) or Bent No 5 Ftg _____ Ftg Type _____ Bot Ftg Elev 13.50



N

SCALE _____

JOB STAMP

05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133)-Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

DEPARTMENT OF TRANSPORTATION

LOG PILE SHEET

DH-OS C79 (REV. 11 73)

Bridge No 49-46 (Abut) or Bent No 5 Ftg _____ Pile No 2 Sheet No _____

Hammer Make Delmag Model 30 E = _____ Ft-Lbs

Reference Point-Description _____ Elev _____

5-29-84

PENET	TIP ELEV	BLOWS / FT
	15'	
	45	7
	47	6
	50	7
	54	8
	56	11
	58	10
	59	8
	60	25
	63	26
	64	24
	65	26
	69	29
4' min	70	30

PENET	TIP ELEV	BLOWS / FT

PENET	TIP ELEV	BLOWS / FT

DEPARTMENT OF TRANSPORTATION

PILE QUANTITY & DRIVING RECORD
(DRIVEN PILES)

DOSC78 (REV. 8/81)

JOB STAMP: 05-SLO-1-52.7/53.4 05-276804(503) BRF-P001(133) Nr Cambria, 0.2-mi S to 0.5mi N of San Simeon Crk Br

SHEET NO. 48

BRIDGE NO. 49-46 ITEM DESCRIPT Furnish Pile CLASS 70C PILING

BRIDGE NAME SAN SIMEON CREEK BRIDGE TYPE PILE USED 12" PRECAST Prestressed

ABUT OR BENT NO P-2 FTG _____ FTG TYPE _____ BOTTOM FTG ELEV. -5.00

HAMMER MAKE Delmag MODEL D-30 E= 54200

DESIGN BRNG. 70 T REQUIRED BRNG. 70 T BLOW/FT AT REQUIRED BRNG. 18

PILE DRIVING INSPECTED BY Inaguki PILE QUANTITY CALC BY TSuyuki DATE _____

PILE CONCRETE PLACING INSP. BY _____ PILE QUANTITY CHECK BY _____ DATE _____

PILE NO.	DATE PILE DRIVEN	BLOWS PER FOOT	DATE PILE CONCRETE PLACED	(1) SPEC. TOP OF PILE ELEV.	(2) SPEC. TIP ELEV.	(3) LENGTH IN LEADS	(4) LENGTH OF CUT-OFF	(5) ACTUAL LENGTH IN GROUND (3-4)	(6) ACTUAL TIP ELEV (1-5)	(7) PAY LENGTH * SEE NOTE BELOW	REMARKS	PRE DRILL HOLE DEPTH	LENGTH OF RE-BAR REQ.
1	6-5-84	27		-5.25	-65.00	60'		60'	-64.75	60'			
2	6-5-84	31		-4.75									
3	✓	36											
4	✓	30											
5	✓	30											
6	✓	28											
7	✓	28											
8	6-5-84	28	*								*driven to ≈ -57 on 6-7-84		
9	✓	24											
10	✓	30											
11	✓	24									log pile		
12	✓	23											
13	✓	22											
14	✓	20									≈6' drop		
15	✓	18											
16	6-5-84	10							-65				
17	6-6-84	50							-64.75				
18	✓	30											
19	✓	32											
20	✓	26											
21	✓	29											
22	✓	29											
23	✓	26											
24	6-6-84	20		-5.25	-65.00				64.75	W.O			

SHEET TOTALS | ITEM NO. ____ ____ EA. | ITEM NO. 24 1,440 L.F. | FILE CATEGORY 48

* THE PAY LENGTH IS THE ACTUAL LENGTH IN THE GROUND, EXCEPT THAT NO PAY WILL BE MADE FOR THAT LENGTH OF PILE DRIVEN BELOW THE ELEVATION WHERE SPECIFIED TIP AND/OR SPECIFIED BEARING (WHICHEVER IS LOWER) WAS OBTAINED. ALSO, WHEN STEEL PILES ARE SUBSTITUTED FOR CLASS 45.1 ... THE LOWER LIMIT FOR PAYMENT WILL BE NO LOWER THAN THE SPECIFIED TIP ELEVATION.

DEPARTMENT OF TRANSPORTATION

PILE LAYOUT SHEET

DH-05 C80 (REV. 11-73)

JOB STAMP

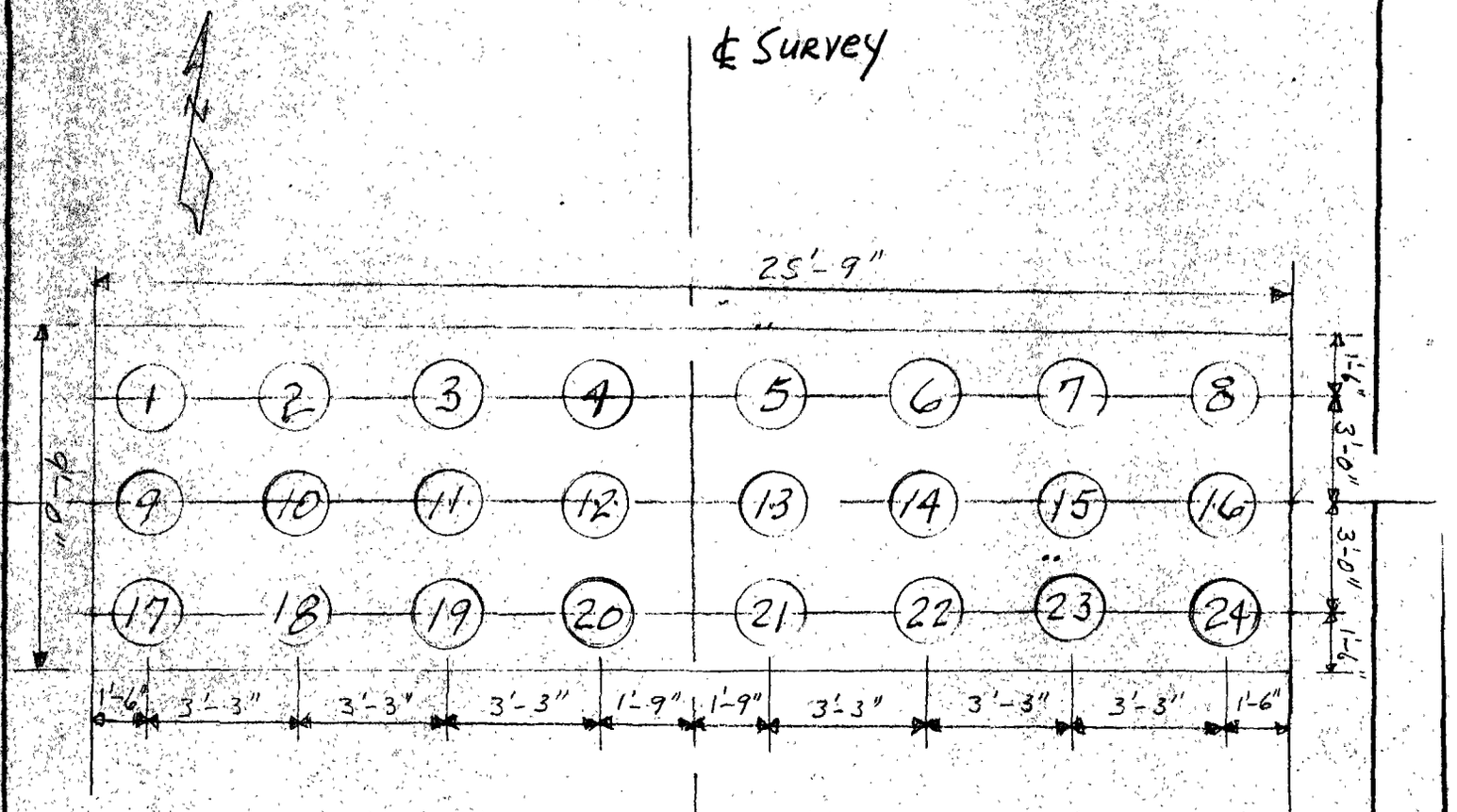
05-SLO-1-52.7/53.4 05-276804(503)
BRF-[illegible]001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

Drawn By CHRIS FOSTER Date 4-10-84 Sheet No _____

Checked By _____ Date _____

Bridge No 49-46 Bridge Name SAN SIMEON CREEK BRIDGE

Abutment or (Bent) No P-2 Ftg _____ Ftg Type _____ Bot Ftg Elev _____



SCALE _____

JOB STAMP

05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) N. Cambria, 0.2-mi S to 0.5-mi N of San Simeon Crk Br.

DEPARTMENT OF TRANSPORTATION

LOG PILE SHEET

DH-OS C79 (REV. 11 73)

06-05-84

Bridge No 49-46 Abut or Bent No P2 Ftg _____ Pile No 11 Sheet No _____ 1

Hammer Make DELMAG Model D30 E = _____ Ft-Lbs

Reference Point-Description _____ Elev _____

PENET	TIP ELEV	BLOWS / FT	
			start 1035
		1	
		1	
		1	
	-40	—	
		—	
		2	
		3	
		3	
	-45	4	
		4	
		4	
		5	
		—	
	-50	6	
		6	
		6	
		7	
		7	
	-55	7	
		7	
	-57	9	
	-57.5	50 6"	stop @ 1040
	-58	110 6"	resume 1435
	-59	19	
	-60	21	

PENET	TIP ELEV	BLOWS / FT	
		22	drop
		18	
		22	
	-64	25	
	-65	24	~6-7'

PENET	TIP ELEV	BLOWS / FT

DEPARTMENT OF TRANSPORTATION

PILE QUANTITY & DRIVING RECORD
(DRIVEN PILES)

DOSC78 (REV. 8/81)

JOB STAMP: 05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

SHEET NO. 48

BRIDGE NO. 49-46 ITEM DESCRIPT Furnish Pile Class 70C PILING

BRIDGE NAME SAN SIMEON CREEK [illegible] TYPE PILE USED 12" Precast Prestressed

ABUT OR BENT NO. P-3 FTG _____ FTG TYPE _____ BOTTOM FTG ELEV. -5.00

HAMMER MAKE Delmag MODEL D-30 E= 54 200

DESIGN BRNG. 70 T REQUIRED BRNG. 70 T BLOW/FT AT REQUIRED BRNG. 18

PILE DRIVING INSPECTED BY _____ PILE QUANTITY CALC BY T Smgrd DATE _____

PILE CONCRETE PLACING INSP. BY _____ PILE QUANTITY CHECK BY _____ DATE _____

PILE NO	DATE PILE DRIVEN	BLOWS PER FOOT	DATE PILE CONCRETE PLACED	(1) SPEC TOP OF PILE ELEV	(2) SPEC. TIP ELEV	(3) LENGTH IN LEADS	(4) LENGTH OF CUT-OFF	(5) ACTUAL LENGTH IN GROUND (3-4)	(6) ACTUAL TIP ELEV (1-5)	(7) PAY LENGTH * SEE NOTE BELOW	REMARKS	PRE DRILL HOLE DEPTH	LENGTH OF RE-BAR REQ.
1	6-7-84	12		-5.25	-65.00	60		60.0	-64.75	60.0			
2	✓	14											
3	6-7-84	15											
4	6-7-84	14											
5	6-7-84	7											
6	6-8-84	32									Redrive		
7	✓	30											
8	✓	32											
9	6-7-84	12											
10	✓	15											
11	✓	15											
12	✓	24											
13	✓	16											
14	✓	18											
15	✓	12											
16	✓	16											
17	6-7-84	9											
18	✓	15											
19	✓	11											
20	6-7-84	—											
21	6-7-84	12											
22	✓	10											
23	6-7-84	13											
24	✓			-5.00	-65.00	60		60.0	-64.75	60.0			
	6-7-84	17											

SHEET TOTALS | ITEM NO. _____ EA. | ITEM NO. 24 1,440 L.F. | FILE CATEGORY 48

* THE PAY LENGTH IS THE ACTUAL LENGTH IN THE GROUND, EXCEPT THAT NO PAY WILL BE MADE FOR THAT LENGTH OF PILE DRIVEN BELOW THE ELEVATION WHERE SPECIFIED TIP AND/OR SPECIFIED BEARING (WHICHEVER IS LOWER) WAS OBTAINED. ALSO, WHEN STEEL PILES ARE SUBSTITUTED FOR CLASS 45-1 45-2, OR 70 PILING, THE LOWER LIMIT FOR PAYMENT WILL BE NO LOWER THAN THE SPECIFIED TIP ELEVATION.

DEPARTMENT OF TRANSPORTATION

PILE LAYOUT SHEET

DH-OS C80 (REV. 11 73)

JOB STAMP

05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

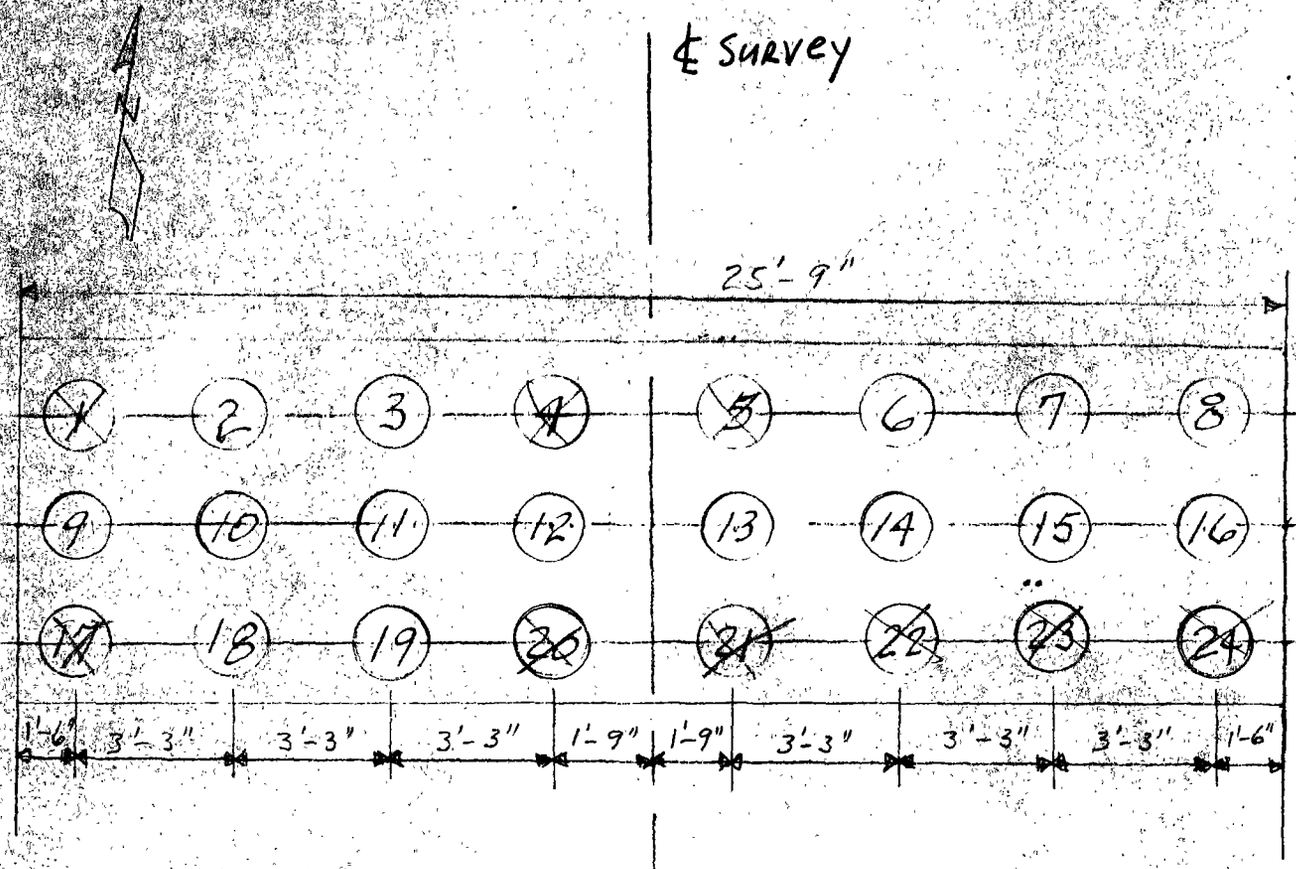
Drawn By C. FOSTER Date 4-10-84 Sheet No _____

Checked By _____ Date _____

Bridge No _____ Bridge Name SAN SIMEON CREEK BRIDGE

Abutment or Bent No P-3 Ftg _____ Ftg Type _____ Bot Ftg Elev -5.00

& survey



6, 7, 8
recap : 06-08-84
drive to waterline : 06-08-84

SCALE _____

JOB STAMP

05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

DEPARTMENT OF TRANSPORTATION

LOG PILE SHEET

DH-OS C79 (REV. 11 73)

06-07-84

Bridge No 49-46 Abut or (Bent) No P-3 Ftg _____ Pile No 21 Sheet No _____

Hammer Make Delmag Model D30 E = _____ Ft-Lbs

Reference Point-Description _____ Elev _____

PENET	TIP ELEV	BLOWS / FT
		2
		2
	-40	—
		2
		3
		3
		4
	-45	4
		4
		4
		5
		6
	-50	7
		6
		6
		6
		8
	-55	10
		14
		15
		15
		13
	-60	9
		10

PENET	TIP ELEV	BLOWS / FT
		10
		10
		12
	-65	12

PENET	TIP ELEV	BLOWS / FT

DEPARTMENT OF TRANSPORTATION

PILE QUANTITY & DRIVING RECORD (DRIVEN PILES)

JOB STAMP
05-SLO-1-52.7/53.4 05-276804(503) BRF-F-P001(133) Nr Cambria, 0.2-mi S to 0.5-mi N of San Simeon Crk Br

I DC-SC78 (REV 8/81)

SHEET NO. 48

BRIDGE NO. 49-46 ITEM DESCRIPT Furnish Pile Class 70C PILING

BRIDGE NAME SAN SIMEON CREEK BRIDGE TYPE PILE USED 12" Precast Prestressed

~~ABUT~~ OR (BENT) NO. P-4 FTG ______ FTG TYPE ______ BOTTOM FTG ELEV. -5.25

HAMMER MAKE DELMAG MODEL D30 E= 54200

DESIGN BRNG. 70 T REQUIRED BRNG. 70 T BLOW/FT AT REQUIRED BRNG. 18

PILE DRIVING INSPECTED BY Singer/Inagaki PILE QUANTITY CALC BY T Sugai DATE ______

PILE CONCRETE PLACING INSP. BY ______ PILE QUANTITY CHECK BY ______ DATE ______

PILE NO	DATE PILE DRIVEN	BLOWS PER FOOT	DATE PILE CONCRETE PLACED	(1) SPEC. TOP OF PILE ELEV	(2) SPEC. TIP ELEV.	(3) LENGTH IN LEADS	(4) LENGTH OF CUT-OFF	(5) ACTUAL LENGTH IN GROUND (3-4)	(6) ACTUAL TIP ELEV (1 5)	(7) PAY LENGTH * SEE NOTE BELOW	REMARKS	PRE DRILL HOLE DEPTH	LENGTH OF RE-BAR REQ.
1	6/8/84	27		-5.25	-65.00	60		60	64.75	60	7' Drop		
2	6-11-84	41									7.5'-8' Drop		
3	✓	30									7' Drop		
4	✓	32											
5	6-11-84	31											
6	6-11-84	28											
7	6-11-84	32											
8	6-8-84	14									Retap OK		
9	6-8-84	27						60		60			
10	6-11-84	R					2.0	58	62.75	58	190 + BPF		
11	6-4-84	R					3.0	57	61.75	57	200 +		
12	✓	80						60	64.75	60			
13	✓	60						60	64.75	60			
14	✓	50						60	64.75	60			
15	6-12-84	42					3.0	57	61.75	57	Pile spawling stopped 3' high		
16	6-12-84	42						60		60			
17	6-8-84	27											
18	6-11-84	52											
19	✓	30									20; stop @ 1200		
20	✓	36									7½' drop		
21	6-11-84	31											
22	6-11-84	27											
23	6-11-84	20											
24	6-8-84	12		-5.25	-65.00	60.0		60.0	64.75	60	Retap 44 BPF ± [illegible]		

SHEET TOTALS	ITEM NO. ______ EA.	ITEM NO. 28 1432 L.F.	FILE CATEGORY 48

* THE PAY LENGTH IS THE ACTUAL LENGTH IN THE GROUND, EXCEPT THAT NO PAY WILL BE MADE FOR THAT LENGTH OF PILE DRIVEN BELOW THE ELEVATION WHERE SPECIFIED TIP AND/OR SPECIFIED BEARING (WHICHEVER IS LOWER) WAS OBTAINED. ALSO, WHEN STEEL PILES ARE SUBSTITUTED FOR CLASS 45 1 45 2 OR 70 PILING THE LOWER LIMIT FOR PAYMENT WILL BE NO LOWER THAN THE SPECIFIED TIP ELEVATION.

DEPARTMENT OF TRANSPORTATION
PILE LAYOUT SHEET
DH-OS C80 (REV. 11 73)

JOB STAMP

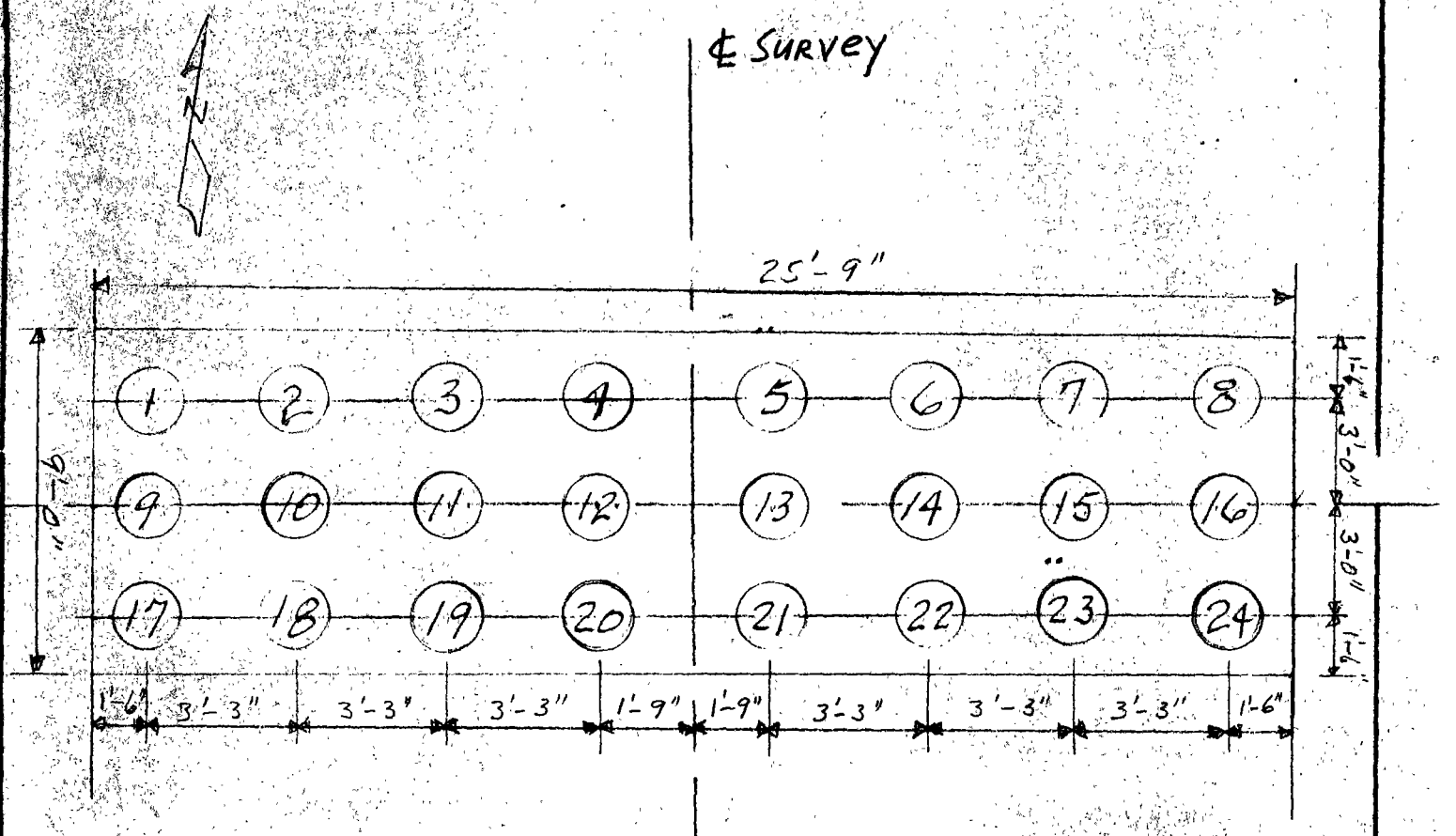
05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

Drawn By CHRIS FOSTER Date 4-10-84 Sheet No _____

Checked By _____ Date _____

Bridge No 49-46 Bridge Name SAN SIMEON CREEK BRIDGE

Abutment or (Bent) No P-4 Ftg _____ Ftg Type _____ Bot Ftg Elev _____



SCALE 1" = _____

JOB STAMP

05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S to 0.5-mi N of San Simeon Crk Br

DEPARTMENT OF TRANSPORTATION

LOG PILE SHEET

DH-OS C79 (REV. 11 73)

06-08-84

Bridge No 49-16 Abut or Bent No P-4 Ftg _____ Pile No 9 Sheet No _____

Hammer Make Delmag Model D30 E = _____ Ft-Lbs

Reference Point-Description _____ Elev _____

PENET	TIP ELEV	BLOWS / FT
	-25	1
		2
		2
		2
		3
	-30	2
		3
		2
		3
		3
	-35	3
		3
		3
		3
		3
	-40	4
		4
		4
		3
		4
	-45	5
		5
		5
		—

PENET	TIP ELEV	BLOWS / FT
		6
	-50	7
	-51	9
	-52	13
	-53	17
	-54	18
	-55	19
		23
		20
		18
		21
	-60	25
		28
		30
		30
	-64	31
	-65	150/6"

7' Hammer Drop

PENET	TIP ELEV	BLOWS / FT

DEPARTMENT OF TRANSPORTATION

PILE QUANTITY & DRIVING RECORD
(DRIVEN PILES)

JOB STAMP

05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S to 0.5-mi N of San Simeon Crk Br

LOSSC78 (REV 8/81)

SHEET NO. 48

BRIDGE NO. 49-46

ITEM DESCRIPT. Furnish Piling (class 90C) PILING

BRIDGE NAME SAN SIMEON CREEK BRIDGE

TYPE PILE USED 12" Precast Prestressed concrete

ABUT OR BENT NO. # 1 FTG. _____ FTG TYPE _____ BOTTOM FTG ELEV. 13.00

HAMMER MAKE Delmag MODEL D-30 E= 54200 - 23870

DESIGN BRNG. 70 T REQUIRED BRNG. 70 T BLOW/FT AT REQUIRED BRNG. 18

PILE DRIVING INSPECTED BY _____ PILE QUANTITY CALC BY T. Singer DATE _____

PILE CONCRETE PLACING INSP. BY _____ PILE QUANTITY CHECK BY _____ DATE _____

PILE NO.	DATE PILE DRIVEN	BLOWS PER FOOT	DATE PILE CONCRETE PLACED	(1) SPEC. TOP OF PILE ELEV.	(2) SPEC. TIP ELEV.	(3) LENGTH IN LEADS	(4) LENGTH OF CUT-OFF	(5) ACTUAL LENGTH IN GROUND (3-4)	(6) ACTUAL TIP ELEV. (1-5)	(7) PAY LENGTH * SEE NOTE BELOW	REMARKS	PRE DRILL HOLE DEPTH	LENGTH OF RE-BAR REQ.
1	6-1	9		13.25	-60.00	73'	.	73	-59.75	73	Retap 4" RPI		
2	6-1	12				73'		73	-59.75	73	Retap 4" RPI		
3	6-1	9				73'		73	-59.75	73			
4	6/01/84	14				77'		77	-60	77	Battered		
5	6-01-84	13				77'		77	-60	77	Battered		
6	6-01-84	14				✓		77	✓	77	Battered		
7	6-01-84	18				✓		77	-60	77	Bat		
8	6-06-84	17		13.25	-60.00	83		83	-65.5	73.25	Battered		
											15" octagonal 70C Replacement for broken pile		
											All piles accepted based on retap of 18		

SHEET TOTALS	ITEM NO. ____ ____ EA.	ITEM NO. 24 600.25 L.F.	FILE CATEGORY 48

* THE PAY LENGTH IS THE ACTUAL LENGTH IN THE GROUND, EXCEPT THAT NO PAY WILL BE MADE FOR THAT LENGTH OF PILE DRIVEN BELOW THE ELEVATION WHERE SPECIFIED TIP AND/OR SPECIFIED BEARING (WHICHEVER IS LOWER) WAS OBTAINED. ALSO, WHEN STEEL PILES ARE SUBSTITUTED FOR CLASS 45 1 [illegible] THE LOWER LIMIT FOR PAYMENT WILL BE NO LOWER THAN THE SPECIFIED TIP ELEVATION.

DEPARTMENT OF TRANSPORTATION

PILE LAYOUT SHEET

DH-OS C80 (REV. 11 73)

JOB STAMP

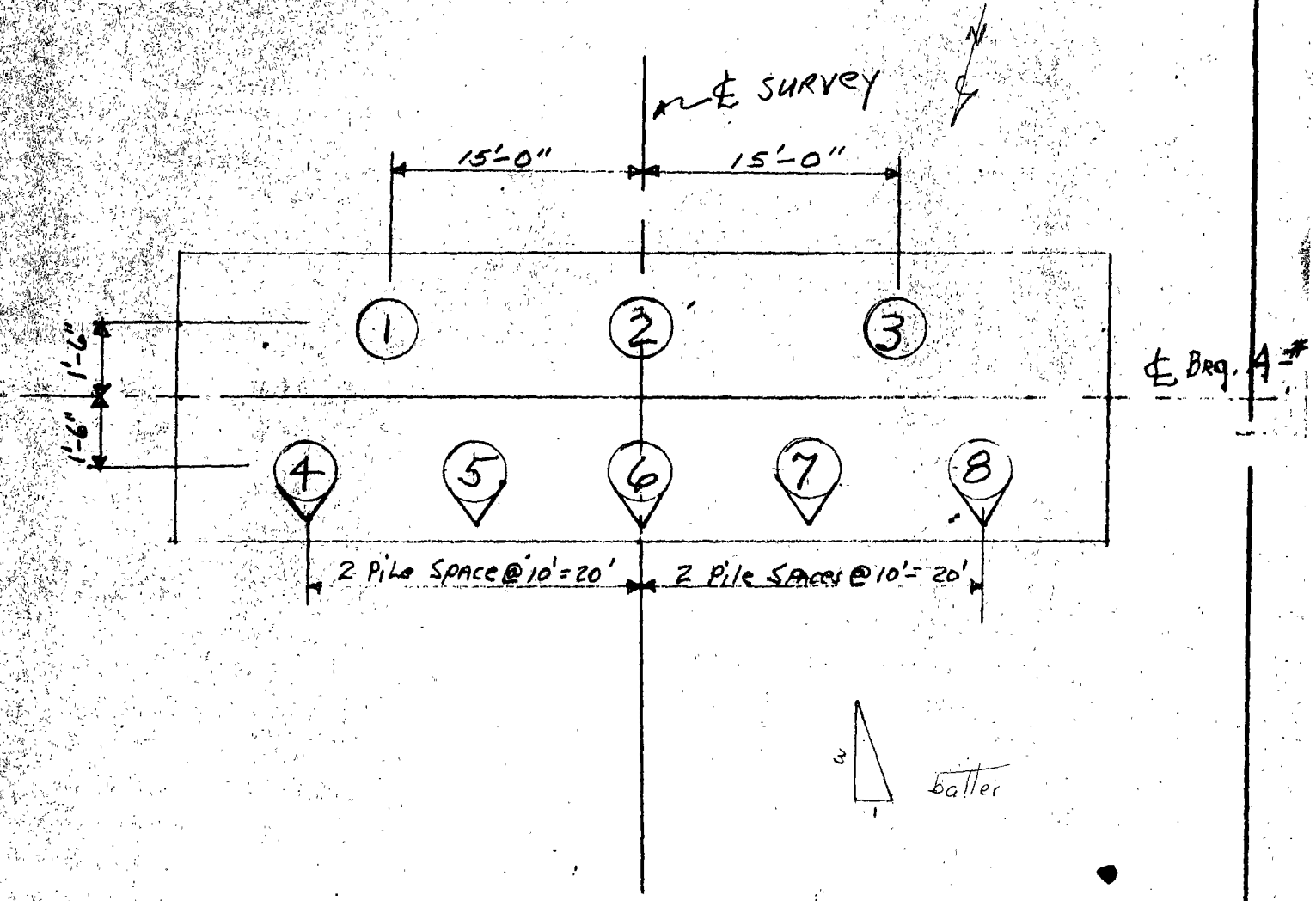
05-SLO-1-52.7/53.4 05-276804(503)
BRF-F-P001(133) Nr Cambria, 0.2-mi S
to 0.5-mi N of San Simeon Crk Br

Drawn By C. FOSTER Date 4-10-84 Sheet No _____

Checked By _____ Date _____

Bridge No 49-46 Bridge Name SAN SIMEON CREEK BRIDGE

(Abutment) or Bent No #1 Ftg _____ Ftg Type _____ Bot Ftg Elev 13.0



SCALE _____

DEPARTMENT OF TRANSPORTATION

LOG PILE SHEET

DH-OS C79 (REV. 11 73)

JOB STAMP: 05-SLO-1-52.7/53.4 05-276804(503) BRF-F-P001(133) Nr Cambria, 0.2-mi S to 0.5-mi N of San Simeon Crk Br

06-01-84

Bridge No 49-46 (Abut) or Bent No 1 Ftg ______ Pile No 4 Sheet No ______

Hammer Make ______ Model D30 E = ______ Ft-Lbs

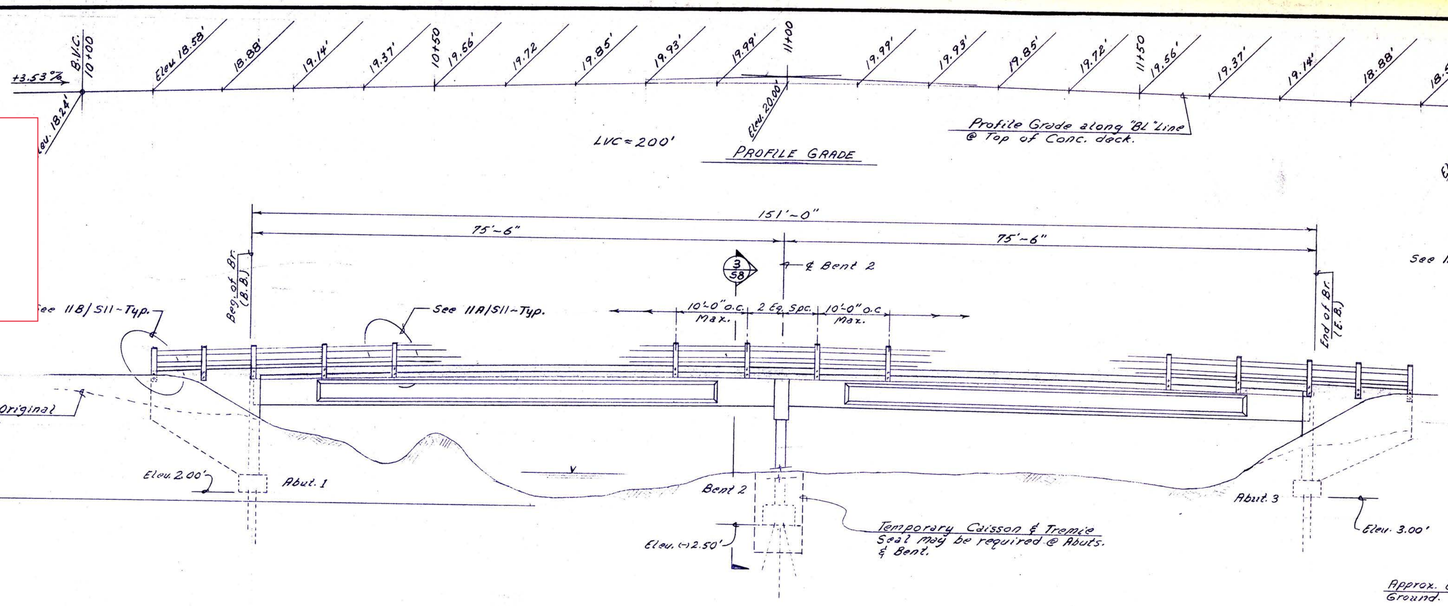
Reference Point-Description ______ Elev ______

~~PENET~~	TIP ELEV	BLOWS / FT	drop
↙			
-9			
-10			
		4	
		6	4.5'
		5	
		2	
		4	
		4	
		4	
		7	
-19		6	
-20		7	
		7	
		7	
		—	
-24		—	
-25		—	
		3	
		3	
		2	
-29		3	
-30		3	

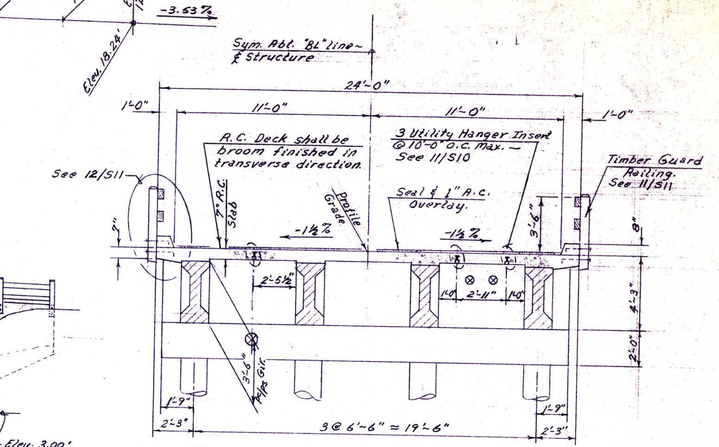
~~PENET~~	TIP ELEV	BLOWS / FT	drop
		2	
		3	
		2	
-34		2	
-35		3	
		3	
		3	
		3	
-39		3	
-40		3	
		4	
		3	
		4	
-44		4	
-45		5	
		4	
		4	
		5	
		6	
-51		6	
		6	
		6	
		8	
		8	~5'
-55		8	
56		6	stop 3 min start
57		—	
58		12	
-59		15	~6'

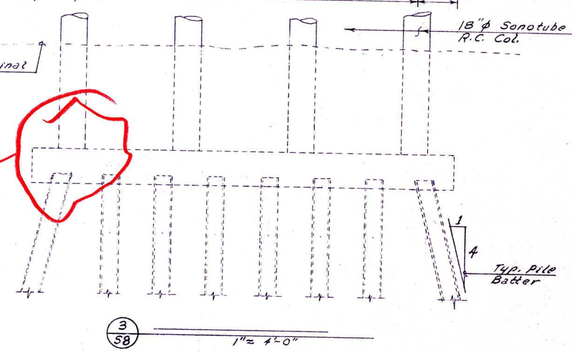
PENET	TIP ELEV	BLOWS / FT
	-60	14

San Simeon Creek Vehicle Bridge



1/58 BRIDGE ELEVATION
1" = 10'-0"

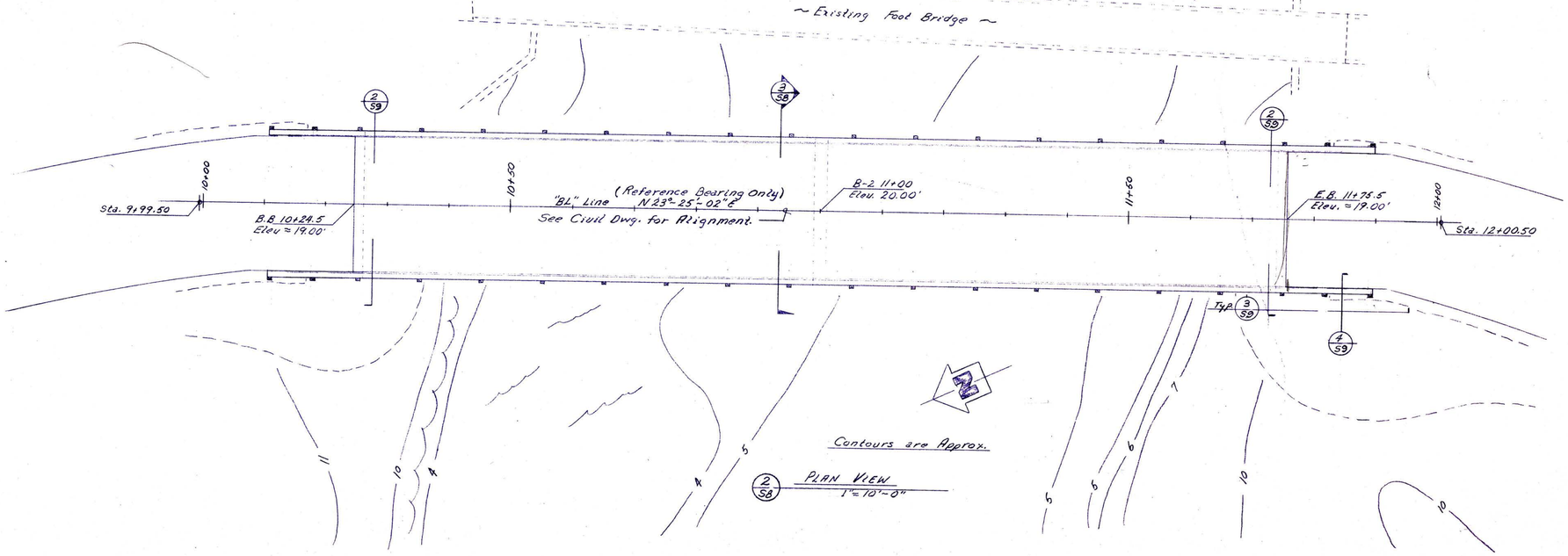




3/58 1" = 4'-0"

Abbreviations:

B.B.	Beginning of Bridge
E.B.	End of Bridge
E.O.D.	Edge of deck
R.C.	Reinforced Conc.
P/Cps	Precast/Prestressed
A.C.	Asphalt Concrete
A.B.	Anchor Bolt
M.I.W.	Malleable Iron Washer
N.S.	Near Side
F.S.	Far Side
VCL	Vertical Curve Length
BVC	Beginning Vertical Curve
EVC	End of Vertical Curve
Sta.	Station



PILE NOTES:

STEEL PILE - HP 10x57
DESIGN LOADING - 45 TON

	Abut. 1	Bent 2	Abut. 3
Probable Tip Elevation	-22	-22	-15
Specified Tip Elevation	-17	-17	-10

Soil Report shall be made available upon request to the Project Architect.

Design Note:
1. Live Load - HS20-44
2. 15 MPH - Traffic
3. f'c = 3500 psi @ 28 days - Typical Conc. except as shown.
4. fy (reinf.) = 60 ksi
5. See S11 for P/Cps Girders

Office of the State Architect

WHITSON W. COX F.A.I.A.
STATE ARCHITECT
PROJECT ARCHITECT / PROJECT ENGINEER

LOCATION SAN SIMEON STATE BEACH

DEPARTMENT OF GENERAL SERVICES

SHEET TITLE VEHICLE BRIDGE SECTIONS AND DETAILS

PROJECT CAMPING, DAY USE & SEWER - PHASE II

CLIENT DEPARTMENT OF PARKS & RECREATION

STATE OF CALIFORNIA

SHEET NUMBER S8

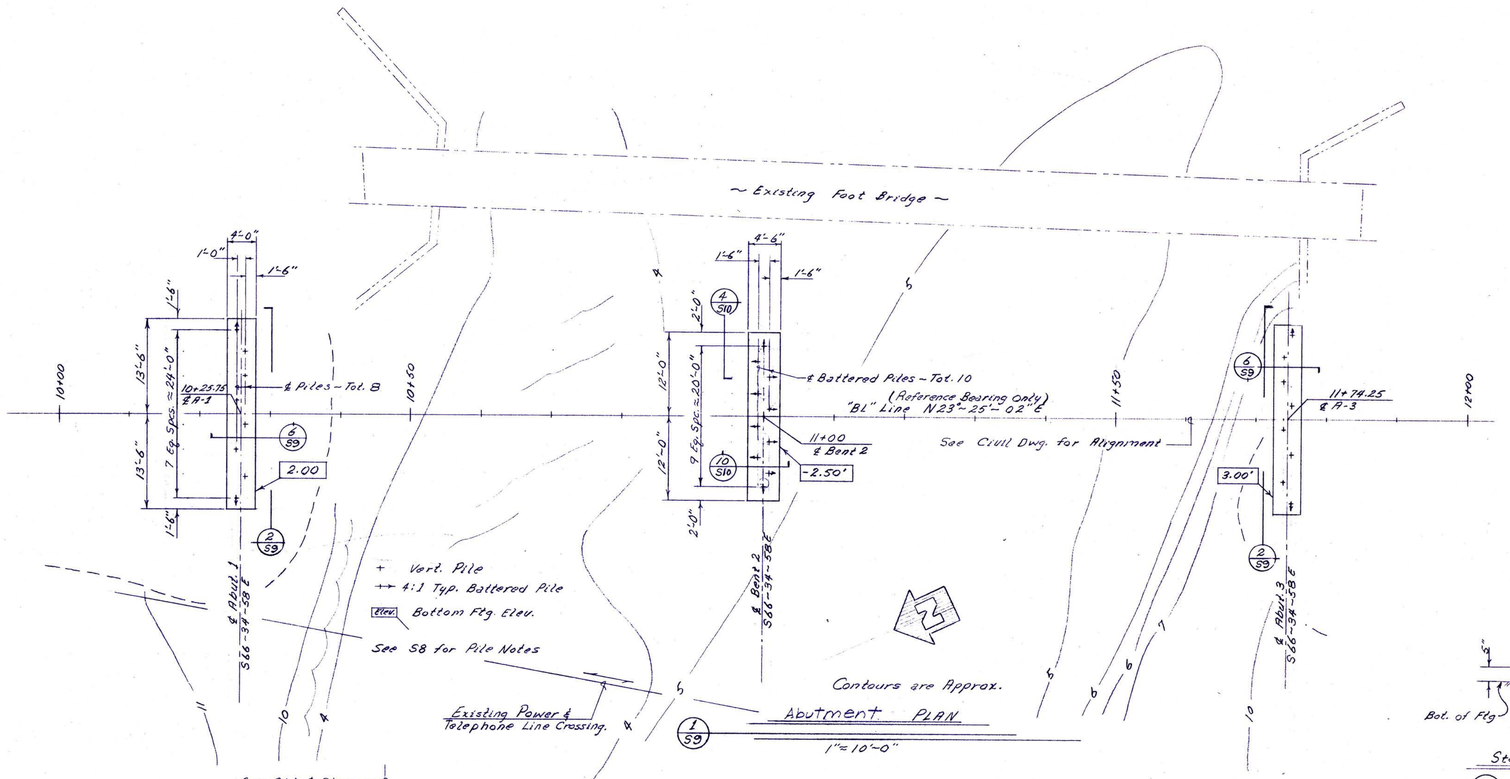
OF 11

24x36

ONE INCH SCALE BAR GRAPH

REVISIONS:	APPROVALS:	SUPERVISOR	DESIGNED BY		DRAWN BY	CHECKED BY	DATE	WORK ORDER NUMBER	FILE
		K.F. STRICKER	C.S. Yakabe		Charles S. Yakabe	H. Ota		PSB 11101	

8-29-83 3-8-84 3-29-84 4-30-84
10-25-83 3-12-84 3-30-84
10-31-83 3-12-84 4-3-84



TREMIE SEAL NOTE:

Tremie Seal to be placed only when Approved by Engineer. Estimated quantities involved are based on the Seal thicknesses Shown. The thickness to be used will be determined in the field & Approved by Engineer.

(Reasonable effort to dewater the Ftg. excavation is required prior to approval of Tremie Seal.)

REVISIONS:	APPROVALS:	SUPERVISOR K.I. STELKER	DESIGNED BY C.S. Yakabe		DRAWN BY C.S. Yakabe	CHECKED BY H. Ota	DATE	WORK ORDER NUMBER PSB 11101	FILE

10-28-83 10-31-83 3-7-84 | 3-13-84 3-13-84 3-20-84 | 3-29-84 3-30-84 4-2-84

Office of the State Architect

Whitson W. Cox – F.A.I.A. STATE ARCHITECT

PROJECT ARCHITECT / PROJECT ENGINEER

LOCATION San Simeon State Beach

DEPARTMENT OF GENERAL SERVICES

STATE OF CALIFORNIA

PROJECT Camping, Day Use & Sewer – Phase II

CLIENT Department of Parks & Recreation

SHEET TITLE Abutment Plan & Details

SHEET NUMBER S9

OF 11

24x36

ONE INCH SCALE AND BROWN

Monitoring Well 4 (MW4)

1/5

ew and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0283579

Page 1 of 1

Owner's Well Number MW4

Date Work Began 03/12/2015 Date Work Ended 3/13/2015

Local Permit Agency County of San Luis Obispo Public Health Department

Permit Number 2015003 Permit Date 1/23/15

DWR Use Only – Do Not Fill In

27S/08E-16

State Well Number/Site Number

N W

Latitude Longitude

APN/TRS/Other

Geologic Log

Orientation ○ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Drilling Fluid

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	50	See attached boring log

Total Depth of Boring 52 Feet

Total Depth of Completed Well 50 Feet

Well Owner

Well Location

Address San-Simeon-Monterey Creek Road

City Cambria County San Luis Obispo

Latitude 35 Deg. 35 Min. 42.09 Sec. N Longitude 121 Deg. 7 Min. 16 Sec. W

Datum Dec. Lat. Dec. Long.

APN Book 013 Page 051 Parcel 024

Township 27S Range 8E Section 16

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North

West

East

See attached

South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. **Please be accurate and complete.**

Activity

- (•) New Well
- ○ Modification/Repair
  - ○ Deepen
  - ○ Other
- ○ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

- ○ Water Supply
  - ☐ Domestic ☐ Public
  - ☐ Irrigation ☐ Industrial
- ○ Cathodic Protection
- ○ Dewatering
- ○ Heat Exchange
- ○ Injection
- (•) Monitoring
- ○ Remediation
- ○ Sparging
- ○ Test Well
- ○ Vapor Extraction
- ○ Other

Water Level and Yield of Completed Well

Depth to first water 8 (Feet below surface)

Depth to Static Water Level (Feet) Date Measured 3/13/15

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	10		Blank	PVC Sch. 40	.25	4.5		
10	50		Screen	PVC Sch. 40	.25	4.5	Milled Slots	0.020

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
0	3	Cement	
3	9	Bentonite	
9	52		#3 Sand

Attachments

- ☑ Geologic Log
- ☐ Well Construction Diagram
- ☐ Geophysical Log(s)
- ☐ Soil/Water Chemical Analyses
- ☑ Other site plan & Permit

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name S/G Drilling Company, Inc.

Person, Firm or Corporation

308 North 1st Street Lompoc CA 93436

Address City State Zip

Signed 3/16/15 611394

C-57 Licensed Water Well Contractor Date Signed C-57 License Number

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM


MW-4
1
Pacific Hwy

CDM Smith
111 Academy, Suite 150
Irvine, CA 92617
(949) 752-5452
(949) 752-3790 (FAX)

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 108820.TO6.WELL
PROJECT NAME Cambria
LOCATION San Simeon Creek Rd
DRILLING METHOD Reverse Rotary
SAMPLING METHOD Modified California Split-Spoon
GROUND ELEVATION (FT MSL)
TOP OF CASING (FT MSL)
LOGGED BY Hannah Erbele
REMARKS

BORING/WELL NUMBER MW-4
DATE DRILLED March 12, 2015
CASING TYPE/DIAMETER Schedule 40 PVC/4-inch
SCREEN TYPE/SLOT Schedule 40 PVC/ 0.020-inch
GRAVEL PACK TYPE No.3 Monterey Sand
GROUT TYPE/QUANTITY Portland Cement
DEPTH TO WATER (FT BGS) 8.30
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
					0	ML		SILT: dark yellowish brown (10YR 4/4); 100% silt, very soft, non-plastic; trace gravel, maximum diameter is 1 inch, subangular, dry.	
	1 2 1	24			5	SW		SAND: dark olive brown (2.5Y 3/3); 100% sand, medium, well sorted; trace gravel.	5.0
						SM		SILTY SAND: dark grayish brown (2.5Y 3/3); 60% sand, fine; 40% silt, low plasticity.	6.0
	5 6 7	24			10			GRAVEL WITH SAND: dark grayish brown (2.5Y 4/2); 80% gravel, fine to coarse, maximum diameter 3 inch; 20% sand, fine to coarse, poorly sorted.	10.0
	2 3 6	6			15	GP		GRAVEL WITH SAND: very dark grayish brown (2.5Y 3/2); 60% gravel, fine to coarse, maximum diameter 1 inch, poorly sorted, subrounded to rounded; 40% sand, fine to coarse, poorly sorted, subrounded to rounded.	
					20				20.0

Continued Next Page

WELL DIAGRAM

- Concrete (0 to 2.5 ft bgs)
- 4" Sch 40 PVC blank casing (0 to 10 ft bgs)
- Bentonite chips (2.5 to 9 ft bgs)
- 4" Sch 40 PVC 0.020" slot screen (10 to 50 ft bgs)
- #3 Sand (9 to 52 ft bgs)

NEWGINT CAMBRIA.GPJ LAEWNN01.GDT 9/15/15

CDM Smith
111 Academy, Suite 150
Irvine, CA 92617
(949) 752-5452
(949) 752-3790 (FAX)

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 108820.TO6.WELL
BORING/WELL NUMBER MW-4
PROJECT NAME Cambria
DATE DRILLED March 12, 2015

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	3 5 5	12				SP		SAND WITH GRAVEL: dark olive brown (2.5Y 3/2); 80% sand, fine to coarse, poorly sorted, rounded; 20% gravel, fine to coarse, maximum diameter 1.5 inch, poorly sorted, subrounded to rounded.		#3 Sand (9 to 52 ft bgs)
									24.0	
	3 3 7	24			25	GW		GRAVEL WITH SAND: olive (5Y 4/3); 85% gravel, fine to coarse, maximum diameter 3/4 inch, well sorted, subrounded to rounded; 15% sand, fine to coarse, poorly sorted.		
									26.0	
						SP		SAND WITH SILT AND GRAVEL: olive (5Y 4/3); 50% sand, fine to coarse, poorly sorted, subangular to subrounded; 40% gravel, fine to coarse, maximum diameter 1.25 inch, poorly sorted; 10% silt, no plasticity.		4" Sch 40 PVC 0.020" slot screen (10 to 50 ft bgs)
									29.5	
	5 10 15 18	24			30	GW		GRAVEL: very dark gray (5Y 3/1); 95% fine gravel, well sorted, rounded; 5% sand, coarse, subrounded to rounded.		
									31.0	
						GP		GRAVEL WITH SAND: olive gray (5Y 5/2); 80% gravel, fine to coarse, maximum diameter 2 inch, poorly sorted, subangular to rounded; 20% sand, fine to coarse, poorly sorted, subangular to subrounded.		
									35.0	
	3 4 10 12	14			35	GW		GRAVEL WITH SAND: olive (5Y 4/3); 85% gravel, fine to coarse, maximum diameter 2 inch, well sorted, subangular to rounded; 15% sand, fine to coarse, poorly sorted, subangular to subrounded.		
									40.0	
	2 3 9 9	9			40	GP		GRAVEL WITH SAND: olive (5Y 4/3); 50% gravel, fine to coarse, maximum diameter 2 inch, poorly sorted, subrounded to rounded; 50% sand, coarse, well sorted, subangular to rounded.		

Continued Next Page

CDM Smith
111 Academy, Suite 150
Irvine, CA 92617
(949) 752-5452
(949) 752-3790 (FAX)

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 108820.TO6.WELL
BORING/WELL NUMBER MW-4
PROJECT NAME Cambria
DATE DRILLED March 12, 2015

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								GRAVEL WITH SAND: olive (5Y 4/3); 50% gravel, fine to coarse, maximum diameter 2 inch, poorly sorted, subrounded to rounded; 50% sand, coarse, well sorted, subangular to rounded.		#3 Sand (9 to 52 ft bgs)
		24			45	GP		GRAVEL: olive (5Y 4/3); 95% gravel, fine to coarse, maximum diameter 3 inch, poorly sorted, subangular to rounded; 5% sand, fine to coarse, poorly sorted, subangular to rounded.	45.0	4" Sch 40 PVC 0.020" slot screen (10 to 50 ft bgs)
		12			50	GP		GRAVEL WITH SAND: olive (5Y 4/3); 85% gravel, fine to coarse, maximum diameter 1 inch, poorly sorted, angular to rounded; 15% sand, medium to coarse, poorly sorted, subangular to subrounded.	50.0	
						ML		GRAVELLY SILT WITH SAND: dark greenish grey (GLEY1 4/1); 50% silt, low plasticity; 30% gravel, fine, poorly sorted, subangular to subrounded; 20% sand, fine to coarse, poorly sorted, subangular to subrounded; wet.	51.5	
						ML		SILT: 90% silt, low plasticity; 5% sand, fine; 5% wood, 1" wood chips; moist.	51.8	
								Total depth of borehole to 52 feet below ground surface (bgs).	52.0	

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December 20, 2023

Larry Kraemer, P.E
Director, Public Infrastructure Division
Cannon
805-503-4542
LarryK@CannonCorp.us

Re: Preliminary Environmental Constraints Memorandum for the San Simeon Water and Wastewater Pipeline Replacement Project / SWCA Project No. 80757

Dear Mr. Kraemer,

Per your request, SWCA Environmental Consultants (SWCA) has prepared this memorandum (memo) to provide an overview of the environmental constraints with emphasis on existing sensitive biological and cultural resources as well as anticipated permitting triggers for the subject San Simeon Water and Wastewater Pipeline Replacement Project (project) located in the unincorporated community of Cambria, San Luis Obispo County (County), California (see Attachment A –Figure A-1: Project Vicinity and Location Map). The project is being proposed by the Cambria Community Services District (CCSD) and includes replacing the existing 14-inch diameter water transmission main and 12-inch diameter wastewater effluent pipeline via open trench and/or horizontal directional drilling (HDD). The exact alignment is yet to be determined; however, up to four alternative alignments are being proposed which will route the pipelines either through or around the protected riparian and wetland habitat located on California State Property as summarized below (see Attachment A – Figure A-2: Project Alignment Map and Attachment B – Site Plan of Alignment Alternatives).

- Alternative 1 – Within Existing 25-foot Wide Easement
- Alternative 2 – HDD to South of Washburn Campground Road Pedestrian Bridge
- Alternative 3 – HDD to North of Washburn Campground Road Pedestrian Bridge
- Alternative 4 – Trenching along the southern boundary of State Highway 1

In support of the Preliminary Design Report prepared by Cannon, SWCA staff completed a background review of relevant literature and resources pertaining to sensitive biological resources known to occur within the project area. SWCA also conducted a preliminary review of potential cultural resources that have potential to be present within the project area. The following provides an overview of potential resources and constraints associated with each of the four proposed alternatives.

ENVIRONMENTAL CONSIDERATIONS AND CONSTRAINTS

Botanical Resources

Based on a preliminary review of the California Natural Diversity Database (CNDDB) (CDFW 2023) (see Attachment A – Figure A-3: 1.5-mile CNDDB and Critical Habitat Map) , the California Native Plant Society (CNPS) Inventory or Rare and Endangered Plants (CNPS 2023a), the California Consortium of Herbaria (CCH) online database of plant collections (CCH 2023), as well as local biological knowledge, a number of sensitive annual and botanical species have a potential to occur within the potential work areas (four alternatives) including, but not limited to:

- Monterey pine (*Pinus radiata*); California Rare Plant Rank (CRPR) 1B.1
- Hickman's onion (*Allium hickmanii*); CRPR 1B.2,
- Arroyo de la Cruz manzanita (*Arctostaphylos cruzensis*); CRPR 1B.2
- Hearsts' manzanita (*Arctostaphylos hookeri* ssp. *hearstiorum*); CRPR 1B.2
- Mile's milkvetch (*Astragalus didymocarpus* var. *milesianus*); CRPR 1B.2
- San Simeon baccharis (*Baccharis plummerae* ssp. *glabrata*); CRPR 1B.2
- Dwarf goldenstar *(Bloomeria humulis)*; State Rare, CRPR 1B.2.
- Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*); CRPR 4.2
- San Luis Obispo owl's clover (*Castilleja densiflora* ssp. *obispoensis*); CRPR 1B.2
- Maritime ceanothus (*Ceanothus maritimus*); CRPR 1B.2
- Compact cobwebby thistle (*Cirsium occidentale* var. *compactum*); CRPR 1B.2
- Hoover's button-celery (*Eryngium aristulatum* var. *hooveri*); CRPR 1B.1
- Blochman's dudleya (*Dudleya blochmaniae*); CRPR 1B.1
- Mesa horkelia (*Horkelia cuneata* var. *puberla*); CRPR 1B.1
- Kellogg's horkelia (*Horkelia cuneata* var. *sericea*); CRPR 1B.1
- Perennial goldfields (*Lasthenia californica* ssp. *macrantha*); CRPR 1B.2
- Santa Lucia bushmallow (*Malacothamnus palmeri* var. *palmeri*); CRPR 1B.2
- Woodland woollythreads (*Monolopia gracilens*); CRPR 1B.2
- Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*); CRPR 4.2
- Monterey pine (*Pinus radiata*); California Rare Plant Rank (CRPR) 1B.1
- Twisted horsehair lichen (*Sulcaria spiralifera*); CRPR 1B.2

Based on the four alternatives and likely suitable habitat, Alternative 4 though open cut trenching, would likely be restricted to developed or previously disturbed areas that would provide only marginally suitable habitat for special-status plants. Existing conditions within Alternatives 1 – 3 likely provide suitable habitat for special-status plants with potential to occur within the project area. The typical blooming period for these species ranges between March and July. It is recommended that appropriately timed survey(s) be conducted during the typical blooming period for these species to determine presence/absence within the proposed project work area once an alternative is determined.

Wildlife Resources

Based on a preliminary review of the CNDDB and the U.S. Fish and Wildlife Service (USFWS) Critical Habitat for Threatened and Endangered Species Report (USFWS 2023a) (see Attachment A – Figure A-2), the following sensitive wildlife species have a potential to occur to occur within the potential work areas (four alternatives):

- Southwestern pond turtle (*Actinemys pallida*); Species of Special Concern (SSC)
- Tricolored blackbird (*Agelaius tricolor)*; SSC
- Grasshopper sparrow (*Ammondramus savannarum*); SSC
- Northern harrier (*Circus hudsonius*); SSC
- Tidewater goby (*Eucyclogobius newberryi*); Federal Endangered (FE)
- Steelhead – south/central California coast DPS; Federal Threatened (FT), SSC
- California red-legged frog (*Rana draytonii*); FT, SSC
- Coast Range newt (*Taricha torosa*); SSC
- Two-striped garter snake (*Thamnophis hammondii*); SSC

Suitable habitat is present within the project area for the species listed above and several of them including southwestern pond turtle, tidewater goby, steelhead-south/central California coast DPS, and California red-legged frog are known to occur within San Simeon Creek and surrounding areas. It should be noted that USFWS Critical Habitat for California red-legged frog overlaps the proposed project area(s) and USFWS Critical Habitat for tidewater goby occurs within San Simeon Creek.

Based on the four alternatives and likely suitable habitat, Alternative 4 though open cut trenching, would likely be restricted to developed or previously disturbed areas that would provide only marginally suitable habitat for special-status wildlife species. Alternatives 1 – 3 likely provide suitable to marginally suitable habitat for special-status wildlife with potential to occur with emphasis on the California red-legged frog which may use the perennial wetland habitat areas on site for the purposes of foraging and protective cover.

Hydrological Resources

Based on a preliminary review of the USFWS National Wetlands Inventory (NWI), Wetlands Mapper (USFWS 2023b), freshwater emergent wetland habitat has been mapped within the project area east of Highway 1. In addition, a majority of San Simeon Creek is mapped as a freshwater forested/shrub

wetland with riverine and estuarine/marine influences (see Attachment A – Figure A-4: National Wetland Inventory Map).

Based on the four alternatives, Alternative 4, though open cut trenching, would likely avoid or minimize potential impacts to sensitive aquatic resources including wetland and waters habitat. Alternative 1 – 3 would likely result in direct impacts to wetland habitat areas depending on the methodology used for pipeline installation.

Cultural Resources

Compliance with CEQA and Section 106 of the National Historic Preservation Act requires that an affirmative search be undertaken to identify properties listed in, determined eligible for, or eligible for listing in the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) that may be impacted by the proposed project. SWCA conducted background research, in part, by reviewing records search data from the Central Coast Information Center (CCIC) located at the Santa Barbara Museum of Natural History. The CCIC is the regional office of the California Historical Resources Information System (CHRIS), which provides copies of prior studies and resource records in and near the project Alternatives. There are 8 previously documented prehistoric archaeological resources and one historic resource within 0.25-mile of the project Alternatives. Table 1 provides a summary of known resources.

Table 1. Previously Recorded Cultural Resources within 0.25 Mile of the Proposed Alternatives

Primary Number	Trinomial	Resource Description	NRHP/CRHR Eligibility Status	Recorded by and Year	Proximity to Project Alternatives
P-40-000072	CA-SLO-000072	Prehistoric Shell midden and lithic scatter	Unknown/ Not evaluated	1948 (Walker); 1962 (C.W. Meighan); 1966 (McKinney, Fritsche); 1967 (L. Payen); 1970 (Georgia Fleshman); 1977 (John Kelly); 2001 (Leanna Flaherty, Leroy Laurie, and Michelle Powell)	Outside
P-40-000185	CA-SLO-000185	Prehistoric Bedrock Mortar and Shell Midden	Unknown/ Not evaluated	1967 (L. Payen, State of California); 1977 (J. Kelly and Claudine Young, California Department of Parks and Recreation); 2001 (Michelle Powell, Leroy Laurie, and Leanna Flaherty, California Department of Parks and Recreation)	Outside

Primary Number	Trinomial	Resource Description	NRHP/CRHR Eligibility Status	Recorded by and Year	Proximity to Project Alternatives
P-40-000186	CA-SLO-000186	Prehistoric shell midden and lithic scatter, possible habitation site	Unknown/ Not evaluated	1967 (L. Payen, State of California); 1977 (J. Kelly, C. Young, and Betty Rivers, California Department of Parks and Recreation); 2001 (Michelle Powell, Leroy Laurie, and Leanna Flaherty, California Department of Parks and Recreation)	As mapped, within 50-feet of Alt #3, within 200-feet of Alt #1, #2, and #4
P-40-000187	CA-SLO-000187	Prehistoric shell midden and lithic scatter, possible habitation site	Unknown/ Not evaluated	1967 (L. Payen, State of California); 2001 (Leroy Laurie, Leanna Flaherty, and Michelle Powell, California Department of Parks and Recreation)	Outside
P-40-000221	CA-SLO-000221/H	Multi-component prehistoric, protohistoric, and historic site.	NRHP and CRHR-eligible	1961 (Geneva Hamilton, University of California); 1965 (Riddell, University of California); 1965 (Abrams and Herst, University of California); 1977 (J.K. and C. Y., University of California); 1991 (R. O. Gibson, not listed)	Outside
P-40-000378	CA-SLO-000378	Prehistoric shell midden and lithic scatter, possible habitation site	Unknown/ Not evaluated	1961 (Geneva Hamilton, University of California)	Within Alt #3, within 200-feet of Alt #1, #2, and #4

Primary Number	Trinomial	Resource Description	NRHP/CRHR Eligibility Status	Recorded by and Year	Proximity to Project Alternatives
P-40-000383	CA-SLO-000383	Prehistoric shell midden and lithic scatter, possible habitation site	Unknown/ Not evaluated	1961 (Geneva Hamilton, SLOCAS); 1977 (J. Kelly and C. Young, California Department of Parks and Recreation); 1994 (Clay A. Singer, C. A. Singer & Associates, Inc.); 2001 (Leanna Flaherty, Leroy Laurie, and Michelle Powell, California Department of Parks and Recreation); 2001 (John Parker, California Department of Parks and Recreation)	Outside
P-40-001373	CA-SLO-001373/H	Prehistoric shell midden and lithic scatter, possible habitation site	Unknown/ Not evaluated	1991 (Gary S. Breschini and Trudy Haversat, Archaeological Consulting); 1991 (R. O. Gibson and J. Frierman, Gibson's Archaeological Consulting)	Outside
P-40-040842	N/A	Bridge	Recommended ineligible	1978 (Carroll Pursell, UCSB / California Inventory)	Outside

CEQA OPTIONS ANALYSIS

Based on the results of this preliminary environmental analysis and our understanding of the project and the project history, preliminary investigation and research, and background information provided by the CCSD, we anticipate that the appropriate level of documentation for compliance with CEQA will be an Initial Study leading to a Mitigated Negative Declaration (IS/MND) for any of the evaluated project alternatives. An IS/MND should be completed for the selected alternative, including all associated tasks necessary for completion of the CEQA process, with particular focus on avoiding or minimizing impacts to sensitive resources and anticipating and being responsive to concerns of Responsible Agencies (e.g., California Coastal Commission, State Parks, U.S. Fish and Wildlife Service, etc.). The IS/MND process will also require consultation with local Native American tribes per the requirements of Assembly Bill 52.

PROJECT PERMITTING

U.S. Army Corps of Engineers

If project activities are expected to result in direct impacts below the ordinary high water mark (OHWM) of San Simeon Creek or adjacent wetlands that have a continuous surface connection to San Simeon Creek, a Nationwide Permit (NWP) pursuant to Section 404 of the Clean Water Act (CWA) from the U.S. Army Corps of Engineers (USACE) would likely be required. It should be noted that HDD activities are considered a non-reporting activity and as such, do not require authorization by the USACE if avoiding waters of the U.S. and wetlands. However, ground disturbing activities associated with HDD methods including excavation of entry and exit pits that result in a direct impact to waters or wetlands would require USACE authorization. USACE wetlands are defined as those areas that support all three parameters including hydrophytic vegetation, hydric soils, and hydrology that has a continuous surface connection to waters of the U.S.

Field studies will be required to determine the presence and/or lateral extent of USACE waters and wetlands on site and potential permitting triggers.

California Coastal Commission

Under Section 30107.5 of the Coastal Act, Environmentally Sensitive Habitat Areas (ESHA) mean:

> *"Any area which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments".*

Further, under Section 30121 if the Coastal Act, the California Coastal Commission (CCC) identifies wetlands as:

> *"Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swaps, mudflats, and fens".*

Based on the above, all sensitive biological resources including jurisdictional waters and wetlands would be considered ESHA and under the jurisdiction of the CCC. Field studies would be required to identify the presence of ESHA including sensitive habitats, special-status plants and wildlife, and jurisdictional features including single-parameter wetlands. Further, coastal boundary limits including but not limited to the originally retained jurisdiction of the CCC within the lower San Simeon Creek mainstem and estuary would need to be evaluated to determine whether a Coastal Development Permit would be required.

California Department of Fish and Wildlife

If project activities are expected to result in direct impacts to San Simeon Creek and/or the adjacent riparian/wetland habitat, a California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement (SAA) notification pursuant to Division 2, Chapter 6, Sections 1600 through 1602 of the California Fish and Game Code, would likely be required. CDFW classifies a wetland as having at least one of the wetland parameters required by the USACE. It should also be noted that HDD methods are typically subject to notification pursuant to Section 1600 of Fish and Game Code.

Field studies are required to determine the presence and/or lateral extent of CDFW jurisdiction on site and potential permitting triggers.

Regional Water Quality Control Board

If project activities are expected to result in direct impacts to San Simeon Creek and/or the adjacent riparian/wetland habitat that are under the jurisdiction of the USACE, a Regional Water Quality Control Board (RWQCB) Water Quality Certification would be required pursuant Section 401 of the CWA. If project activities avoid impacting USACE waters and wetlands and do not require reporting under a NWP, the project would likely require submittal of a Report of Waste Discharge pursuant Section 401 of the CWA or General Order No. 2004-0004-DWQ.

Field studies are required to determine the presence and/or lateral extent of USACE waters and wetlands on site and potential permitting triggers.

California Department of Parks and Recreation

Any proposed project activities within California Department of Parks and Recreation (California State Parks) boundaries would likely require a California State Parks Right of Entry Permit. Early outreach and coordination with California State Parks is recommended to discuss existing sensitive resources on site with emphasis on known cultural sites and proposed avoidance and minimization measures to be implemented during project implementation. This early engagement will support the CEQA process as well as the Right of Entry permit process.

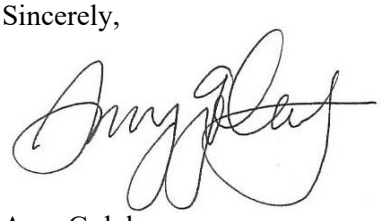
CONCLUSIONS

Based on a review of the proposed alternative pipeline routes and installation methods, impacts to sensitive botanical and wildlife resources, as well as riparian and/or wetland habitat is likely to occur with Alternatives 1 – 3. Though HDD methods are significantly less impactful than open trenching, Alternative 4 appears to follow the San Simeon Trail Access Road and is limited to the road shoulder of Highway 1 where habitat for sensitive biological resources is expected to be limited. Field studies would further support identifying the lateral limits of sensitive biological resources on site including presence/absence of special-status plants, wildlife, and waters/wetlands. If sensitive biological resources cannot be avoided, mitigation measures should be developed to reduce impacts to less than significant.

The northern end of each alternative is in close proximity (or as with Alternative #3, within) to known and potentially significant cultural resources. The mapping provided by the CCIC is approximate and the exact locations of the identified resources should be field verified. If possible, all ground disturbing activities should occur outside of the known resource boundaries, and they should be treated as Environmentally Sensitive Areas. If resources cannot be avoided, mitigation measures should be developed to reduce impacts to less than significant.

If you should have any questions regarding any of the information provided, please contact me at amy.golub@swca.com or (415) 533-7372.

Sincerely,



Amy Golub
Project Botanist

Attachments:

A – Figures
B – Site Plan of Alignment Alternatives

REFERENCES CITED/LITERATURE CITED

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ATTACHMENT A

Figures

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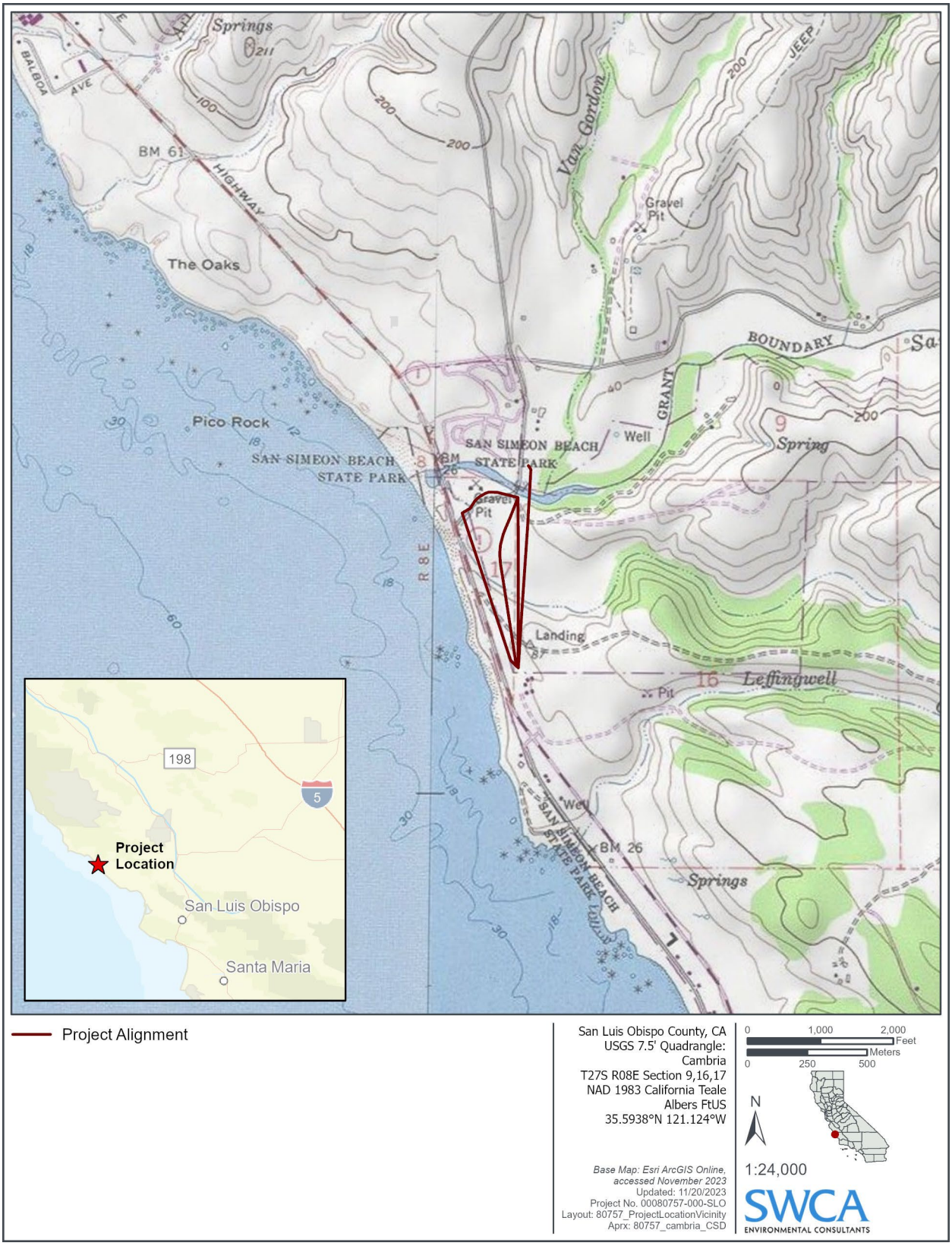


Figure A-1. Project Vicinity and Location Map

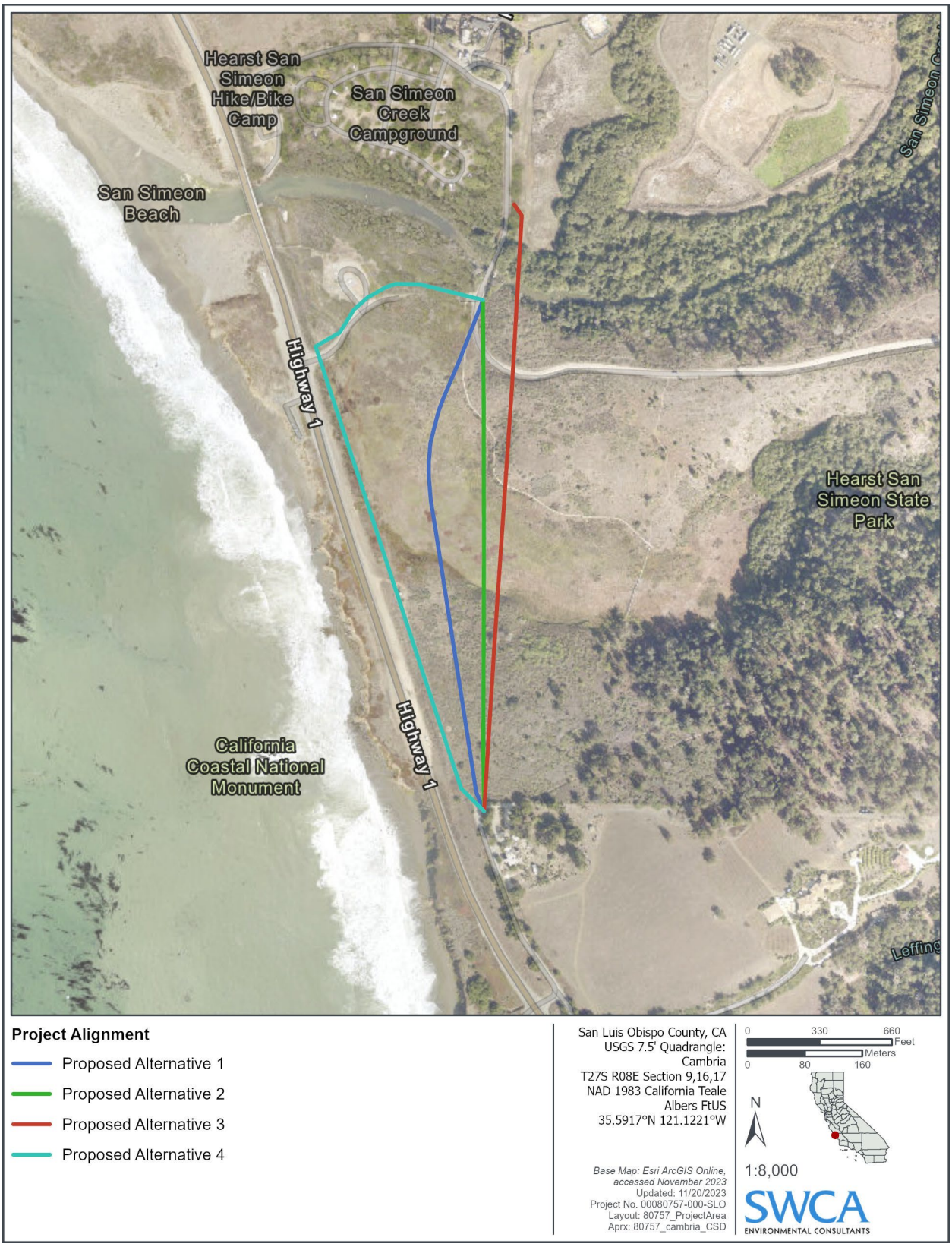


Figure A-2. Project Vicinity and Location Map

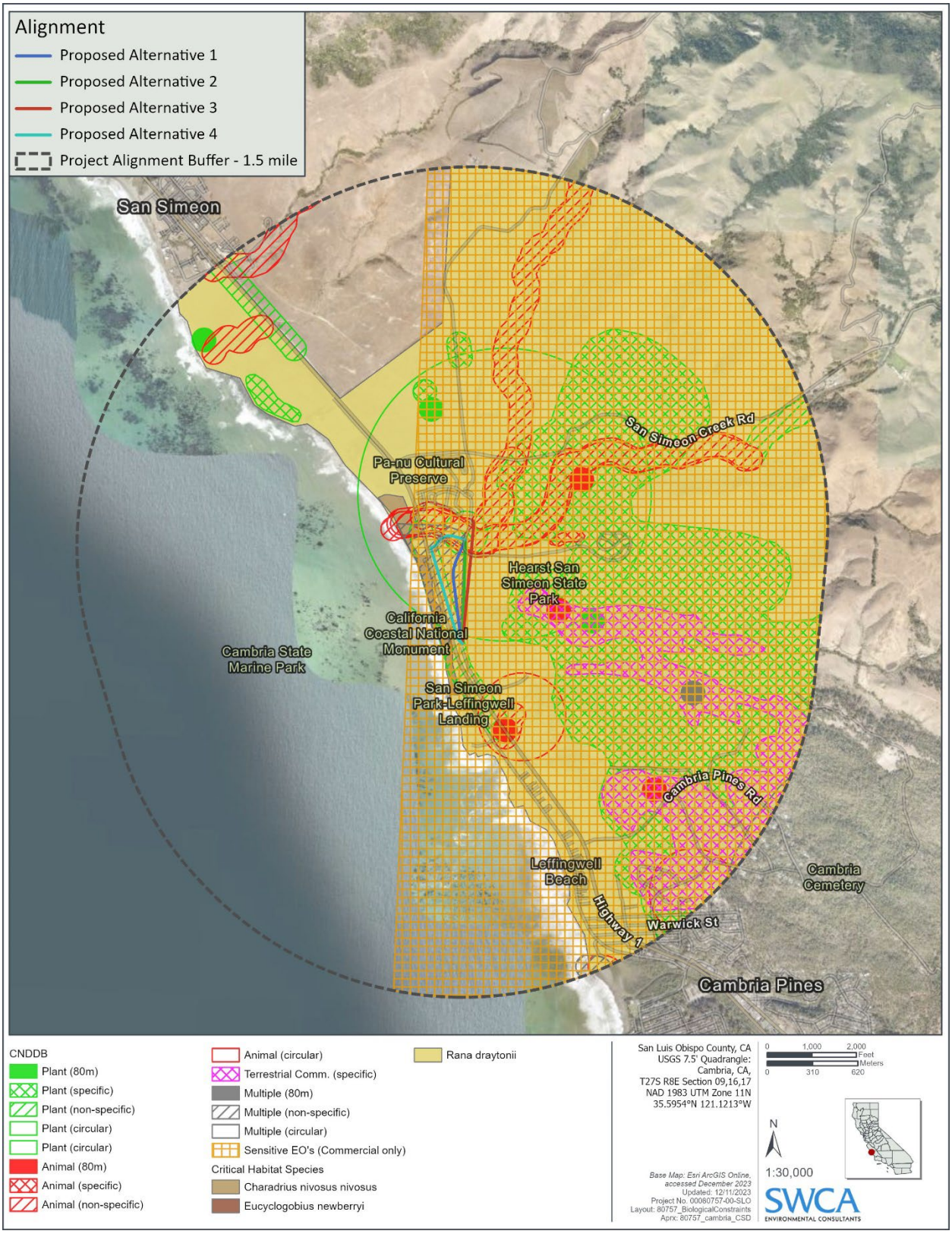


Figure A-3. 1.5-mile CNDDB and Critical Habitat Map

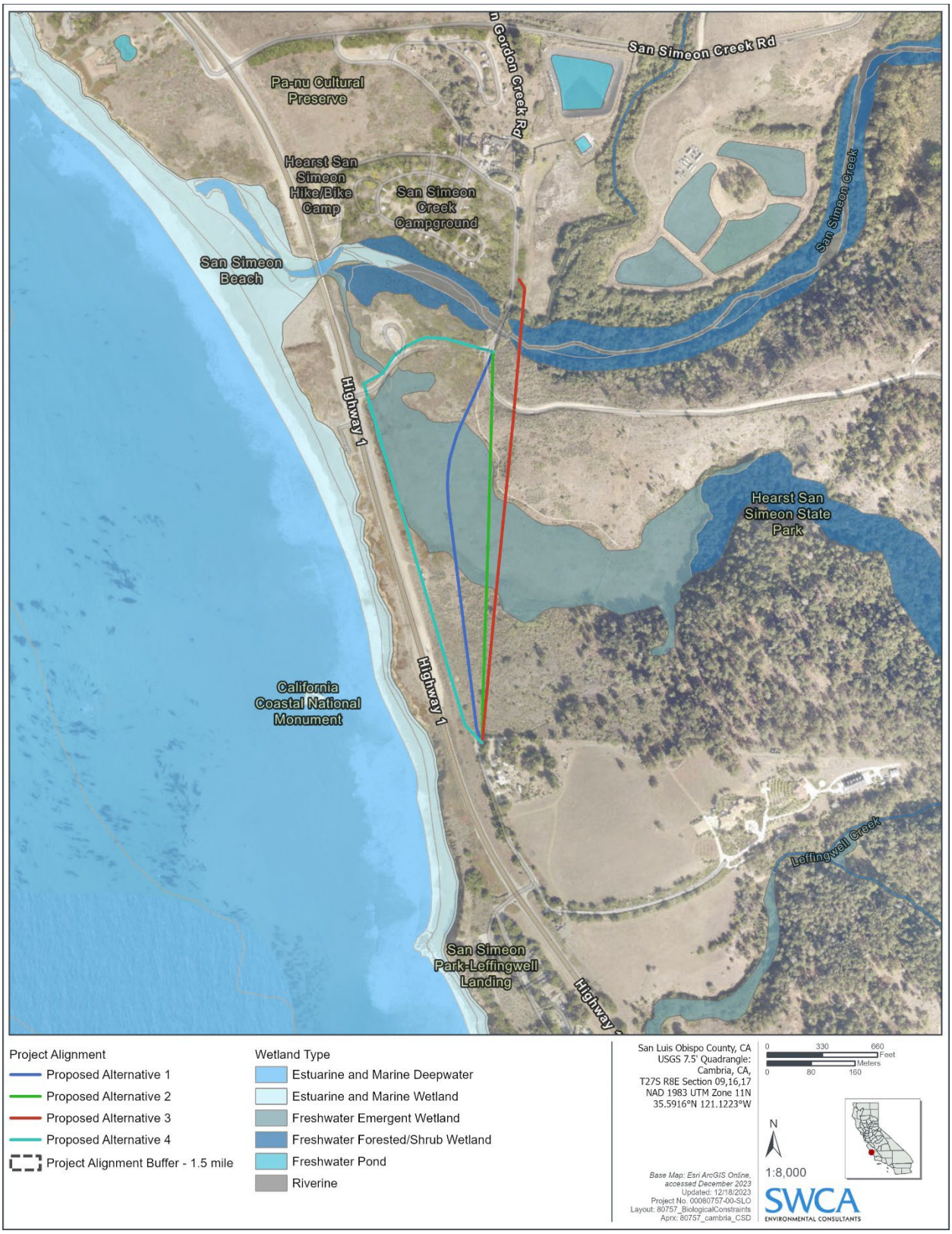
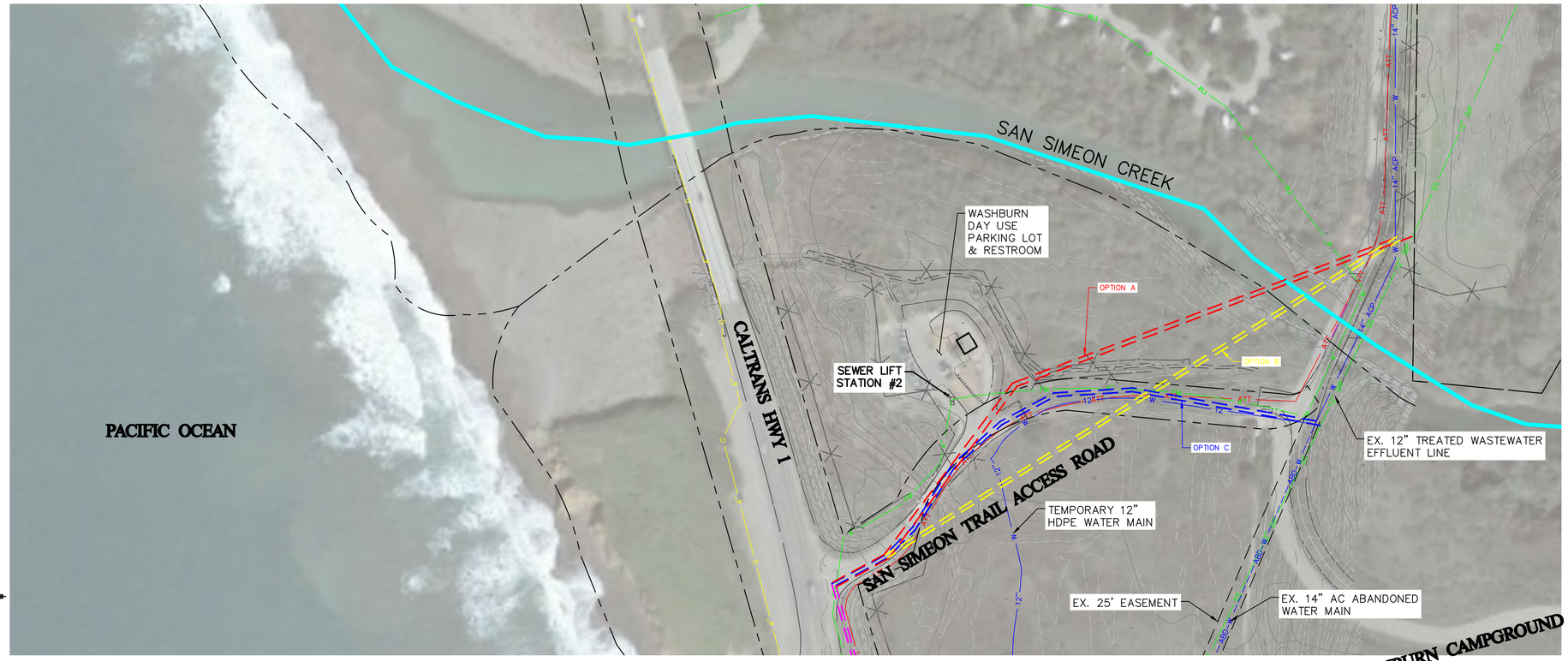


Figure A-4. National Wetland Indicator Map

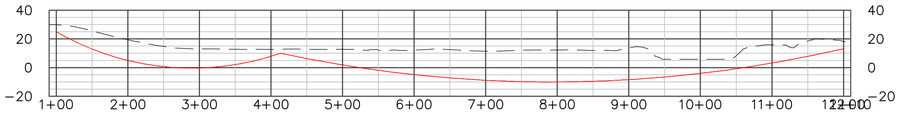


0 100 200

1 INCH = 100 FEET

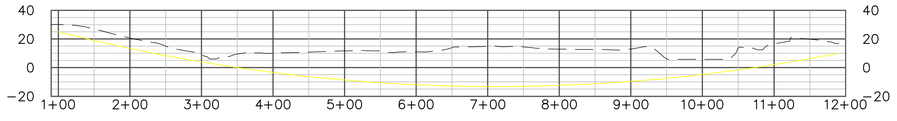
WASHBURN DAY-USE AREA – PLAN VIEW

SCALE: 1"=100'



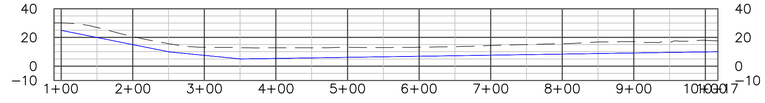
OPTION A – PROFILE VIEW

SCALE: HORIZ 1"=100'; VERT 1"=50'



OPTION B – PROFILE VIEW

SCALE: HORIZ 1"=100'; VERT 1"=50'



OPTION C – PROFILE VIEW

SCALE: HORIZ 1"=100'; VERT 1"=50'

BOUNDARY DISCLAIMER

THIS SURVEY WAS COMPILED FOR TOPOGRAPHIC PURPOSES ONLY. THE BOUNDARY INFORMATION SHOWN HEREON IS INTENDED FOR ORIENTATION ONLY, AND SUCH IS NOT INFERRED OR IMPLIED TO BE A BOUNDARY SURVEY.

LEGEND

- PARCEL BOUNDARY (APPROX.)
- EASEMENT BOUNDARY (APPROX.)
- ATT : EX. AT&T CONDUIT
- E : EX. ELECTRICAL UTILITIES
- OH : EX. OVERHEAD WIRE
- W : EX. WATER TRANS. MAIN
- G : EX. GAS
- SS : EX. SEWER PIPE
- FM : EX. SEWER FORCE MAIN
- PROPOSED ALIGNMENT WITHIN CALTRANS ROW

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

CAMBRIA COMMUNITY SERVICES DISTRICT
WATER AND WASTERWATER PIPELINE REPLACEMENT PROJECT

PIPELINE ALIGNMENTS

CAMBRIA, CALIFORNIA

DRAWN BY	DATE	CA JOB NO.
FC	06/06/2024	230311
CHECKED BY	SCALE	SHEET
	AS SHOWN	1 OF 1

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Resources and Infrastructure Committee AGENDA NO. **4.C.**

FROM: James Green, Utilities Department Manager

Meeting Date: July 15, 2024 Subject: Discussion and Consideration of Approval of Zero Liquid Discharge Pilot Testing Program and Recommendation to the Board of Directors

RECOMMENDATIONS:
It is recommended that the Resources & Infrastructure Committee approve the pilot test program with Global Water Innovations and recommend the program to the Board of Directors.

FISCAL IMPACT:

Costs associated with operation, electrical, and chemical, are to be reimbursed through the NAWI grant. Eighty hours/ week of CCSD Utility Staff will be assumed by the District, as would normal annual maintenance operations.

DISCUSSION:

CCSD Staff is negotiating with Global Water Innovations and their Team partner, Trevi Systems, to test operations of a new Zero Liquid Discharge (ZLD) technology under a pilot program financially underwritten by the U.S. DOE and by the CA Dept of Water Resources. The ability to cost-effectively treat brine is a critical problem that blocks almost all inland desalination projects, and the proposed Cambria pilot is part of a series of pilots that will be carried out across the state of California under the supervision of the National Alliance for Water Innovation with the goal of accelerating the movement of cost-effective solutions to the brine problem towards full commercial status.

Background:

The Water Reclamation Facility is currently approved to operate on an emergency basis pursuant to the Emergency Coastal Development Permit (ZON2013-00589). To minimize potable groundwater losses at the aquifer-ocean interface, the WRF operates during emergency conditions to maintain a positive gradient on the aquifer side and prevent saltwater intrusion into the freshwater aquifer. Saltwater intrusion could deteriorate the water quality and potentially render the freshwater non-potable in the San Simeon aquifer. Additionally, 80% of the community's domestic water originates from this aquifer.

In 2017, a stormwater event occurred, and stormwater drained across San Simeon Road, with a portion entering the Title 27 Evaporation Pond. This resulted in a cease-and-desist order from the RWQCB directing the CCSD to stop using the pond for brine disposal. In June 2014, Project Description revisions were made with County Planning staff and CCSD Staff. An SEIR was submitted, including project modifications. The District then commissioned two 21,000-gallon tanks for intermediate storage of the liquid brine before being pumped to tanker trucks for off-site disposal.

Maintenance Operations:

The District performs maintenance operations on the plant annually. The maintenance run has previously consisted of a week-long operation at the plant. The annual plant exercise evaluates membrane media integrity, reverse osmosis membrane integrity, analytic device consistency, source water pump efficiency, and software updates/ integration. After each annual run, the plant's overall efficiency is evaluated, illustrating opportunities for improvement and validating the effectiveness of its ability to produce potable water. During extended shut-down periods, District staff repairs and upgrades the facility.

The District was recently presented with an opportunity to research a ZLD component for brine removal. Removal of the brine concentrate is the largest limitation to the financial feasibility of plant operations. Currently, two "Baker style" tanks are filled with brine reject as the plant processes raw water for reinjection. During normal operations, a regular off-haul of brine concentrate occurs. Under normal operations, four to six trucks are needed daily to remove the liquid brine concentrate, with up to nine trucks daily required for peak operation.

The ZLD pilot program's opportunity is the ability to significantly reduce costs and potential environmental impacts associated with brine disposal. In addition to reducing operating expenses by up to 90%, emissions, road traffic, and audible disturbance would also be reduced. The CCSD seeks a resolution to the brine disposal concern and is hopeful but optimistic about the potential of this proposed project.

Zero Liquid Discharge Test Components

- **Zero Liquid Discharge Specifications**: The temporary component of the ZLD will consist of a 8' W x 8' H x 40' L Conex container. This container houses two separate skids for softening the brine and then a Pressurized Forward Osmosis module to recover 95% or so of the water from the brine once it has been softened. A final brine of over 300,000 ppm will be produced at a rate of about .5 gpm. A single 250-gallon tote will be used to hold each day's brine. Periodically these totes will be taken to the Kettleman City landfill for disposal. During the concentration process, small tanks of HCL and antiscalant will be fixed inside the container for pH adjustment. These chemicals are only used inside the container. The 40' container will be placed on a 12' x 50' berm for secondary containment. It will be removed directly after the pilot program concludes.
- **Temporary conveyance Piping**: High-density polyethylene (HDPE) piping (jointless) will convey concentrate from the brine storage tanks to the ZLD equipment. The installation will not disturb the soil. The conveyance piping will rest on the ground surface for the duration of the pilot program operation and span 360' in length. It will be removed directly after the pilot program concludes.
- **Temporary Electrical Connection**: The units will be powered from the PG&E main panel located 35' from the temporary installation location. A "pin in sleeve" assembly will provide connectivity to the WRF's 480v panel.

The pilot program's operational period is tentatively scheduled to begin in mid-October once the 40' container is fully built and equipped. The test will last one to four weeks, depending on how quickly the team is able to achieve and maintain stable operations and gather all the related sensor data. Daily operations of the RO plant and the ZLD system will be conducted from 8:00 a.m. through 5:00 p.m., Monday through Friday, each week.