

Appendix A

Initial Study, NOP, and Scoping Materials

VWRP MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT

Initial Study

Prepared for
Santa Clarita Valley Sanitation District

November 2023



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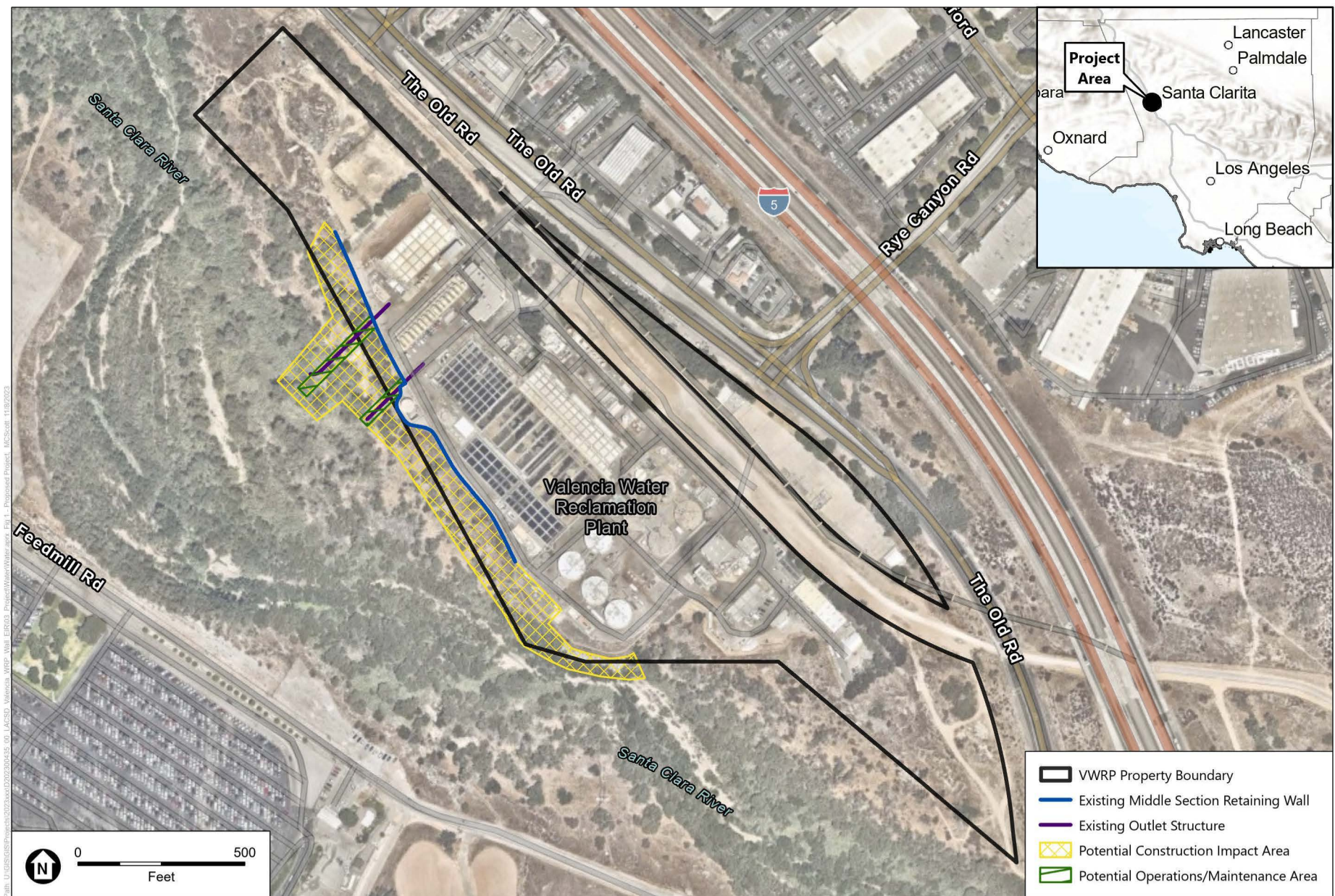
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ENVIRONMENTAL CHECKLIST

Initial Study

1. **Project Title:** Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project
2. **Lead Agency Name and Address:** Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90601
3. **Contact Person and Phone Number:** Mandy Huffman / 562-908-4288 ext. 2743
4. **Project Location:** 28185 The Old Road
Valencia, California 91355
5. **Project Sponsor's Name and Address:** Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90601
6. **General Plan Designation(s):** Industrial (M)
7. **Zoning:** A-2-5, Heavy Agricultural
8. **Description of Project:** (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

Santa Clarita Valley Sanitation District (SCVSD) has determined through previous studies that under a Capital Storm event, the Valencia Water Reclamation Plant (VWRP) has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. If the wall is undermined by scour or damaged by a significant earthquake event, VWRP facilities may be damaged or destroyed. The proposed project includes a new ground retaining wall structure to fortify the middle section of the wall and protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures (Figure 1). Temporary construction work would occur along the VWRP boundary as well as an existing Significant Ecological Area and California Department of Fish and Wildlife easement west of the VWRP. An operations and maintenance area would be cleared around the existing SCVSD outfall easements for continued use during long-term maintenance of the outfall structures (Figure 1).



SOURCE: ESA, 2023

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 1
Proposed Project

9. Surrounding Land Uses and Setting.

The site has an Industrial (M) land use and is zoned as A-2-5, Heavy Agricultural. Surrounding land uses include:

North: The Old Road, commercial uses

South: Santa Clara River Significant Ecological Area, Six Flags Magic Mountain

East: The Old Road

West: Santa Clara River Significant Ecological Area

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Service

California Department of Fish and Wildlife—Region 5

California Department of Water Resources—Southern District

State Water Resources Control Board

Regional Water Quality Control Board—Region 4

South Coast Air Quality Management District

Los Angeles County Department of Regional Planning

City of Santa Clarita

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

AB 52 Consultation pursuant to Public Resources Code 21080.3.1 has been requested by the SCVSD to the list of tribes that have requested to be notified of upcoming projects. The SCVSD will conduct government to government consultation with those tribes that wish to consult. Any sensitive information provided to the SCVSD by tribes will be kept confidential in accordance with AB 52 and not included in any of the publicly released documents.

Environmental Factors Potentially Affected

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

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology/Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial study:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Signature

Date

Environmental Checklist

Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
I. AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) The project Site is an existing water reclamation plant in an urbanized area of the Santa Clarita Valley community in the County of Los Angeles (County). Surrounding land uses are primarily comprised of commercial uses and open space. The proposed project would include improvement of a retaining wall and outfall structures within the boundary of and adjacent to an existing water reclamation plant. Some permanent vegetation clearing would occur within and surrounding existing easements along the outfall structures for operation and maintenance purposes. The proposed improvements would not change the current views to and from any scenic vistas, as construction would be temporary, and permanent vegetation removal would be limited to the maintenance area around the existing outfall structures. The proposed improvements would not be visible from a designated or otherwise identified scenic vista within the County. As a result, impacts would be less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.
- b) According to the California Department of Transportation (Caltrans), there are no Officially Designated State or County Scenic Highways as defined by Caltrans, the County of Los Angeles, or any other local governing body adjacent to or within the vicinity of the project site (Caltrans 2023). Some permanent vegetation clearing for maintenance purposes within the Santa Clara River Significant Ecological Area (SEA) would be required and could include tree removal. However, there are no designated scenic highways near the proposed project site and the proposed improvements would not be visible to the public from the portion of I-5 that is identified as “Eligible for State Scenic Highway.” Therefore, impacts associated with scenic resources within a State scenic highway would be

considered less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.

- c) The project site is located in an area characterized by a mix of commercial uses. Current uses adjoining the VWRP include a car wash, gas station, and restaurants to the north, and The Old Road to the north and east. The Santa Clara River SEA is located to the west and south, with Six Flags amusement park farther to the south. The VWRP and the project site are designated as Industrial (M) land use and zoned as A-2-5, Heavy Agricultural. Work would occur along the VWRP's existing wall and along two existing outfall structures, and would be consistent with the character of the existing site, which is an industrial use. Furthermore, the proposed project components would be mainly installed underground for structural support or replacement and rehabilitation of existing structures consistent with the VWRP. While permanent vegetation removal would be required, it would be limited to the maintenance area around the existing outfall structures. If needed, SCVSD would undergo the City's Site Plan and Design review to ensure that the proposed project does not conflict with applicable zoning and other regulations governing scenic quality. Therefore, the proposed project would not conflict with zoning or regulations governing scenic quality and impacts would be less than significant. Therefore, no further analysis of this environmental issue will be provided in the Draft EIR.
- d) The project site is characterized by moderate ambient nighttime lighting levels due to the developed nature of the area, existing VWRP, as well as from adjacent properties. Artificial light sources from the on-site uses and other surrounding properties include interior and exterior lighting for security, parking, and illuminated signage. Nighttime lighting would be required during approximately two days of construction for connection and disconnection of the bypass line for the outfall structure component. This work would occur adjacent to the existing VWRP within the SEA. The SEA would be considered a sensitive area with the potential for light to impact wildlife activities. All outdoor lighting would be subject to applicable regulations contained within the Los Angeles County Municipal Code, as applicable and would be shielded and pointed away from the surrounding undeveloped area to the extent feasible. Compliance with these regulations and the short-term, temporary nature of the impact (approximately two days) would not result in a new source of substantial light and impacts would be less than significant. Therefore, no further analysis of this environmental issue will be provided in the Draft EIR.

The proposed project would not include any materials that would result in glare, and would be consistent with the existing facilities and materials used at the VWRP site. As a result, glare impacts would be considered less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.

References

California Department of Transportation (Caltrans). 2023.
<https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>

Agriculture and Forestry Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
II. AGRICULTURE AND FORESTRY RESOURCES —				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a) The project site is located in a developed area adjacent to an existing wastewater treatment facility. The project site does not contain agricultural uses or related operations and is not located on designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program. Furthermore, the General Plan does not identify the project site as an area designated for agriculture use. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. No impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.
- b) The project site is zoned Heavy Agricultural, A-2-5. Per the Los Angeles County Code, no portion of the project site or surrounding land uses are zoned for agriculture and no nearby lands are enrolled under the Williamson Act. The proposed project would include improvements to existing structures associated with the existing VWRP and no changes to land use would occur. As such, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract and no impact would occur. Therefore, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.

- c) No forest land or timberland zoning is present on the project site or in the surrounding area. As such, the project would not conflict with existing zoning for forest land or timberland. Therefore, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.
- d) No forest land exists on the project site or in the surrounding area. As such, the project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.
- e) Since there are no agricultural uses or related operations on or near the project site, the project would not involve the conversion of farmland to other uses, either directly or indirectly. Therefore, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.

References

State of California Department of Conservation, California Important Farmland Finder,
<https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed September 29, 2023.

Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
III. AIR QUALITY —				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) The proposed project is located within the 6,600-square-mile South Coast Air Basin (Basin). The South Coast Air Quality Management District (SCAQMD) together with the Southern California Association of Governments (SCAG) is responsible for formulating and implementing air pollution control strategies throughout the Basin. The 2022 Air Quality Management Plan (AQMP) was adopted December 2, 2022, and outlines the air pollution control measures needed to meet Federal particulate matter (PM_{2.5}) and Ozone (O₃) standards. The AQMP also proposes policies and measures currently contemplated by responsible agencies to achieve Federal standards for healthful air quality in the Basin that are under SCAQMD jurisdiction. In addition, the AQMP addresses several Federal planning requirements and incorporates updated emissions inventories, ambient measurements, meteorological data, and air quality modeling tools from earlier AQMPs. Pollutant emissions resulting from construction of the project would have the potential to affect implementation of the AQMP. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- b) The project site is located within the Basin, which is characterized by relatively poor air quality. According to the 2022 AQMP, the Basin is designated nonattainment for Federal and State ozone (O₃) standards, as well as the current particulate matter (PM_{2.5}) standards. The Los Angeles County portion of the Air Basin is designated as nonattainment for the federal lead standard; however, this is due to localized emissions from two lead-acid battery recycling facilities in the City of Vernon and the City of Industry that are no longer operating. (SCAQMD) Operation of the VWRP would remain similar to existing conditions. The project would result in increased air emissions (including the emission of criteria pollutants) from construction traffic in the Basin, within an air quality management area currently in non-attainment of Federal and State air quality standards for O₃, PM₁₀, and PM_{2.5}. As such, implementation of the project could potentially contribute to cumulative air quality impacts, in combination with other existing and future emission

sources in the project area. Therefore, further analysis on this environmental issue will be included in the Draft EIR.

- c) The project site is located along The Old Road which runs parallel to I-5. Sensitive receptors are located west, south/southeast of the project site. Operation of the VWRP would remain similar to existing conditions. Construction activities of the project could increase localized air emissions, carbon monoxide (CO) concentrations, and toxic air contaminants (TACs) at these and other sensitive receptor locations in the area. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- d) The proposed project would involve the improvement of an existing retaining wall and upgrades to two existing outlet structures. According to the SCAQMD CEQA Air Quality Handbook, construction equipment is not a typical source of odors. Odors from the combustion of diesel fuel would be minimized by complying with the California Air Resources Board (CARB) Air Toxics Control Measure (ATCM) that limits diesel-fueled commercial vehicle idling to five minutes at any given location, which was adopted in 2004. The project would also comply with SCAQMD Rule 402 (Nuisance), which prohibits the emissions of nuisance air contaminants or odorous compounds. According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project includes water treatment uses and would not involve the types of uses typically associated with odor complaints. The project would include upgrades to an existing wall and existing outfall structures that would not result in adverse odor impacts. Nevertheless, due to the project's connection to a water reclamation plant, further analysis on this environmental issue will be included in the Draft EIR.

References

South Coast Air Quality Management District (SCAQMD), Board Meeting, Agenda No. 30, Adopt the 2012 Lead State Implementation Plan for Los Angeles County, May 4, 2012.

Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
IV. BIOLOGICAL RESOURCES — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a-d) The proposed project would involve the construction of a ground retaining wall and upgrades to existing outfall structures in areas that may serve as suitable habitats for species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service. In addition, the proposed project area would include an existing SEA and CDFW easement. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- e-f) The proposed project site is located within an existing SEA and CDFW easement and the removal of trees may be required. The proposed project has the potential to conflict with one or more local policies or ordinances designed to protect biological resources within the project area. Therefore, further analysis on this environmental issue will be included in the Draft EIR.

Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) The proposed project would include impacts to the VWRP which was placed in operation in 1967. Impacts to existing plant structures would be required. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- b) Archaeological resources are features, such as tools, utensils, carvings, fabric, building foundations, etc., that document evidence of past human endeavors and that may be historically or culturally important to a significant earlier community. Project construction would require grading and excavation activities just outside the boundary of the VWRP along the middle section wall and outfall structures that could extend into native soils and could disturb existing but undiscovered archaeological resources. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- c) The project would require excavation that could extend into native soils, with the potential to encounter previously unknown human remains. A number of regulatory provisions address the handling of human remains inadvertently uncovered during excavation activities. These include State Health and Safety Code Section 7050.5, Public Resources Code (PRC) Section 5097.98, and State CEQA Guidelines Section 15064.5(e). Pursuant to these codes, in the event of the discovery of unrecorded human remains during construction, excavations shall be halted, and the County Coroner shall be notified. If the human remains are determined to be Native American, the California Native American Heritage Commission (NAHC) would be notified within 24-hours and the guidelines of the NAHC would be adhered to in the treatment and disposition of the remains. Compliance with these regulatory protocols would ensure that impacts on human remains would be less than significant. Nevertheless, due to the potential for excavation within native soils, further analysis on this environmental issue will be included in the Draft EIR.

Energy

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
VI. ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) This analysis addresses the project's potential consumption of energy resources, including transportation fuel, and whether the project would result in wasteful, inefficient, or unnecessary consumption of energy resources. During construction of the proposed project, energy would be consumed in the form of electricity for exterior uses, such as lights and water conveyance for dust control. Natural gas would not be used for construction purposes. Proposed project construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the proposed project sites, construction workers traveling to and from the proposed project site and delivery and haul truck trips (e.g., hauling of demolition or excavation material to offsite reuse and disposal facilities).

Construction is assumed to occur generally during daytime hours, however some electricity would be consumed, on a limited basis, to power lighting and supply and convey water for dust control. Electricity would be supplied to the proposed project site by SCE and would be obtained from the existing electrical lines that are connected to the proposed project site. The proposed project electricity demand would be limited and well within the supply and infrastructure capabilities of SCE (which reported 84,218 GWh of total energy sales in the 2021-2022 fiscal year) (SCE 2022). Electricity use from construction would be short-term, limited to working hours, used for necessary construction-related activities, and small in comparison to overall SCE annual demand. Therefore, the proposed project would not result in a wasteful, inefficient, and unnecessary consumption of energy associated with electricity used for construction, and impacts would be less than significant.

As previously stated above, construction activities typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support proposed project construction activities; thus, there would be no expected demand generated by construction of the proposed project. Therefore, the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy associated with natural gas used for construction, and no impact would occur.

Construction of the proposed project would utilize fuel-efficient trucks and equipment consistent with federal and State regulations, such as fuel efficiency regulations in accordance with CARB's Pavley Phase I and II standards (at a minimum through the model

year 2020 standards depending on the outcome of the SAFE Vehicles Rule court challenge), the anti-idling regulation in accordance with CCR, Title 13, Section 2485, and fuel requirements in accordance with CCR, Title 17, Section 93115, as well as the In-Use Off-Road Diesel-Fueled Fleets regulation (CARB 2023). As such, the proposed project would comply with State measures to reduce the inefficient, wasteful, and unnecessary consumption of energy, such as petroleum-based transportation fuels. While these regulations are intended to reduce construction emissions, compliance with the anti-idling and emissions regulations discussed above would also result in fuel savings from the use of more fuel-efficient engines. Diversion of mixed construction and demolition debris would reduce truck trips to landfills, which are typically located some distance away from population centers, and increase the amount of waste recovered (e.g., recycled, reused) at material recovery facilities, thereby further reducing transportation fuel consumption. As discussed in the Utilities and Service Systems, the proposed project is not anticipated to generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Based on the analysis above, construction would utilize transportation fuel energy only for necessary onsite activities and to transport construction materials and demolition debris to and from the proposed project site. As discussed above, idling restrictions and the use of cleaner, energy-efficient equipment would result in less fuel combustion and energy consumption and, thus, reduce the proposed project's construction-related energy use. Therefore, the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy, and impacts associated with transportation fuels for construction would be less than significant.

The proposed project would include improvement to an existing retaining wall and existing outfall structures. No energy consumption would be included as part of the proposed project's operations. Therefore, the operations of the proposed project would not be wasteful, inefficient, or unnecessary and no further analysis on this environmental issue will be included in the Draft EIR.

- b) This analysis addresses the project's potential to conflict with or obstruct a state of local plan for renewable energy or energy efficiency. The State has adopted regulations and strategies regarding energy efficiency for construction equipment and vehicles. The proposed project would utilize construction contractors who must demonstrate compliance with applicable regulations. Construction equipment would be required to comply with federal, state, and regional requirements, where applicable. With respect to truck fleet operators, USEPA and NHSTA have adopted fuel-efficiency standards for medium- and heavy-duty trucks that will be phased in over time. Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type (USEPA 2011). USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type

(USEPA 2016). The energy modeling for trucks does not take into account specific fuel reductions from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standards. As a result, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of 5 minutes per occurrence. Additionally, off-road emissions standards will increase equipment efficiencies as they are phased-in overtime and less-efficient equipment is phased out of construction fleets. These limitations would result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these requirements are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy. Thus, based on the information above, construction of the proposed project would comply with existing energy standards.

The proposed project's construction equipment used would be consistent with the energy standards applicable to construction equipment including limiting idling fuel consumption and using contractors that comply with applicable CARB regulatory standards that affect energy efficiency. Furthermore, the proposed project would be consistent with the Advanced Clean Cars and Mobile Source Strategy, which is instituted to reduce mobile source emissions over time. This is expected to reduce energy consumption from future projects. Therefore, construction of the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

The proposed project would include improvements to an existing retaining wall and existing outfall structures. No energy consumption would occur as part of the proposed project's operations. Therefore, the operations of the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no further analysis on this environmental issue will be included in the Draft EIR.

References

- SCE (Southern California Edison) 2022. Annual Report. https://download.edison.com/406/files/20232/2022-eix-sce-annual-report.pdf?Signature=h%2BwwSmKbKviko5acg8P6%2B7zdWN0%3D&Expires=1694625105&AWSAccessKeyId=AKIAJX7XEOOELCYGIVDQ&versionId=bpeN_aiySep67UMc7RtP511pq9M5I127&response-content-disposition=attachmen Accessed November 2023.
- CARB California Air Resources Board) 2023. In-Use Off-Road Diesel-Fueled Fleets Regulation. In-Use Off-Road Diesel-Fueled Fleets Regulation | California Air Resources Board. Accessed November 2023.

USEPA (United States Environmental Protection Agency) 2011. *Fact Sheet: EPA and NHTSA Adopt First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles*. Accessed November 2023.

USEPA, 2016. Federal Register/Vol. 81, No. 206/Tuesday, Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, October 25, 2016. <https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf>. Accessed

Geology and Soils

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
VII. GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a.i) The seismically active region of Southern California is crossed by numerous faults that are both active and inactive. Fault rupture is the displacement that occurs along the sides of a fault during an earthquake. Based on criteria established by the California Geological Survey (CGS), faults can be classified as active if they have shown evidence of movement within the past 11,700 years (i.e., during the Holocene Epoch). The criteria for defining an active fault is based on standards developed by the CGS for the Alquist-Priolo Earthquake Fault Zoning Program (Bryant 2017). Faults that have not moved in the last 11,700 years are not considered active. According to the California Department of Conservation, the project area is located in the Newhall 7.5-minute quadrangle. The project site is located outside of an Alquist-Priolo zone, where the potential for a rupture of a known earthquake fault is considered to be low. Therefore, the proposed project would have no impact on exposing people to substantial and adverse effects, including the risk of loss, injury, or

death involving rupture of a known earthquake fault. No further analysis of this environmental issue will be provided in the Draft EIR.

- a.ii) Seismicity is the geographic and historical distribution of earthquakes, including their frequency, intensity, and distribution. The level of ground shaking at a given location depends on many factors, including the size and type of earthquake, distance from the earthquake, and subsurface geologic conditions. The type of construction also affects how particular structures and improvements perform during ground shaking. Because the project site is located in the seismically active Southern California region, it would be subject to strong seismic ground shaking in the event of a seismic event. The proposed retaining wall would be subject to the seismic design criteria of the California Building Code (CBC) and the project-specific design requirements of a geotechnical report. The CBC contains seismic safety provisions with the aim of preventing collapse during a design earthquake. Compliance with these regulations and requirements would minimize injury and loss of life due to structure collapse during an earthquake. Further analysis on this environmental issue will be included in the Draft EIR.
- a.iii) Liquefaction is a phenomenon in which saturated silty to cohesionless soils below the groundwater table are subject to a temporary loss of strength due to the buildup of excess pore pressure during cyclic loading conditions such as those induced by an earthquake. Liquefaction effects include loss of bearing strength, amplified ground oscillations, lateral spreading, and flow failures. Liquefaction typically occurs in areas where groundwater is shallow or less than 50 feet from the ground surface, and where the soils are composed of loose, poorly consolidated, fine to medium-grained sand. In addition to the necessary soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to initiate liquefaction. According to the California Geological Survey (CGS), the project site is located in an area mapped as potentially liquefiable. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- a.iv) The proposed project area is not located within an area classified as a landslide study area by the CGS. Therefore, there is no known potential for landslides to occur on or near the proposed project site. Therefore, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.
- b) Soil erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by varying processes and may occur in a project area where bare soil is exposed to wind or moving water (both rainfall and surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses. Topsoil is used to cover surface areas for the establishment and maintenance of vegetation due to its high concentrations of organic matter and microorganisms. The project site would encompass the perimeter wall of an existing water reclamation facility and within a vegetated area that could be subject to erosion during construction. Therefore, further analysis on this environmental issue will be included in the Draft EIR.

- c) Impacts related to liquefaction and landslides are discussed above. Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. The downslope movement is due to the combination of gravity and earthquake shaking. Such movement can occur on slope gradients as little as one degree. Lateral spreading typically damages pipelines, utilities, bridges, and structures. Lateral spreading during a seismic activity usually occurs along the weak shear zones within a liquefiable soil layer and has been observed to generally take place towards a free face and to lesser extent on ground surfaces with a very gentle slope. Groundwater levels are currently unknown, and the project site is subject to potential levels of seismic activity, therefore, further analysis on this environmental issue will be included in the Draft EIR.
- d) Soils with shrink-swell or expansive properties typically occur in fine-grained sediments and cause damage through volume changes as a result of a wetting and drying process. Structural damage may occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. The proposed project would have the potential to be located on expansive soils, further analysis on this environmental issue will be included in the Draft EIR.
- e) The proposed project includes the ground improvement for the existing retaining wall. The project would not incorporate septic tanks or alternative wastewater disposal systems. Therefore, the project would have no impact and no further analysis of this environmental issue will be provided in the Draft EIR.
- f) The proposed project would require excavation and grading that could extend into native soils and/or geologic features potentially containing paleontological resources. Further analysis on this environmental issue will be included in the Draft EIR.

References

- California Geological Survey. 2023. Regulatory Maps Geo Application: Earthquake Fault Zones. Accessed October 4, 2023. Available: <https://maps.conservation.ca.gov/cgs/EQZApp/>
- Bryant, W.A., and Hart, E.W., Fault-Rupture Hazard Zones in California – Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps: California Geological Survey Special Publication 42, page 42, 2017.

Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
VIII. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) Construction of the project would generate greenhouse gas (GHG) emissions which could have the potential to either individually or cumulatively result in a significant impact on the environment. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- b) To determine if the project would conflict with these plans, policies, and regulations, further analysis on this environmental issue will be included in the Draft EIR.

Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a-b) Construction of the project would involve the temporary use of hazardous substances in the form of fuels and oils. All materials would be used, stored, and disposed of in accordance with applicable laws and regulations and manufacturers' instructions. Furthermore, any emissions from the use of such materials would be minimal and localized to the project site. Project operations would not change from current conditions, and would not involve the use or storage of potentially hazardous materials. As with construction emissions, any emissions from the use of hazardous materials regarding the operation of the project would be minimal and localized to the project site. However, since construction would temporarily increase the use and transport of hazardous materials and work would occur within an existing SEA, further analysis on this environmental issue will be included in the Draft EIR.
- c) There are no schools located within 0.25 mile of the project site. As such, the use of hazardous materials would not create a significant hazard to any nearby existing or proposed schools. In addition, operations would not change from current existing

conditions. Therefore, impacts would be less than significant, and no further analysis of this environmental issue will be provided in the Draft EIR.

- d) Government Code Section 65962.5, amended in 1992, requires the California Environmental Protection Agency (CalEPA) to develop and update annually the Cortese List, which is a list of hazardous waste sites and other contaminated sites. While Government Code Section 65962.5 makes reference to the preparation of a list, many changes have occurred related to web-based information access since 1992 and information regarding the Cortese List is now compiled on the websites of the Department of Toxic Substances Control (DTSC), the State Water Board, and CalEPA. The DTSC maintains the EnviroStor database, which includes sites on the Cortese List and also identifies potentially hazardous sites where cleanup actions (such as a removal action) or extensive investigations are planned or have occurred. The database provides a listing of Federal Superfund sites [National Priorities List (NPL)]; State Response sites; Voluntary Cleanup sites; and School Cleanup sites. Geotracker is the State Water Resources Control Board's data management system for managing sites that impact groundwater, especially those that require groundwater cleanup [USTs, Department of Defense, Site Cleanup Program] as well as permitted facilities such as operating USTs and land disposal sites. CalEPA's database includes lists of sites with active Cease and Desist Orders (CDO) or Cleanup and Abatement Orders (CAO) from the State Water Board. Database searches.

According to the EnviroStor database, the project site is not located within any hazardous materials databases, nor is the project site located near any site of environmental concern (DTSC 2023). A review of hazardous materials database identified a release of gasoline to soil in January 2011 at the Valencia Chevron, located approximately 340 feet north of the current project site at 28070 The Old Road. Groundwater and soil sampling for the Valencia Chevron site began in November 2011. Cleanup of the Valencia Chevron site has been completed, and the case closed as of August 23, 2018 (SWRCB 2018). Based on issuance of a regulatory closure letter, the past release at this facility is considered to represent a low threat. Compliance with the regulatory requirements and implementation of BMPs would ensure the project would not create a significant hazard to the public or environment, despite being located near a site identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, impacts would be less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.

- e) The project site is not located within the vicinity of a private airstrip, heliport, or helistop or within an airport land use plan or within 2 miles of a public or private airport. Airport and airfields in proximity to the project site include Whiteman Airport approximately 15 miles to the southeast, and Van Nuys Airport approximately 16 miles to the south. Therefore, the project is not located within an airport land use plan area and would not result in airport-related safety hazards or excessive noise for people residing or working in the project area. No impacts would occur, and no further analysis of this environmental issue will be provided in the Draft EIR.

- f) The project site is located in a developed area that is well served by a roadway network. The proposed project would not include changes to adjacent roadways or other access points to the project site. While it is expected that the majority of construction activities for the project would be confined on-site, construction activities may temporarily affect access on portions of the adjacent street during certain periods of the day where construction vehicles are entering or exiting the VWRP. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- g) The project site is located in a very high fire hazard area (CAL FIRE 2023). In addition, the project site is located in a State Responsibility Area. Impacts are potentially significant and further analysis on this environmental issue will be included in the Draft EIR.

References

- CAL FIRE (California Department of Forestry and Fire Protection). 2022. FHSZ Viewer, <https://egis.fire.ca.gov/FHSZ/>, accessed October 10, 2023.
- California Department of Toxic Substances Control (DTSC). 2023. EnviroStor Database, <https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=28185+The+Old+Road+in+Valencia%2C+California+>. Accessed November 17, 2023.
- California Regional Water Quality Control Board (SWRCB). 2018. Available: https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/9136305093/28070%20The%20Old%20Road%20N.%20-%20Closure%20Letter%20&%20Transmittal.pdf. Accessed November 17, 2023.

Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
X. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) The project area is located in the Regional Water Quality Control Board (RWQCB) –Los Angeles Region jurisdiction. The project could result in impacts to water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- b) Project construction would require a maximum excavation depth of 70 feet. The proposed project could potentially result in the decrease in groundwater supplies or interfere substantially with groundwater recharge. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- c.i- iv) The proposed project would require excavation and grading. The proposed project could result in the modification of the drainage pattern of the site or surrounding area and further analysis on this environmental issue will be included in the Draft EIR.

- d) The project site is located approximately 55 miles east of the Pacific Ocean and is not located in a tsunami hazard area. In addition, the project site is not located near a body of water, and therefore not at risk by seiche. Although the Santa Clara River is located adjacent to the project site, the western site boundary is not located within an area mapped as a flood hazard area on FEMA's Flood Insurance Rate Map or the LA County DPW Floodway Map (FEMA 2023, LA County DPW 2003). As a result, there would be no impact related to risks from seiche, tsunami, or flood hazards that would risk or release pollutants due to inundation and no further analysis of this environmental issue will be provided in the Draft EIR.
- e) Similar to existing conditions, the proposed project would not require the use of groundwater. However, project construction would require a maximum excavation depth of 70 feet and impacts to groundwater quality could occur and the proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, further analysis on this environmental issue will be included in the Draft EIR.

References

Federal Emergency Management Agency (FEMA). 2023. FIRMETTE 06037C0815G, <https://msc.fema.gov/portal/home>, accessed October 10, 2023.

Los Angeles County Department of Public Works. 2023. Floodway Map. <https://apps.gis.lacounty.gov/dpw/m/?viewer=fcs>, accessed November 21, 2023.

Land Use and Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XI. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a) The proposed project would include upgrades and rehabilitation to existing structures associated with the VWRP just west of the plant boundary within an SEA and CDFW easement. Therefore, implementation of the proposed project would not physically divide an established community. No impacts would occur, and no further analysis of this environmental issue will be provided in the Draft EIR.
- b) The proposed project would include upgrades and rehabilitation of existing structures associated with the VWRP and would be consistent with the County's General Plan land use designation (Industrial) (Los Angeles County 2022). The proposed project would not result in any changes to the existing land use at the project site, and operations would be similar to existing conditions. The proposed project would not conflict with land use plans, policy or regulations. No impacts would occur, and no further analysis of this environmental issue will be provided in the Draft EIR.

As discussed above, impacts associated with the SEA would be covered in the Biological Resources Section of the Draft EIR.

Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XII. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a, b) The project site is located in Mineral Resource Zone (MRZ) 2, which is defined as a MRZ where adequate information indicates that significant mineral deposits are present or a likelihood of their presence and development should be controlled (DOC 2021). The proposed project involves ground improvement of an existing retaining wall and existing outfall structures just west of the boundary of the VWRP; no mineral extraction or other mining operations currently occur within the project site. The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or result in the loss of a mineral resource recovery site. Therefore, no further analysis of this environmental issue will be provided in the Draft EIR.

References

California Department of Conservation (DOC). 2021. CGS Information Warehouse Mineral Land Classification Portal, Updated Mineral Resource Zones for Portland Cement Concrete Aggregate in the San Fernando Valley and Saugus-Newhall Production-Consumption Regions, Los Angeles County, California. Available at: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Reports/SR_254-MLC-SanFernandoValleySaugusNewhallPCR-2021-Plate01-MRZs-a11y.pdf. Accessed September 29, 2023.

Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XIII. NOISE — Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a) The area surrounding the project site is developed primarily with commercial uses. Land uses located adjacent to the project site include: commercial uses to the north (across The Old Road), and the Santa Clara River SEA to the south and west. Construction of the project would require the use of heavy construction equipment (e.g., bulldozers, backhoes, cranes, loaders, etc.) that would generate noise on a short-term basis. Therefore, construction of the project could generate a temporary increase in ambient noise levels in excess of applicable standards for nearby sensitive receptors, including the Santa Clara River SEA. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- b) Construction of the project may generate groundborne vibration and groundborne noise due to project site grading and haul truck travel. As such, the project would have the potential to generate excessive groundborne vibration and groundborne noise levels during short-term construction activities. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- c) The project site is not located within an airport land use plan area or within two miles of a public airport or public use airport. The project site is not located within the vicinity of a private airstrip, or heliport or helistop. Airport and airfields in proximity to the project site include Whiteman Airport approximately 15 miles to the southeast, and Van Nuys Airport approximately 16 miles to the south. Therefore, the project would not expose people to excessive noise levels from such uses and no further analysis of this environmental issue will be provided in the Draft EIR.

Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XIV. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a) The proposed project would occur along the perimeter of an existing water reclamation plant. The proposed activities do not include new homes or businesses and would not result in the extension of public roads or other infrastructure. The proposed project includes improvement of existing facilities associated with the VWRP and would not induce growth. As such, the proposed project would not contribute to a substantial increase in unplanned population growth, and no impact would occur. No further analysis of this environmental issue will be provided in the Draft EIR.
- b) The project site encompasses an existing water treatment facility in a built-out, urbanized area. No housing exists on the project site, and therefore the proposed project would not displace a substantial number of existing housing units or people, necessitating the construction of replacement housing elsewhere. Therefore, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.

Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XV. PUBLIC SERVICES —				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a.i) The project site is currently served by the Los Angeles County Fire Department (LACFD) Battalion 6, which operates the Santa Clarita Fire Departments. The closest station to the project site is Station 76, located approximately 1.7 miles northwest at 27223 Henry Mayo Drive. The proposed project involves the improvement to existing facilities associated with the VWRP and would not induce population growth directly or indirectly that could increase the demand for fire protection services at the project site. Furthermore, the project site is an existing water reclamation plant where fire protection services are already adequately provided. The proposed project would maintain adequate emergency vehicle access to the project site during construction and operation. As such, fire protection would not be significantly altered through implementation of the proposed project and impacts would be less than significant. Therefore, no further analysis of this environmental issue will be provided in the Draft EIR.
- a.ii) The project site is currently serviced by the Los Angeles County Sheriff's Department. The closest police station to the project site is the Santa Clarita Valley Sheriff's Station, located 5.1 mile southeast at 26201 Golden Valley Road. Due to the temporary nature of the construction activities, these jobs are anticipated to be filled by the local workforce. The proposed project involves the improvement of existing facilities associated with the existing VWRP. Therefore, the proposed project would not result in a direct or indirect increase in population that would contribute to substantial adverse physical impacts associated with police protection and impacts would be less than significant. No further analysis of this environmental issue will be provided in the Draft EIR.
- a.iii) The project site is located within an existing water reclamation plant. As previously detailed, the proposed project does not include the development of new homes or businesses that would result in the generation of students. Therefore, the proposed project

- would not result in substantial adverse physical impacts associated with the need for new or physically altered school facilities. As such, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.
- a.iv) The proposed project would not alter operations at the existing water reclamation plant. The proposed project would not directly or indirectly induce population growth requiring additional parks. Therefore, the proposed project would not result in substantial adverse physical impacts associated with the need for new or physically altered park facilities. Impacts would be less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.
- a.v) As previously mentioned, the project site is an existing water reclamation plant, and the proposed project would not induce population growth. No additional public services would be required by the proposed project. Therefore, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities and no impact would occur. No further analysis of this environmental issue will be provided in the Draft EIR.
-

Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XVI. RECREATION —				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a) As the proposed project does not include residential uses, the proposed project would not result in increased use of recreational facilities. Project employees are not anticipated to use nearby recreational facilities to an extent that would cause or accelerate its substantial physical deterioration. Therefore, no impacts to neighborhood and regional parks or other recreational facilities would occur and no further analysis of this environmental issue will be provided in the Draft EIR.
- b) The proposed project would not include the construction or expansion of recreational facilities. In addition, the proposed project does not include residential uses which would require the construction or expansion of recreation facilities. Therefore, no impacts related to the adverse physical effect on the environment due to the construction or expansion of recreation facilities would occur. No further analysis of this environmental issue will be provided in the Draft EIR.

Transportation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XVII. TRANSPORTATION — Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) Construction activities, such as hauling of demolition and excavated materials have the potential to impact circulation within roadways, bicycle, and pedestrian facilities. During operation, maintenance is anticipated to be minimal and would not affect the circulation system, including roadway, bicycle, and pedestrian facilities. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- b) SB 743, which went into effect in January 2014, requires the Governor's Office of Planning and Research to change the way public agencies evaluate transportation impacts of projects under CEQA. Under SB 743, the focus of transportation analysis has shifted from driver delay, which is typically measured by traffic level of service (LOS), to a new measurement that better addresses the state's goals on reduction of greenhouse gas emissions, creation of a multi-modal transportation, and promotion of mixed-use developments. CEQA Guidelines Section 15064.3 states that vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts, replacing LOS. Further analysis on this environmental issue will be included in the Draft EIR.
- c) The proposed project would not include any design features or incompatible uses which may substantially increase hazards. Therefore, no impact would occur and no further analysis of this environmental issue will be provided in the Draft EIR.
- d) The proposed project would include a new access area around the existing outlet structures and easement (Figure 1). The proposed project would not include changes to adjacent roadways or other access points to the project site. Therefore, the implementation of the proposed project would not result in inadequate emergency access. Impacts would be less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.

Tribal Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XVIII. TRIBAL CULTURAL RESOURCES —				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a.i-ii) Assembly Bill (AB) 52 establishes a formal consultation process for California Native American Tribes to identify potentially significant impacts to tribal cultural resources, as defined in Public Resources Code Section 21074, as part of CEQA. As specified in Public Resources Code Section 21080.3.1 (d), within 14 days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, lead agencies must provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the tribe has submitted a written request to be notified. The tribe must respond to the lead agency within 30 days of receipt of the notification if it wishes to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the request for consultation. Should any information be gained during the consultation process, it would be used to analyze impacts to tribal cultural resources in an EIR. Therefore, further analysis on this environmental issue will be included in the Draft EIR.

Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XIX. UTILITIES AND SERVICE SYSTEMS —				
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a) **Water**

No new sources of water supply, such as groundwater, are required to meet the proposed project's water demand. During construction activities, there would be a temporary, intermittent demand for water for such activities as soil watering for site preparation, fugitive dust control, cleanup, and other short-term activities. Construction-related water usage is not expected to have an adverse impact on available water supplies, and impacts would be less than significant. Operational activities would not change from existing conditions. Therefore, operation-related water usage would not have an adverse impact on available water supplies, and impacts would be less than significant. No further analysis of this environmental issue will be provided in the Draft EIR.

Wastewater Treatment

Construction activities for the proposed project would not result in wastewater generation as construction workers would utilize portable restrooms, which would not contribute to wastewater flows to the local wastewater system. Operational activities would not change from existing conditions. Therefore, impacts would be less than significant related to wastewater treatment generation. No further analysis of this environmental issue will be provided in the Draft EIR.

Stormwater

The proposed project would not include new or expanded stormwater facilities. In addition, the proposed project would be required to complete a SWPPP in accordance with the NPDES, which would reduce the potential for stormwater impacts on- and off-site. Therefore, impacts related to stormwater drainage would be less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.

Electric Power, Natural Gas, and Telecommunications

The proposed project would not result in the use of electricity during operation. The proposed project would not require new natural gas services connections and would not result in the need for new natural gas supplies or infrastructure. The proposed project would not require telecommunication and no new or expanded telecommunications facilities would be required as a result of construction and operation of the proposed project. Impacts would be less than significant and no further analysis of this environmental issue will be provided in the Draft EIR.

- b) No new sources of water supply are required to meet the proposed project's water demand. During construction activities, there would be a temporary, intermittent demand for water for such activities as soil watering for site preparation, fugitive dust control, cleanup, and other short-term activities. Construction-related water usage is not expected to have an adverse impact on available water supplies, and impacts would be less than significant. Operational activities would not change from existing conditions. In addition, operation of the proposed project would not require the provision of any municipal water supplies. Therefore, operation-related water usage would not have an adverse impact on available water supplies, and impacts would be less than significant. No further analysis of this environmental issue will be provided in the Draft EIR.
- c) The local wastewater treatment system is designed to comply with federal regulations (NPDES) administered by the RWQCB. Operational activities would not change from existing conditions. Therefore, it is not anticipated that project implementation would require construction of new or the expansion of existing wastewater facilities and impacts would be less than significant. Therefore, no further analysis of this environmental issue will be provided in the Draft EIR.

No improvements are needed to either water lines, sewer lines, or treatment facilities to serve the project. Therefore, impacts related to wastewater treatment capacity would be less than significant, and no further analysis of this environmental issue will be provided in the Draft EIR.

- d) A substantial amount of solid waste is disposed of throughout the region, requiring ongoing landfill expansions. According to the Los Angeles County General Plan, solid waste generated within the unincorporated areas is collected by a private waste hauler that contracts with the Department of Public Works (DPW). Landfills operated by Sanitation Districts of Los Angeles County are subject to federal and State programs that regulate operations and capacity in consideration of solid waste reduction goals. The closest solid

waste facility to the project site is Chiquita Canyon Sanitary Landfill which has a permitted capacity of 12,000 tons per day and has 51,629,100 tons of remaining capacity (Los Angeles County 2022). According to the 2021 Annual Report for the Countywide Integrated Waste Management Plan (CIWMP), the remaining capacity at County-operated landfills is 207.31 million tons (County of Los Angeles 2021). Construction of the proposed project would generate a small amount of solid waste. All collection, transportation, and disposal of any solid waste generated by the proposed project during construction and operation would comply with all applicable federal, State, and local statutes and regulations. Furthermore, as required by existing regulations, any hazardous materials collected on the project site during demolition, construction, or operational activities would be transported and disposed of by a permitted and licensed hazardous materials service provider at a facility permitted to accept such hazardous materials. As such, the proposed project is not anticipated to generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, this impact would be less than significant. No further analysis of this environmental issue will be provided in the Draft EIR.

- e) The project site is subject to State mandates with respect to solid waste. The proposed project would comply with all federal, State, and local statutes and regulations related to solid waste, including the California Integrated Waste Management Act requirements for solid waste generated during project construction and operation. Compliance with these regulations would ensure that a less than significant impact would occur. No further analysis of this environmental issue will be provided in the Draft EIR.

References

- County of Los Angeles. 2022. *2021 Annual Report – Los Angeles County Countywide Integrated Waste Management Plan*, December 2022.
- Santa Clarita Valley Water Agency. 2021. 2020 Urban Water Management Plan for Santa Clarita Valley Water Agency. June 2021, https://www.yourscvwater.com/sites/default/files/SCVWA/SCVWA-2020-UWMP-Volume-I_FINAL.pdf, accessed October 2, 2023.

Wildfire

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XX. WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) The project site is located along the perimeter of the existing VWRP that is well served by a roadway network. The proposed project would not include changes to adjacent roadways or other access points to the project site. The majority of construction activities for the project would be confined within the VWRP and the western boundary of the plant. Construction activities may temporarily affect access on portions of the adjacent street during certain periods of the day where construction vehicles are entering or exiting the VWRP, however, these impacts would be temporary and would not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, no further analysis of this environmental issue will be provided in the Draft EIR.
- b) The proposed project is located in an area designated by the California Department of Forestry and Fire Protection (CAL Fire) as “VHFHSZ” in Local Responsibility Area (LRA) mapping, and as “High” in State Responsibility Area (SRA) mapping. These hazard areas are described according to their potential to cause fire hazards due to relevant factors such as fuels, terrain, and weather, and provide the basis for application of various mitigation strategies to reduce risks to buildings associated with wildfires. Due to slope, prevailing winds, and other factors, the project could potentially expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
- c) The proposed project would include a new access area near the existing SCVSD easements. No other infrastructure such as roads, fuel breaks, emergency water sources, power lines or other utilities would be required that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Impacts would be considered less than

significant, and no further analysis of this environmental issue will be provided in the Draft EIR.

- d) The proposed project may expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, further analysis on this environmental issue will be included in the Draft EIR.
-

Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XXI. MANDATORY FINDINGS OF SIGNIFICANCE —				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a, b, c) As discussed throughout this Initial Study, the proposed project would result in No Impact or Less than Significant Impacts to Aesthetics, Agricultural and Forestry Resources, Energy, Land Use, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems. The proposed project could result in potentially significant impacts to the environment and human beings as it relates to the following environmental topics: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and Wildfire. Therefore, further analysis on these environmental issues and their cumulative impacts will be included in a Draft EIR.

NOTICE OF PREPARATION AND NOTICE OF PUBLIC SCOPING MEETING

DATE: November 28, 2023
TO: Responsible Agencies, Trustee Agencies, Interested Parties
LEAD AGENCY: Santa Clarita Valley Sanitation District
SUBJECT: Notice of Preparation of a Draft Environmental Impact Report
PROJECT: Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project
REVIEW PERIOD: November 28, 2023 through January 5, 2024

This Notice of Preparation (NOP) has been prepared to notify agencies and interested parties that the Santa Clarita Valley Sanitation District (SCVSD or District), as the Lead Agency, will prepare an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA) for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (proposed project).

An Initial Study was prepared for the proposed project and is available on the District website for review at <https://www.lacsd.org/documents/other/documents-for-public-review>. As analyzed in the Initial Study, the following issue areas would result in no impact or less than significant impacts and will not require further analysis in the EIR: Aesthetics, Agricultural and Forestry Resources, Energy, Land Use, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems.

The EIR will address the proposed project's potential effects for all other environmental resource areas as outlined in Appendix G of the State CEQA Guidelines, which are as follows:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation and Traffic
- Tribal Cultural Resources
- Wildfire
- Mandatory Findings of Significance

PROJECT LOCATION: The proposed project would occur along the western boundary of the VWRP which is located at 28185 The Old Road in Valencia, California. The VWRP is bounded by The Old Road on the northeast and by the Santa Clara River to the south and west (see Figure 1). A Significant Ecological Area (SEA) and conservation easement is adjacent to the site to the south and west.

PROJECT DESCRIPTION: SCVSD has determined through previous studies that under a Capital Storm event, the VWRP has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. If the wall is undermined by scour or damaged by a significant earthquake event, VWRP facilities may be damaged or destroyed. The proposed project includes a new ground retaining wall structure to fortify the middle

section of the wall and protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures (Figure 1). Temporary construction work would occur along the VWRP boundary as well as an existing SEA and California Department of Fish and Wildlife easement west of the VWRP. An operations and maintenance area would be cleared around the existing SCVSD outfall easements for continued use during long-term maintenance of the outfall structures (Figure 1).

PUBLIC REVIEW AND COMMENT PERIOD: SCVSD is soliciting comments from responsible and trustee agencies as well as interested parties regarding the scope and content of the environmental information to be included in the EIR. The EIR will be used by SCVSD when considering approval of the proposed project as well as any related discretionary approvals. The NOP is being circulated for a 39-day public scoping period. All comments to the NOP are due no later than 5:00 p.m. on January 5, 2024. Please include the name, mailing address, and email address of the commenter. Written comments may be submitted via the following:

Mail to: Santa Clarita Valley Sanitation District
Attn.: Mandy Huffman
1955 Workman Mill Road
Whittier, CA 90601

Email: mandyhuffman@lacsdsd.org

DOCUMENT AVAILABILITY: The NOP and Initial Study are available online at the SCVSD website (<https://www.lacsdsd.org/documents/other/documents-for-public-review>). A hardcopy of the NOP and Initial Study are available for review at the City of Santa Clarita Valencia Branch Library at 23743 West Valencia Boulevard, Santa Clarita, CA 91355.

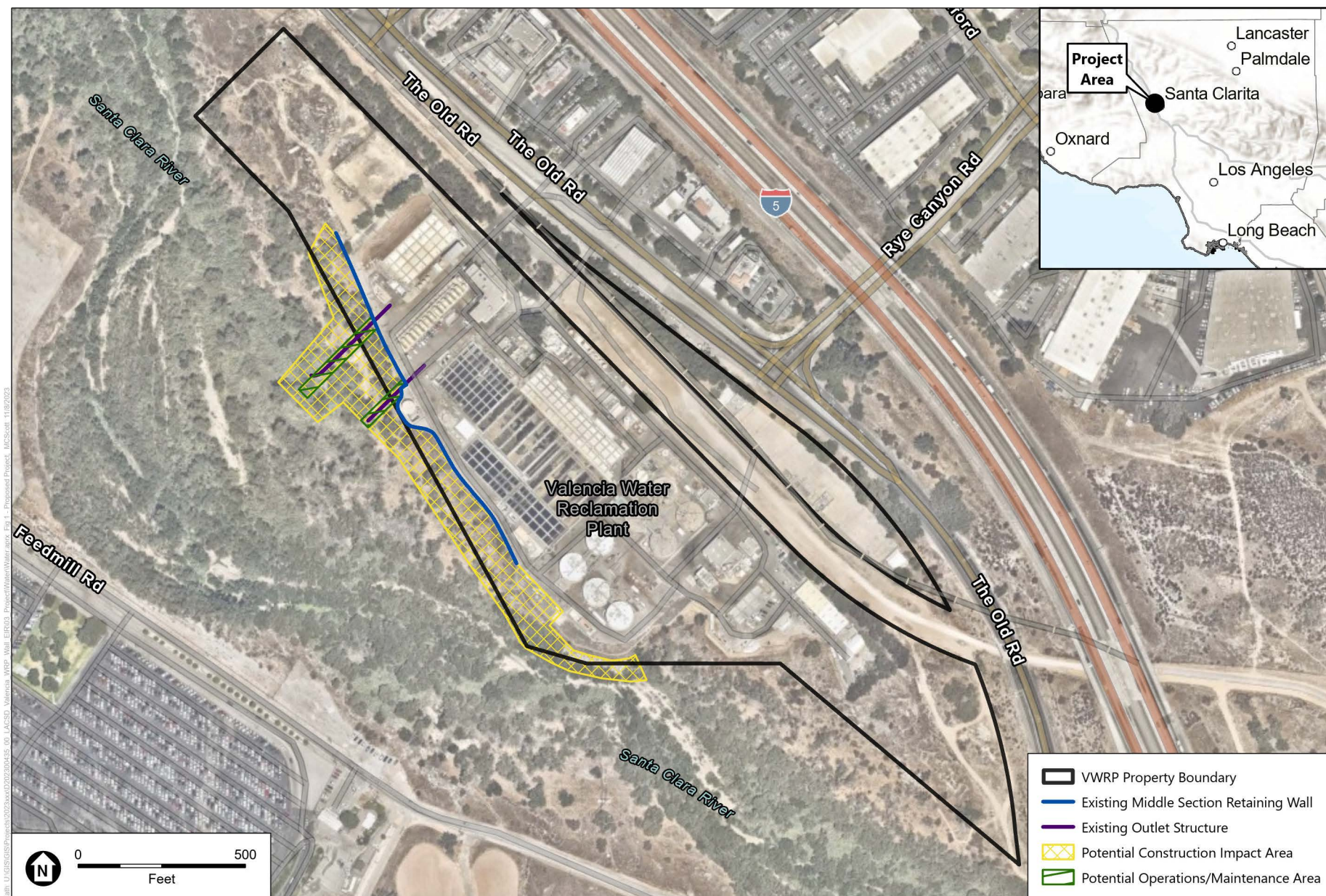
SCOPING MEETING: Two scoping meetings will be held on December 12, 2023. One virtual public meeting will be held at 10:00 a.m. on Zoom and a second public meeting will be held at 6:00 p.m. in person at The Centre. Both public scoping meetings will include a brief presentation, providing an overview of the proposed project and the CEQA process. Verbal comments may be made during the meetings.

Virtual Scoping Meeting Details

Date:	December 12, 2023
Start Time:	10:00 a.m.
Zoom:	https://bit.ly/SCVSDScopingMtg
Telephone Dial-in:	888-788-0099
Meeting ID:	852 7072 8111

In-Person Scoping Meeting Details

Date:	December 12, 2023
Start Time:	6:00 p.m.
Location:	The Centre—Oak Room 20880 Centre Pointe Parkway Santa Clarita, CA 91351



SOURCE: ESA, 2023

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 1
Proposed Project



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Scoping Summary Report

date January 22, 2024

subject Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project EIR

Introduction

The Santa Clarita Valley Sanitation District (SCVSD) is preparing the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement (proposed project) Environmental Impact Report (EIR). The proposed project would include a new ground retaining wall structure to fortify the middle section of the wall, in addition to including updates to two existing outfall structures. The proposed project would occur along the western boundary of the VWRP, which is located at 28185 The Old Road in Valencia, California. The VWRP is bounded by The Old Road on the northeast and by the Santa Clara River to the south and west (**Figure 1**).

Notice of Preparation

The Notice of Preparation (NOP) was prepared pursuant to Section 15082 of the California Environmental Quality Act (CEQA) Guidelines, to notify agencies and interested parties that the District will be preparing a Draft Environmental Impact Report (DEIR) to evaluate potential environmental impacts of the proposed Project (see **Attachment 1**). The NOP was also posted by the County Clerk in Los Angeles and mailed or emailed to 55 interested parties, including local, state, and federal agencies, tribes, or individuals who had previously expressed interest in the proposed project (see **Attachment 2** for the distribution list). A Notice of Completion (NOC) was prepared by SCVSD and uploaded to the State Clearinghouse website (see **Attachment 3**). The proposed project was given a State Clearinghouse number of SCH# 2023110644, and the proposed Project information was posted in the CEQAnet Database. The NOP was made available online at <https://www.lacsd.org/documents/other/documents-for-public-review>, and a hardcopy was made available for review at the City of Santa Clarita Valencia Branch Library at 2347 West Valencia Boulevard, Santa Clarita, CA 91355. The NOP was published in the Los Angeles Times on November 28, 2023 (**Attachment 4**).

Scoping Period

The NOP was posted for a 39-day scoping period beginning on November 28, 2023, and ending on January 5, 2024. The SCVSD held two scoping meetings on December 12, 2023 – one public meeting was held virtually and a second in person meeting was held at The Centre-Oak Room in Santa Clarita. The purpose of the meetings was to provide an overview of the proposed Project, an overview of the CEQA process, and the timeline for environmental review (see **Attachment 5**).

Comments

During the scoping period, SCVSD received a total of 5 comment letters on the proposed project via mail and email. **Attachment 6** includes all comment letters received. **Table 1** below includes a summary of the letters received during the 39-day scoping period, as well as the agency, organization or individual commenter, and a reference to the Draft EIR document section where topics for each will be addressed.

**TABLE 1
SUMMARY OF NOP COMMENTS**

No.	Date Received	Commenter	Summary of Comment
Federal, State, or Local Agencies			
A-1	December, 2023	Native American Heritage Commission	<ul style="list-style-type: none"> • Recommends Tribal consultation, AB 52 and SB 18 related
A-2	January 5, 2024	California State Transportation Agency	<ul style="list-style-type: none"> • Recommendations for considering reductions in vehicle speed to benefit pedestrian and bicycle safety, several improvements including bicycle infrastructure, bioswales, curb extensions, truck trip periods, and Caltrans transportation permits
A-3	January 12, 2024	Department of Fish and Wildlife	<ul style="list-style-type: none"> • Recommendations for CDFW conservation easement impacts, biological baseline assessments, addressing biological direct, indirect, and cumulative impacts, mitigation measures, fire and fuel modification, and measures to avoid nesting birds
A-4	January 22, 2024	Santa Clarita Organization for Planning and the Environment	<ul style="list-style-type: none"> • Requests to review the DEIR once available, hydrology studies regarding the retaining wall that was built around 2018, a discussion of why an additional wall is needed, a discussion of the existing CDFW easement and plans to avoid it, and recent surveys for endangered species in the project area and plans to avoid them
A-5	January 29, 2024	County of Los Angeles Department of Public Works	<ul style="list-style-type: none"> • Recommends obtaining a Conditional Letter of Map Revisions (CLOMR) and final LOMR from the Federal Emergency Management Agency (FEMA) prior to and after construction and to address how the proposed project will affect the FEMA flood hazard, County Floodplain, and Floodway boundaries

List of Attachments

Attachment 1: Notice of Preparation

Attachment 2: Mailing List

Attachment 3: Notice of Completion

Attachment 4: Newspaper Notice

Attachment 5: Virtual Scoping Open House Presentation

Attachment 6: Comments Received by the SCVSD

Attachment 1
Notice of Preparation

NOTICE OF PREPARATION AND NOTICE OF PUBLIC SCOPING MEETING

DATE: November 28, 2023
TO: Responsible Agencies, Trustee Agencies, Interested Parties
LEAD AGENCY: Santa Clarita Valley Sanitation District
SUBJECT: Notice of Preparation of a Draft Environmental Impact Report
PROJECT: Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project
REVIEW PERIOD: November 28, 2023 through January 5, 2024

This Notice of Preparation (NOP) has been prepared to notify agencies and interested parties that the Santa Clarita Valley Sanitation District (SCVSD or District), as the Lead Agency, will prepare an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA) for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (proposed project).

An Initial Study was prepared for the proposed project and is available on the District website for review at <https://www.lacsd.org/documents/other/documents-for-public-review>. As analyzed in the Initial Study, the following issue areas would result in no impact or less than significant impacts and will not require further analysis in the EIR: Aesthetics, Agricultural and Forestry Resources, Energy, Land Use, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems.

The EIR will address the proposed project's potential effects for all other environmental resource areas as outlined in Appendix G of the State CEQA Guidelines, which are as follows:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation and Traffic
- Tribal Cultural Resources
- Wildfire
- Mandatory Findings of Significance

PROJECT LOCATION: The proposed project would occur along the western boundary of the VWRP which is located at 28185 The Old Road in Valencia, California. The VWRP is bounded by The Old Road on the northeast and by the Santa Clara River to the south and west (see Figure 1). A Significant Ecological Area (SEA) and conservation easement is adjacent to the site to the south and west.

PROJECT DESCRIPTION: SCVSD has determined through previous studies that under a Capital Storm event, the VWRP has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. If the wall is undermined by scour or damaged by a significant earthquake event, VWRP facilities may be damaged or destroyed. The proposed project includes a new ground retaining wall structure to fortify the middle

section of the wall and protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures (Figure 1). Temporary construction work would occur along the VWRP boundary as well as an existing SEA and California Department of Fish and Wildlife easement west of the VWRP. An operations and maintenance area would be cleared around the existing SCVSD outfall easements for continued use during long-term maintenance of the outfall structures (Figure 1).

PUBLIC REVIEW AND COMMENT PERIOD: SCVSD is soliciting comments from responsible and trustee agencies as well as interested parties regarding the scope and content of the environmental information to be included in the EIR. The EIR will be used by SCVSD when considering approval of the proposed project as well as any related discretionary approvals. The NOP is being circulated for a 39-day public scoping period. All comments to the NOP are due no later than 5:00 p.m. on January 5, 2024. Please include the name, mailing address, and email address of the commenter. Written comments may be submitted via the following:

Mail to: Santa Clarita Valley Sanitation District
Attn.: Mandy Huffman
1955 Workman Mill Road
Whittier, CA 90601

Email: mandyhuffman@lacsdsd.org

DOCUMENT AVAILABILITY: The NOP and Initial Study are available online at the SCVSD website (<https://www.lacsdsd.org/documents/other/documents-for-public-review>). A hardcopy of the NOP and Initial Study are available for review at the City of Santa Clarita Valencia Branch Library at 23743 West Valencia Boulevard, Santa Clarita, CA 91355.

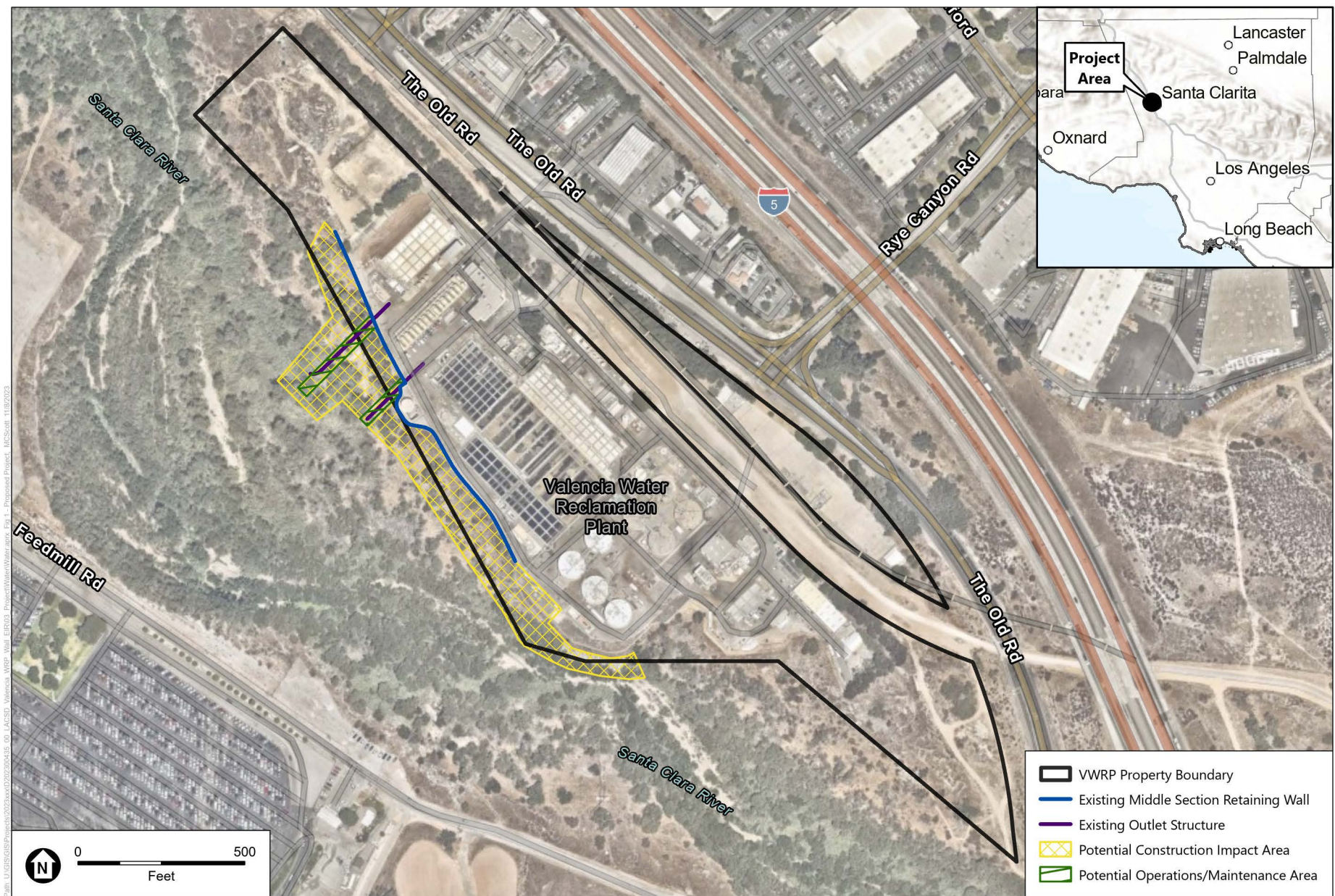
SCOPING MEETING: Two scoping meetings will be held on December 12, 2023. One virtual public meeting will be held at 10:00 a.m. on Zoom and a second public meeting will be held at 6:00 p.m. in person at The Centre. Both public scoping meetings will include a brief presentation, providing an overview of the proposed project and the CEQA process. Verbal comments may be made during the meetings.

Virtual Scoping Meeting Details

Date:	December 12, 2023
Start Time:	10:00 a.m.
Zoom:	https://bit.ly/SCVSDScopingMtg
Telephone Dial-in:	888-788-0099
Meeting ID:	852 7072 8111

In-Person Scoping Meeting Details

Date:	December 12, 2023
Start Time:	6:00 p.m.
Location:	The Centre—Oak Room 20880 Centre Pointe Parkway Santa Clarita, CA 91351



SOURCE: ESA, 2023

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 1
Proposed Project

Attachment 2

Mailing List

Recipient	Address Line 1
Governor's Office of Planning and Research, State Clearinghouse	
California Regional Water Quality Control Board, Los Angeles Region	Attn: Steven Webb, Municipal Permitting Unit
California Air Resources Board	
California Department of Fish and Wildlife - State Office	
California Department of Transportation	Attn: Dianna Watson, District 7 Regional Planning
California Department of Water Resources	Southern District
California Environmental Protection Agency	Attn: Yana Garcia
California Office of Historic Preservation	
Native American Heritage Commission	
State Water Resources Control Board: Water Quality	
Chumash Council of Bakersfield	Julio Quair, Chairperson
Gabrielino-Tongva Tribe	Charles Alvarez
Torres Martinez Desert Cahuilla Indians	Michael Mirelez, Cultural Resource Coordinator
Gabrieleno Band of Mission Indians - Kizh Nation	Attn: Andrew Salas, Chairperson
City of Los Angeles	Planning Department
City of Santa Clarita	Planning Division
County of Los Angeles Department of Public Works	
County of Los Angeles, Department of Regional Planning	Attn: Zoning Permit North
County of Los Angeles, Department of Regional Planning	Significant Ecological Area Technical Advisory Committee (SE
Federal Emergency Management Agency Region IX	Attn: Robert Fenton, Jr.
Friends of the Santa Clara River	Attn: Mr. Ron Bottorff
Friends of the Santa Clara River	Attn: Candice Meneghin
Los Angeles County Department of Public Works	Attn: Land Development Division
Los Angeles County Department of Public Works	Attn: Santa Clara River Enhancement & Management Plan St
Los Angeles County Department of Public Works	Attn: Watershed Management Division
San Luis Obispo County Chumash Council	Mark Vigil, Chief
South Coast Air Quality Management District	
United States Fish and Wildlife Service	Ventura Fish and Wildlife Office
US Army Corps of Engineers, Los Angeles District	
Santa Clarita Organization for Planning the Environment (SCOPE)	Attn: Lynne Plambeck
LA County Couty Clerk	
City of Santa Clarita City Hall	Public Counter
Sanitation Districts of Los Angeles County	Planning Section - Reference Copy
Sanitation Districts of Los Angeles County	Public Counter
Valencia Library	Reference Desk
Barbareno/Ventureno Band of Mission Indians	Julie Tumamait-Stenslie, Chairperson
Bill Miranda	Councilmember, City of Santa Clarita
California Department of Fish and Wildlife - South Coast Region	Attn: Erinn Wilson-Olgin, Regional Manager
California Department of Fish and Wildlife - South Coast Region	Attn: Victoria Tang
Cameron Smyth	Mayor Pro Tem, City of Santa Clarita
Canyon Country Advisory Committee	Alan Ferdman
Castaic Area Town Council	Attn: Bob Lewis
Coastal Band of the Chumash Nation	Mariza Sullivan, Chairperson
County of Los Angeles County Counsel	Attn: Dawyn R. Harrison
Fernandeno Tataviam Band of Mission Indians	Jairo Avila, Tribal Historic and Cultural Preservation Officer
Fernandeno Tataviam Band of Mission Indians	Rudy Ortega, Tribal President
Fernandeno Tatavium Band of Mission Indians	
FivePoint	Attn: Matt Carpenter
FivePoint	Attn: Tom Mitchell
Gabrieleno/Tongva San Gabriel Band of Mission Indians	Anthony Morales, Chairperson
Gabrielino /Tongva Nation	Sandonne Goad, Chairperson
Gabrielino Tongva Indians of California Tribal Council	Robert Dorame, Chairperson
Jason Gibbs	Mayor, City of Santa Clarita

Recipient	Address Line 1
Kenneth Striplin	City Manager, City of Santa Clarita
Laurene Weste	Councilmember, City of Santa Clarita
Newhall Land and Farming Company	
Northern Chumash Tribal Council	Fred Collins, Spokesperson
San Fernando Band of Mission Indians	Donna Yocum, Chairperson
Santa Clarita Valley Chamber of Commerce	
Santa Clarita Valley Economic Development Corporation	Attn: Jey Wagner, Ed.D.
Santa Clarita Valley Water Agency	Mr. Stephen L. Cole, Assistant General manager
Santa Ynez Band of Chumash Indians	Kenneth Kahn, Chairperson
The Santa Clarita Valley Signal	Attn: Tim Whyte, Editor in Chief
The Santa Clarita Valley Signal	City Desk
The Santa Clarita Valley Signal	Jose Herrera
Val Verde Civic Association	
Valley Industry Association	Attn: Kathy Norris, CEO/President

Tribe	Contact Person
Barbareño/Ventureño Band of Mission Indians	Julie Tumamait-Stenslie, Chairperson
Barbareño/Ventureño Band of Mission Indians	Cultural Resource Committee,
Chumash Council of Bakersfield	Julio Quair, Chairperson
Coastal Band of the Chumash Nation	Mariza Sullivan, Chairperson
Coastal Band of the Chumash Nation	Gabe Frausto, Chairman
Fernandeno Tataviam Band of Mission Indians	Jairo Avila, Tribal Historic and Cultural P
Fernandeno Tataviam Band of Mission Indians	Rudy Ortega, Tribal President
Fernandeno Tataviam Band of Mission Indians	Sarah Brunzell, CRM Manager
Gabrieleno Band of Mission Indians - Kizh Nation	Andrew Salas, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians	Anthony Morales, Chairperson
Gabrielino Tongva Indians of California Tribal Council	Robert Dorame, Chairperson
Gabrielino /Tongva Nation	Sandonne Goad, Chairperson
Gabrielino-Tongva Tribe	Charles Alvarez
Northern Chumash Tribal Council	Fred Collins, Spokesperson
Northern Chumash Tribal Council	Violet Walker, Chairperson
San Fernando Band of Mission Indians	Donna Yocum, Chairperson
San Fernando Band of Mission Indians	Donna Yocum, Chairperson
San Luis Obispo County Chumash Council	Mark Vigil, Chief
Santa Ynez Band of Chumash Indians	Kenneth Kahn, Chairperson
Santa Ynez Band of Chumash Indians	Wendy Teeter, Cultural Resources Arch
Santa Ynez Band of Chumash Indians	Kelsie Shroll, Elders' Council Administr
Santa Ynez Band of Chumash Indians	Sam Cohen, Government & Legal Affair
Santa Ynez Band of Chumash Indians	Nakia Zavalla, Tribal Historic Preservati
Torres Martinez Desert Cahuilla Indians	Michael Mirelez, Cultural Resource Coo

Attachment 3
Notice of Completion

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: _____

Lead Agency: _____ Contact Person: _____

Mailing Address: _____ Phone: _____

City: _____ Zip: _____ County: _____

Project Location: County: _____ City/Nearest Community: _____

Cross Streets: _____ Zip Code: _____

Longitude/Latitude (degrees, minutes and seconds): _____° _____' _____" N / _____° _____' _____" W Total Acres: _____

Assessor's Parcel No.: _____ Section: _____ Twp.: _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: _____ Waterways: _____

Airports: _____ Railways: _____ Schools: _____

Document Type:

CEQA: <input type="checkbox"/> NOP	<input type="checkbox"/> Draft EIR	NEPA: <input type="checkbox"/> NOI	Other: <input type="checkbox"/> Joint Document
<input type="checkbox"/> Early Cons	<input type="checkbox"/> Supplement/Subsequent EIR	<input type="checkbox"/> EA	<input type="checkbox"/> Final Document
<input type="checkbox"/> Neg Dec	(Prior SCH No.) _____	<input type="checkbox"/> Draft EIS	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Mit Neg Dec	Other: _____	<input type="checkbox"/> FONSI	_____

Local Action Type:

<input type="checkbox"/> General Plan Update	<input type="checkbox"/> Specific Plan	<input type="checkbox"/> Rezone	<input type="checkbox"/> Annexation
<input type="checkbox"/> General Plan Amendment	<input type="checkbox"/> Master Plan	<input type="checkbox"/> Prezone	<input type="checkbox"/> Redevelopment
<input type="checkbox"/> General Plan Element	<input type="checkbox"/> Planned Unit Development	<input type="checkbox"/> Use Permit	<input type="checkbox"/> Coastal Permit
<input type="checkbox"/> Community Plan	<input type="checkbox"/> Site Plan	<input type="checkbox"/> Land Division (Subdivision, etc.)	<input type="checkbox"/> Other: _____

Development Type:

<input type="checkbox"/> Residential: Units _____ Acres _____	<input type="checkbox"/> Transportation: Type _____
<input type="checkbox"/> Office: Sq.ft. _____ Acres _____ Employees _____	<input type="checkbox"/> Mining: Mineral _____
<input type="checkbox"/> Commercial: Sq.ft. _____ Acres _____ Employees _____	<input type="checkbox"/> Power: Type _____ MW _____
<input type="checkbox"/> Industrial: Sq.ft. _____ Acres _____ Employees _____	<input type="checkbox"/> Waste Treatment: Type _____ MGD _____
<input type="checkbox"/> Educational: _____	<input type="checkbox"/> Hazardous Waste: Type _____
<input type="checkbox"/> Recreational: _____	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Water Facilities: Type _____ MGD _____	

Project Issues Discussed in Document:

<input type="checkbox"/> Aesthetic/Visual	<input type="checkbox"/> Fiscal	<input type="checkbox"/> Recreation/Parks	<input type="checkbox"/> Vegetation
<input type="checkbox"/> Agricultural Land	<input type="checkbox"/> Flood Plain/Flooding	<input type="checkbox"/> Schools/Universities	<input type="checkbox"/> Water Quality
<input type="checkbox"/> Air Quality	<input type="checkbox"/> Forest Land/Fire Hazard	<input type="checkbox"/> Septic Systems	<input type="checkbox"/> Water Supply/Groundwater
<input type="checkbox"/> Archeological/Historical	<input type="checkbox"/> Geologic/Seismic	<input type="checkbox"/> Sewer Capacity	<input type="checkbox"/> Wetland/Riparian
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Minerals	<input type="checkbox"/> Soil Erosion/Compaction/Grading	<input type="checkbox"/> Growth Inducement
<input type="checkbox"/> Coastal Zone	<input type="checkbox"/> Noise	<input type="checkbox"/> Solid Waste	<input type="checkbox"/> Land Use
<input type="checkbox"/> Drainage/Absorption	<input type="checkbox"/> Population/Housing Balance	<input type="checkbox"/> Toxic/Hazardous	<input type="checkbox"/> Cumulative Effects
<input type="checkbox"/> Economic/Jobs	<input type="checkbox"/> Public Services/Facilities	<input type="checkbox"/> Traffic/Circulation	<input type="checkbox"/> Other: _____

Present Land Use/Zoning/General Plan Designation:

Project Description: (please use a separate page if necessary)

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X".
If you have already sent your document to the agency please denote that with an "S".

<input type="checkbox"/> Air Resources Board	<input type="checkbox"/> Office of Historic Preservation
<input type="checkbox"/> Boating & Waterways, Department of	<input type="checkbox"/> Office of Public School Construction
<input type="checkbox"/> California Emergency Management Agency	<input type="checkbox"/> Parks & Recreation, Department of
<input type="checkbox"/> California Highway Patrol	<input type="checkbox"/> Pesticide Regulation, Department of
<input type="checkbox"/> Caltrans District # _____	<input type="checkbox"/> Public Utilities Commission
<input type="checkbox"/> Caltrans Division of Aeronautics	<input type="checkbox"/> Regional WQCB # _____
<input type="checkbox"/> Caltrans Planning	<input type="checkbox"/> Resources Agency
<input type="checkbox"/> Central Valley Flood Protection Board	<input type="checkbox"/> Resources Recycling and Recovery, Department of
<input type="checkbox"/> Coachella Valley Mtns. Conservancy	<input type="checkbox"/> S.F. Bay Conservation & Development Comm.
<input type="checkbox"/> Coastal Commission	<input type="checkbox"/> San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
<input type="checkbox"/> Colorado River Board	<input type="checkbox"/> San Joaquin River Conservancy
<input type="checkbox"/> Conservation, Department of	<input type="checkbox"/> Santa Monica Mtns. Conservancy
<input type="checkbox"/> Corrections, Department of	<input type="checkbox"/> State Lands Commission
<input type="checkbox"/> Delta Protection Commission	<input type="checkbox"/> SWRCB: Clean Water Grants
<input type="checkbox"/> Education, Department of	<input type="checkbox"/> SWRCB: Water Quality
<input type="checkbox"/> Energy Commission	<input type="checkbox"/> SWRCB: Water Rights
<input type="checkbox"/> Fish & Game Region # _____	<input type="checkbox"/> Tahoe Regional Planning Agency
<input type="checkbox"/> Food & Agriculture, Department of	<input type="checkbox"/> Toxic Substances Control, Department of
<input type="checkbox"/> Forestry and Fire Protection, Department of	<input type="checkbox"/> Water Resources, Department of
<input type="checkbox"/> General Services, Department of	
<input type="checkbox"/> Health Services, Department of	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Housing & Community Development	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Native American Heritage Commission	

Local Public Review Period (to be filled in by lead agency)

Starting Date _____ Ending Date _____

Lead Agency (Complete if applicable):

Consulting Firm: _____	Applicant: _____
Address: _____	Address: _____
City/State/Zip: _____	City/State/Zip: _____
Contact: _____	Phone: _____
Phone: _____	

Signature of Lead Agency Representative: _____  Date: _____

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Attachment 4
Newspaper Notice

Proof of Publication

Los Angeles Times

STATE OF CALIFORNIA
County of Los Angeles

I am a resident of Los Angeles County, over the age of eighteen year and not a party to or interested in the notice published. The notice, of which the annexed is a printed copy appeared in the L.A. TIMES, a newspaper published in the English language in the city of Los Angeles, County of Los Angeles. and adjudged a newspaper of general circulation as defined by the Superior Court of the County of Los Angeles, State of California, under the date of May 21, 1952, Case No. 598,599.

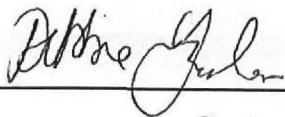
November 28,

all in the year 2023

I certify (or declare) under penalty of perjury that the foregoing is true and correct

Dated at Los Angeles, California, this

29th day of November 2023



Signature
Debbie Yerkes

3761047

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San Francisco, Oakland, San Jose, and Sacramento.
Special Services Available in Phoenix

NOTICE OF PREPARATION AND NOTICE OF PUBLIC SCOPING MEETING

DATE: November 28, 2023

TO: Responsible Agencies, Trustee Agencies, Interested Parties

LEAD AGENCY: Santa Clarita Valley Sanitation District
SUBJECT: Notice of Preparation of a Draft Environmental Impact Report

PROJECT: Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project

REVIEW PERIOD: November 28, 2023 through January 5, 2024

This Notice of Preparation (NOP) has been prepared to notify agencies and interested parties that the Santa Clarita Valley Sanitation District (SCVSD or District), as the Lead Agency, will prepare an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA) for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (proposed project).

An Initial Study was prepared for the proposed project and is available on the District website for review at <https://www.lacsd.org/documents/other/documents-for-public-review>. As analyzed in the Initial Study, the following issue areas would result in no impact or less than significant impacts and will not require further analysis in the EIR: Aesthetics, Agricultural and Forestry Resources, Energy, Land Use, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems.

The EIR will address the proposed project's potential effects for all other environmental resource areas as outlined in Appendix G of the State CEQA Guidelines, which are as follows:

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Cultural Resources
Geology and Soils
Greenhouse Gas Emissions
Hazards and Hazardous Materials
Hydrology and Water Quality
Noise
Transportation and Traffic
Tribal Cultural Resources
Wildfire
Mandatory Findings of Significance

PROJECT LOCATION: The proposed project would occur along the western boundary of the VWRP which is located at 28185 The Old Road in Valencia, California. The VWRP is bounded by The Old Road on the northeast and by the Santa Clara River to the south and west. A Significant Ecological Area (SEA) and conservation easement is adjacent to the site to the south and west.

PROJECT DESCRIPTION: SCVSD has determined through previous studies that under a Capital Storm event, the VWRP has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. If the wall is undermined by scour or damaged by a significant earthquake event, VWRP facilities may be damaged or destroyed. The proposed project includes a new ground retaining wall structure to fortify the middle section of the wall and protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures. Temporary construction work would occur along the VWRP boundary as well as an existing SEA and California Department of Fish and Wildlife easement west of the VWRP. An operations and maintenance area would be cleared around the existing SCVSD outfall easements for continued use during long-term maintenance of the outfall structures.

PUBLIC REVIEW AND COMMENT PERIOD: SCVSD is soliciting comments from responsible and trustee agencies as well as interested parties regarding the scope and content of the environmental information to be included in the EIR. The EIR will be used by SCVSD when considering approval of the proposed project as well as any related discretionary approvals. The NOP is being circulated for a 39-day public scoping period. All comments to the NOP are due no later than 5:00 p.m. on January 5, 2024. Please include the name, mailing address, and email address of the commenter. Written comments may be submitted via the following:

Mail to: Santa Clarita Valley Sanitation District
Attn: Mandy Huffman
1955 Workman Mill Road
Whittier, CA 90601

Email: mandyhuffman@lacsd.org

DOCUMENT AVAILABILITY: The NOP and Initial Study are available online at the SCVSD website (<https://www.lacsd.org/documents/other/documents-for-public-review>). A hardcopy of the NOP and Initial Study are available for review at the City of Santa Clarita Valencia Branch Library at 23743 West Valencia Boulevard, Santa Clarita, CA 91355.

SCOPING MEETING: Two scoping meetings will be



* A O

Attachment 5
**Virtual Scoping Open House
Presentation**



Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project

Notice of Preparation Scoping Meeting

Santa Clarita Valley Sanitation District
December 12, 2023



Overview

- Staff Introduction
- Presentation
 - Purpose of Meeting
 - California Environmental Quality Act (CEQA) Overview
 - Project Background
 - Project Description
 - Schedule
- Public Comments

Staff Introduction

- Santa Clarita Valley Sanitation District (SCVSD)
- Environmental Science Associates (ESA)

Purpose of Meeting

- Initiate the CEQA Process
 - Notify the public and agencies that the SCVSD is preparing an Environmental Impact Report pursuant to CEQA
- Introduce the Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project (proposed project)
- Public Scoping
 - Solicit comments on the proposed project

California Environmental Quality Act (CEQA)



Identifies potentially significant impacts to the environment

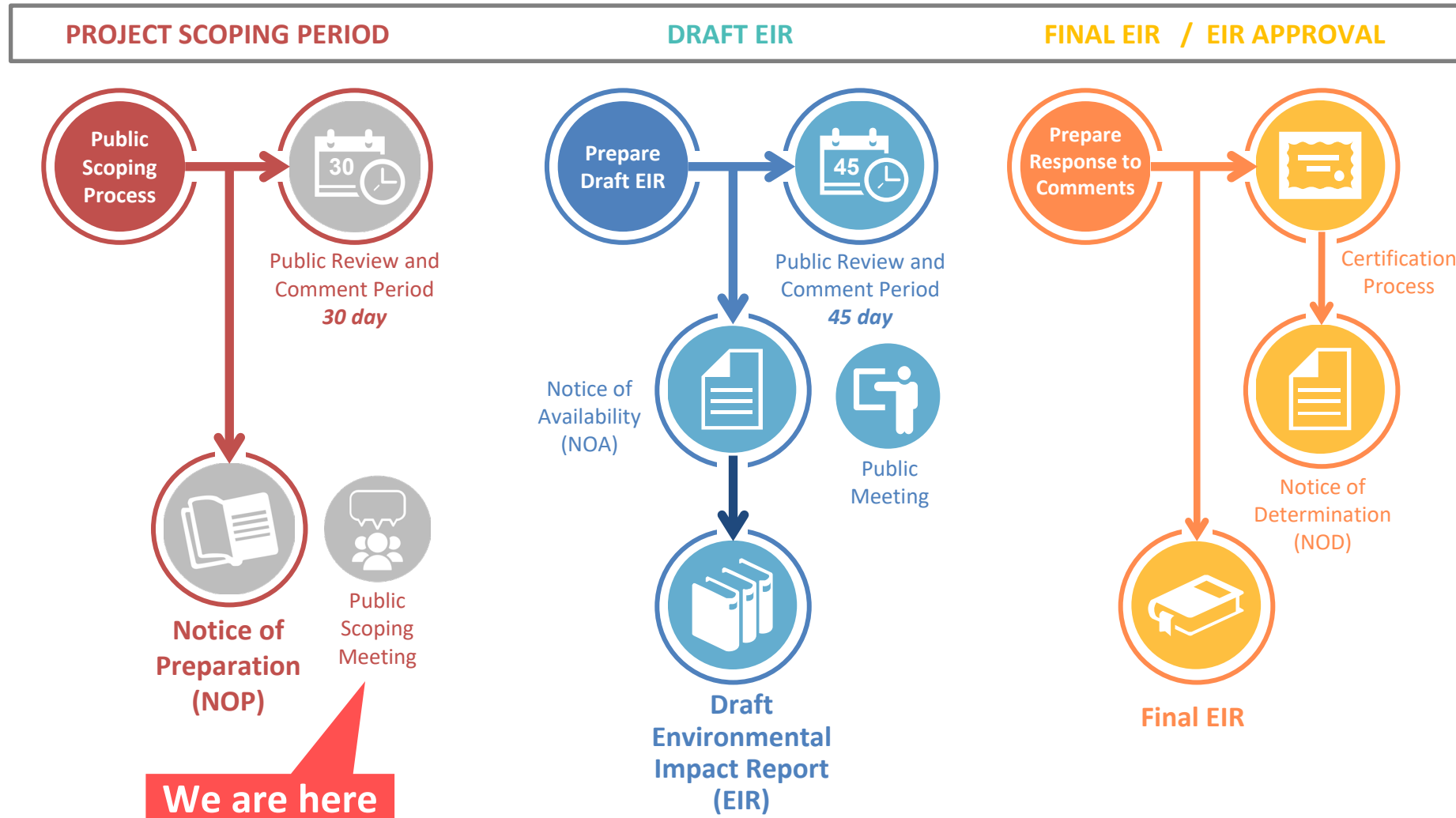


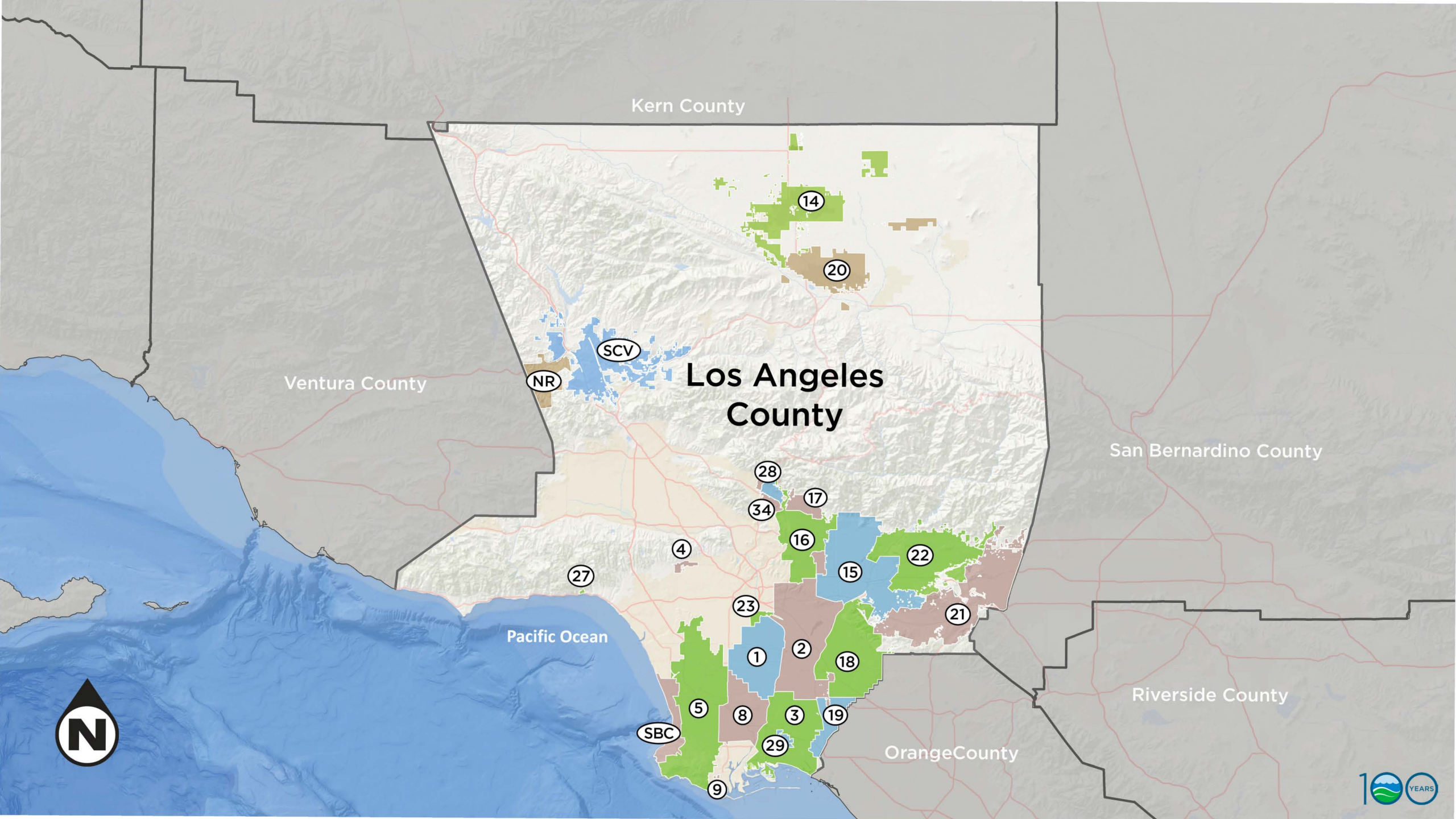
Requires public agencies to consider impacts prior to project approval



Identifies feasible mitigation measures and alternatives

CEQA Process





Kern County

Ventura County

Los Angeles
County

San Bernardino County

Riverside County

Orange County

Pacific Ocean



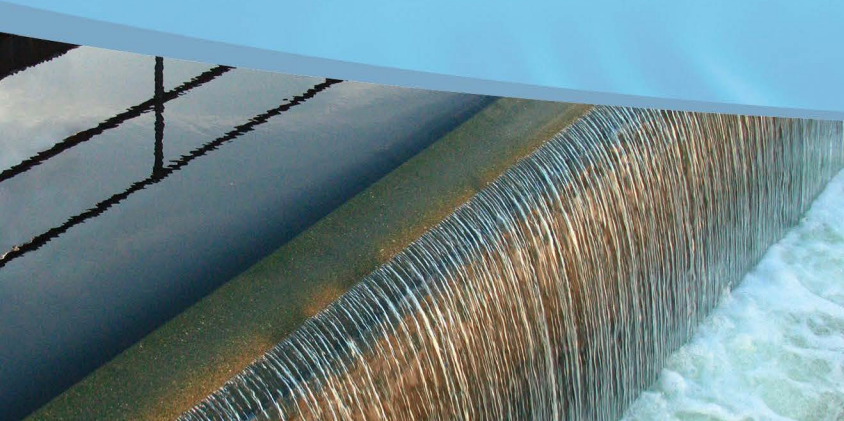


**LOS ANGELES COUNTY
SANITATION DISTRICTS**

Converting Waste Into Resources

OUR MISSION

To protect public health and the environment through innovative and cost-effective wastewater and solid waste management and, in doing so, convert waste into resources such as recycled water, energy, and recycled materials.



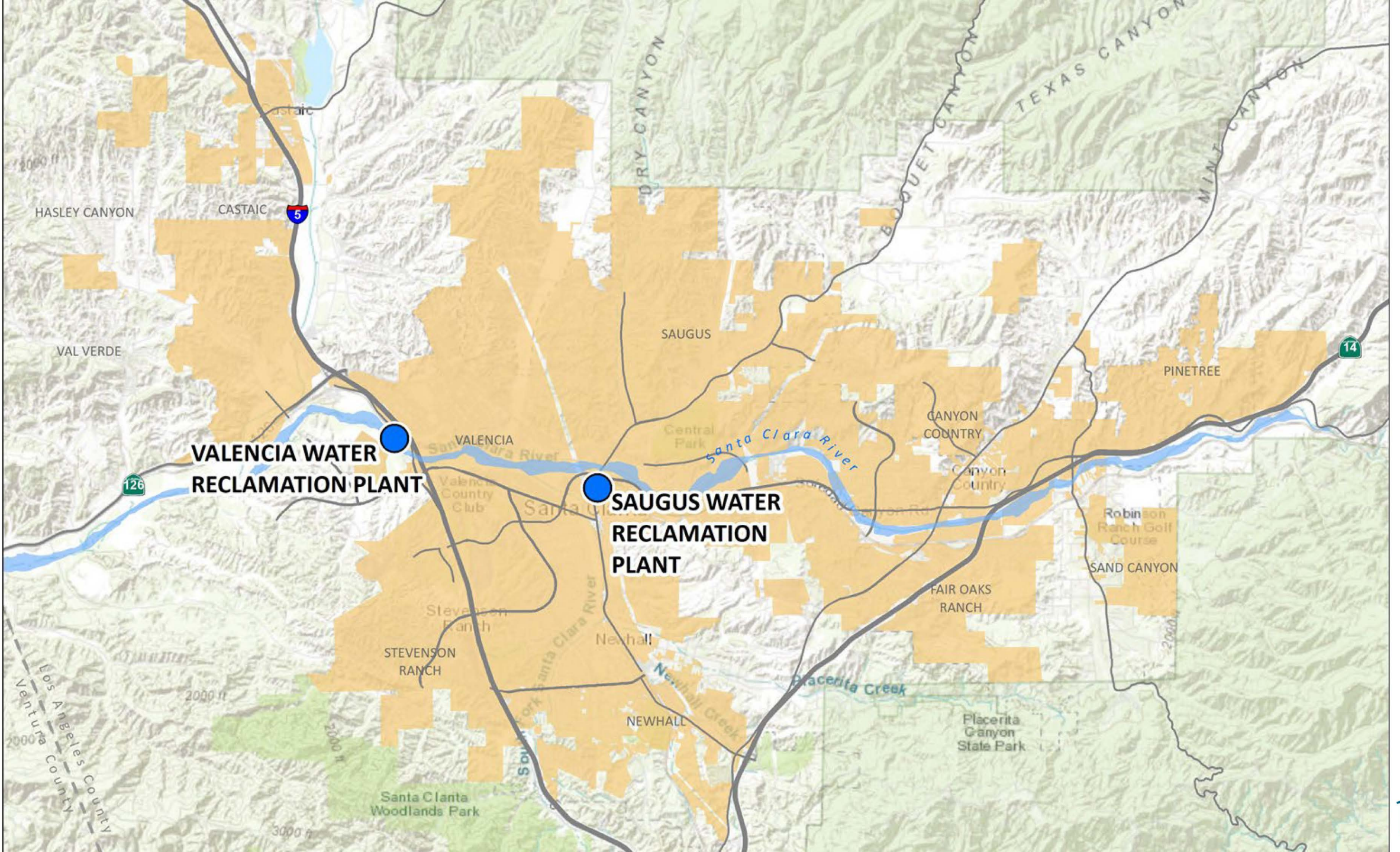
WATER RECYCLING



GREEN ENERGY



MATERIALS RECYCLING



Project Background

- Valencia Water Reclamation Plant (WRP)
 - 28185 The Old Road
 - **Year built:** 1967
 - **Wastewater service:** primary, secondary, and tertiary treatments and anaerobic digestion for SCVSD
 - **Design capacity:** 21.6 million gallons per day (MGD)
 - **Treated flows:** 13 MGD in 2022



Project Background (Continue)

- Previous studies conducted
 - Identified that scour of the Santa Clara River under a Capital Flood may erode facility boundary along the river.
 - Facility boundary may also be damaged during a design-level earthquake.
- SCVSD is looking at different alternatives to address the issues without interrupting Valencia WRP's essential service to the public.

Project Description

- Retaining Wall
 - 1,000 feet along middle section
- Outlet Structures
 - Updates to two existing outlet structures
 - New maintenance area



Key Issues

- Impacts to Sensitive Vegetation Communities
 - Grading and Vegetation Removal will occur within a County-designated Significant Ecological Area (SEA) and CDFW conservation easement
 - Permanent loss of riparian habitat potentially within previously established restoration area
 - Known occurrences of Least Bells Vireo in nearby habitat



Key Issues (Continue)

- Impacts to Water Quality
 - Work areas would avoid the Santa Clara River flow channel
 - Site runoff during construction would require Stormwater Pollution Prevention Plan (SWPPP)





Path: U:\GIS\GIS\Projects\2023\20230404_06_LACS\06_Valencia_WRP_Vest_EIR\03_Proposed\Map\Water\Map_Fig 1 - Proposed Project_MCSent_11/6/2023

Topics Found to be Less than Significant

- Initial Study concluded less than significant impacts for the following topics

Aesthetics

Agricultural
and Forestry
Resources

Energy

Land Use

Mineral
Resources

Population and
Housing

Public Services

Recreation

Utilities and
Service
Systems

Topics to be Addressed in the EIR

Air Quality

Biological
Resources

Cultural
Resources

Geology and
Soils

Greenhouse
Gas Emissions

Hazards and
Hazardous
Materials

Hydrology and
Water Quality

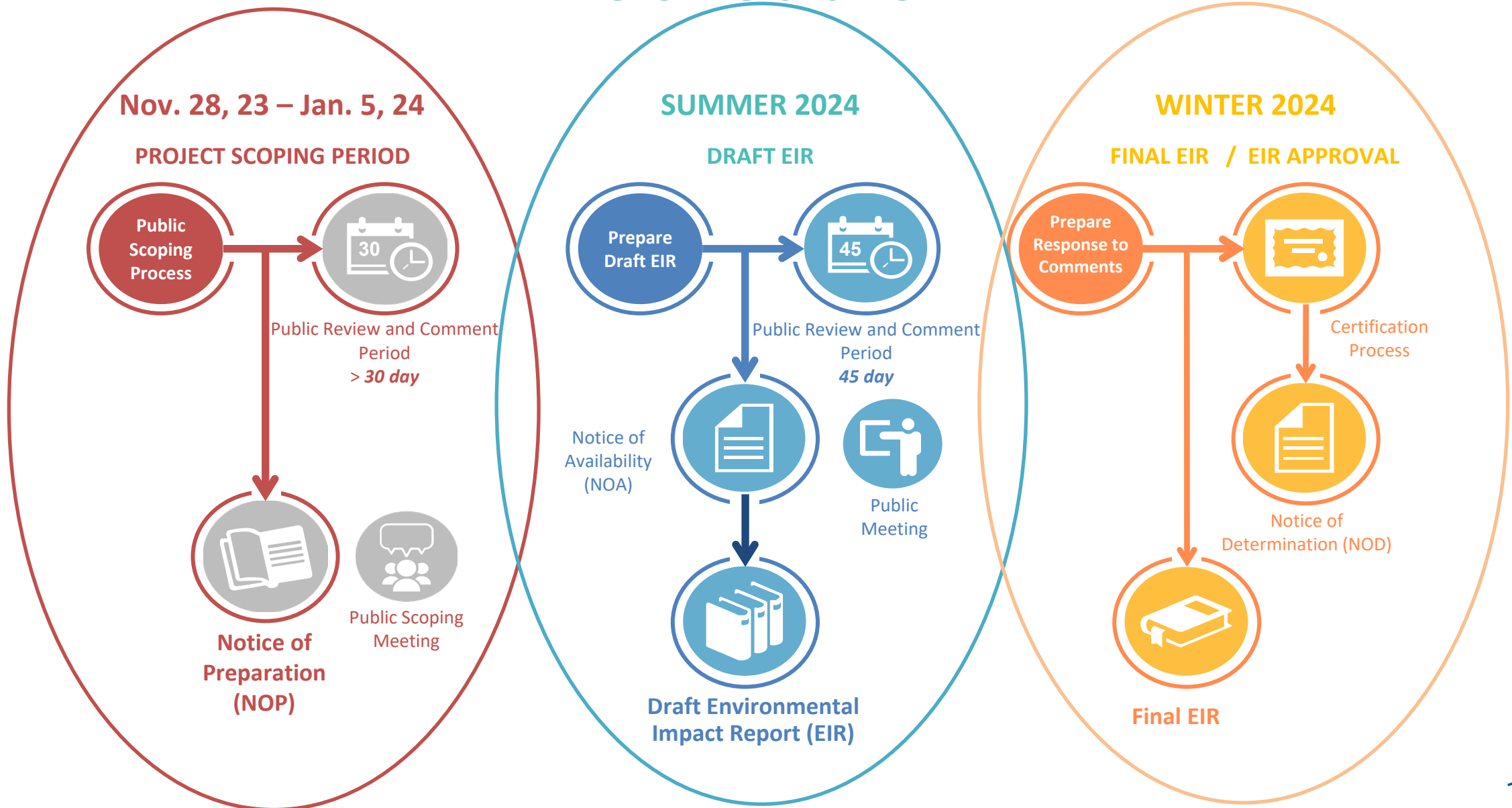
Noise

Transportation

Tribal Cultural
Resources

Wildfire

Schedule



Document Availability / Written Comments

IS/NOP AVAILABILITY

Library

Santa Clarita Valencia Branch Library
23743 West Valencia Boulevard
Santa Clarita, CA 91355

LACSD Joint Administration Office

1955 Workman Mill Road
Whittier, CA 90601

Website

<https://www.lacsd.org/documents/other/documents-for-public-review>

IN-PERSON MEETING, 6 PM TODAY

20880 Centre Pointe Parkway
Santa Clarita, CA 91350

WRITTEN COMMENTS*

Mail to

Santa Clarita Valley Sanitation District
Attn: Mandy Huffman
1955 Workman Mill Road
Whittier, CA 90601

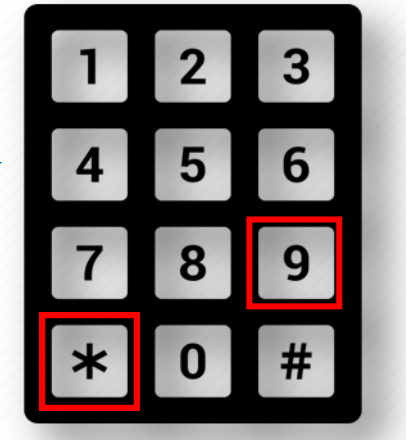
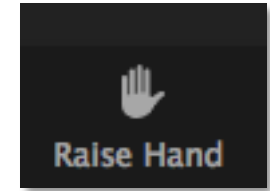
Email

MandyHuffman@lacsd.org

**Comments due by January 5, 2024*

Public Comments

- Raise your virtual hand to provide a comment
 - Raise hand function located at the bottom of the screen
 - Press *9 if you are on the phone
- You will be called upon (by name or last 3 digits of phone number) and unmuted



Telephone Keypad

Document Availability / Written Comments

IS/NOP AVAILABILITY

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MandyHuffman@lacsd.org

**Comments due by January 5, 2024*

Thank you

Document Availability / Written Comments

IS/NOP AVAILABILITY

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WRITTEN COMMENTS*

Mail to

Santa Clarita Valley Sanitation District
Attn: Mandy Huffman
1955 Workman Mill Road
Whittier, CA 90601

Email

MandyHuffman@lacsd.org

**Comments due by January 5, 2024*

Attachment 6
**Comments Received by the
SCVSD**



NATIVE AMERICAN HERITAGE COMMISSION

December 1, 2023

Mandy Huffman
Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90601

Re: 2023110644, Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project, Los Angeles County

Dear Ms. Huffman:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki,
Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- a. A brief description of the project.
- b. The lead agency contact information.
- c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:

A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
- b. Recommended mitigation measures.
- c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- a. Type of environmental review necessary.
- b. Significance of the tribal cultural resources.
- c. Significance of the project's impacts on tribal cultural resources.
- d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a.** Avoidance and preservation of the resources in place, including, but not limited to:
 - i.** Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i.** Protecting the cultural character and integrity of the resource.
 - ii.** Protecting the traditional use of the resource.
 - iii.** Protecting the confidentiality of the resource.
 - c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

- a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
- b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
- c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
 - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
 - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:
Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

State of California
Native American Heritage Commission
1550 Harbor Blvd., Ste. 100
West Sacramento, CA 95691



FIRST-CLASS



US POSTAGE IMPITNEY BOWES



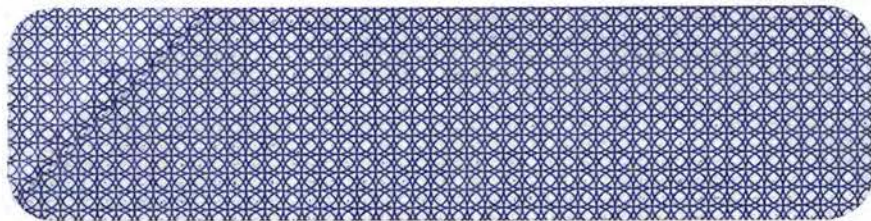
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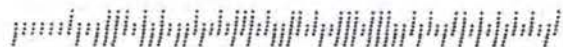
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DEPARTMENT OF TRANSPORTATION

DISTRICT 7

100 S. MAIN STREET, MS 16

LOS ANGELES, CA 90012

PHONE (213) 266-3562

FAX (213) 897-1337

TTY 711

www.dot.ca.gov

January 5, 2024

Mandy Huffman

Los Angeles County Sanitation District

1955 Workman Mill Road

Whittier, CA 90601

RE: Valencia Water Reclamation Plant
 Middle Section Retaining Wall
 Wall Ground Improvement – Notice of
 Preparation of an EIR (NOP)
 SCH # 2023110644
 Vic. I-5/54.278, LA-126/5.5115
 GTS # 07-LA-2023-04387

Dear Mandy Huffman:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced project. Santa Clarita Valley Sanitation District (SCVSD) has determined through previous studies that under a Capital Storm event, the Valencia Water Reclamation Plant (VWRP) has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. If the wall is undermined by scour or damaged by a significant earthquake event, VWRP facilities may be damaged or destroyed. The proposed project includes a new ground retaining wall structure to fortify the middle section of the wall and protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures. Temporary construction work would occur along the VWRP boundary as well as an existing Significant Ecological Area (SEA) and California Department of Fish and Wildlife easement west of the VWRP. An operations and maintenance area would be cleared around the existing SCVSD outfall easements for continued use during long-term maintenance of the outfall structures. The County of Los Angeles Sanitation District is the Lead Agency under the California Environmental Quality Act (CEQA).

The closest state facilities are I-5 and SR-126. After reviewing the project's NOP, Caltrans has the following comments:

- According to the LA County Bikeways Map, the VWRP site is marked as a beginning/end point of an existing bike path. Caltrans encourages the Lead Agency to consider any reduction in vehicle speeds to benefit pedestrian and bicyclist safety, as there is a direct link between impact speeds and the likelihood

"Provide a safe and reliable transportation network that serves all people
 and respects the environment."



Making Conservation
 a California Way of Life

of fatality or serious injury. The most effective methods to reduce pedestrian and bicyclist exposure to vehicles is through physical design and geometrics. These methods include the construction of physically separated facilities such as Class IV bikeways, wide sidewalks, curb extensions, pedestrian refuge islands, landscaping, street furniture, and reductions in crossing distances through roadway narrowing. Visual indicators such as, pedestrian and bicyclist warning signage, flashing beacons, crosswalks, signage, and striping should be used in addition to physical design improvements to indicate to motorists that they can expect to see and yield to people walking or riding bikes. To access the LA County Bikeways Map, please see the link below.

<https://dpw.lacounty.gov/bike/map.cfm>

- Caltrans recommends that the project takes the following improvements into consideration:
 - Develop bicycle infrastructure along the Old Rd., such as protected Class IV bikeways, to improve safety and comfort for all road users.
 - Be sure to include canopy trees, bioswales, bicycle parking facilities, and street furniture to provide a comfortable and sustainable environment to encourage active transportation modes and improve community health.
 - In addition to bioswales, incorporate permeable paving surfaces wherever possible to manage stormwater, replenish groundwater, and prevent pollution runoff.
 - Use high-visibility continental crosswalks, curb extensions, count-down signal heads, pedestrian refuge islands, and pedestrian scrambles at the intersections along the Old Rd.
 - Leading pedestrian intervals can give pedestrians a 7-second head start in crosswalks; this provides additional crossing time and reduces the amount of time that pedestrians are exposed to high-speed vehicle traffic.
- Caltrans recommends the following during the construction stage:
 - Work with Caltrans Office of Permits, Multi-Modal Unit, for a designated truck route for construction trucks to transport construction equipment to and from the construction sites.
 - Construction vehicles/equipment should use alternative routes to avoid congested state facilities, especially during peak hours.
 - Cover construction trucks with tarpaulin to avoid debris spillage onto State facilities.

As a reminder, any transportation of heavy construction equipment and/or materials that requires the use of oversized transport vehicles on State Highways will need a Caltrans transportation permit. Caltrans recommends that the Project limit construction traffic to off-peak periods to minimize the potential impact on State facilities. If construction traffic is expected to cause issues on any State facilities, please submit a construction traffic control plan detailing these issues for Caltrans' review.

Caltrans looks forward to reviewing the forthcoming draft Environmental Impact Report (EIR). If you have any questions, please feel free to contact Jaden Oloresisimo, the project coordinator, at Jaden.Oloresisimo@dot.ca.gov and refer to GTS # 07-LA-2023-04387.

Sincerely,

Frances Duong

Frances Duong
Acting LDR/CEQA Branch Chief

cc: State Clearinghouse



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



Governor’s Office of Planning & Research

January 12, 2024

January 12 2024

STATE CLEARINGHOUSE

Mandy Huffman
Environmental Planner
Los Angeles County Sanitation Districts--Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90610
Mandyhuffman@lacsdsd.org

SUBJECT: VALENCIA WATER RECLAMATION PLAN MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT (PROJECT) NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) SCH# 2023110644

Dear Mandy Huffman:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced NOP for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California’s **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802.). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW’s lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in “take” as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponent: Los Angeles County Sanitation District (LACSD)

Objective: The objective of the Project is to construct a new ground retaining wall structure to fortify the middle section of an existing retaining wall for the Valencia Water Reclamation Plant (VWRP). Santa Clarita Valley Sanitation District has determined that

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The “CEQA Guidelines” are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Mandy Huffman
Los Angeles County Sanitation District
January 12, 2024
Page 2 of 5

under current circumstances, the VWRP is in danger of damage due to erosion or earthquakes. The intention of the new retaining wall is to protect the VWRP during such events. In addition, the project includes updates to two existing outfall structures, and clearing a long-term operations and maintenance area. Construction work will occur along the VWRP boundary as well as within an existing CDFW Conservation Easement (CE) to the west.

Location: The Project site is located along the western boundary of the VWRP which is located at 28185 The Old Road in Valencia, California. The VWRP is bounded by The Old Road to the northeast and by the Santa Clara River to the south and west. A CDFW Conservation Easement is adjacent to the site to the south and west.

Biological Setting: The VWRP is a developed water treatment plant. Project activities will impact sensitive habitats on the adjacent CDFW CE, which includes riparian habitat associated with the Santa Clara River. The existing CE land contains compensatory mitigation for a prior VWRP project which impacted the Santa Clara River.

A query of the California Natural Diversity Database shows that the Project site has potential to support a variety of sensitive wildlife and plant species, including western pond turtle (*Emys marmorata*; Federal Endangered Species Act (ESA) candidate threatened; CDFW Species of Special Concern (SSC)), California glossy snake (*Arizona elegans occidentalis*; SSC), Blainville’s horned lizard (*Phrynosoma blainvillii*; SSC), American badger (*Taxidea taxus*; SSC), coastal whiptail (*Aspidoscelis tigris stejnegeri*; SSC), Palmer’s grapplinghook (California Rare Plant Rank 4.2), and California Orcutt grass (ESA listed-endangered, CESA-listed endangered).

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist LACSD in adequately identifying and/or mitigating the Project’s significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources.

COMMENT #1: CDFW Conservation Easement Impacts

LACSD has coordinated with CDFW during various meetings to discuss potential Project impacts to the adjacent CDFW CE. As written, Project activities are not allowable uses under the CE. At CDFW’s request, LACSD provided alternatives to impacting the CE in August of 2022. LACSD’s analyses showed that the only feasible alternative is the proposed Project, which will impact CE lands. CDFW understands the importance of finding a repair solution for the VWRP but continues to have concerns about impacts to protected lands, especially considering that these protected lands are already being used as mitigation for a prior project. As expressed in previous meetings with LACSD, impacts to an existing CE would require additional mitigation, and CDFW advised that offsetting additional potential impacts, and considering the previous impacts that were mitigated, and the very high biological sensitivity of the area, a minimum 10:1 ratio would be appropriate for impacts within the CE. CDFW acknowledges that the Initial Study states that further analysis on this issue will be included in the DEIR. The DEIR should include detailed information about which areas of the CE will be impacted, what the impacts will be, and in the case of temporal impacts, for how long. The discussion should also include viable mitigation options at a ratio of approximately 10:1 for the impacts within the CE. Additionally, the DEIR should discuss whether the Project will have impacts on other nearby sensitive areas, such as the Newhall property.

COMMENT #2: Biological Baseline Assessment

The DEIR should provide a complete assessment of the flora and fauna within and adjacent to the Project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats. The DEIR should include the following information:

- a. A thorough, recent floristic-based assessment of special status plants and natural communities, following CDFW's Protocols for Surveying and Evaluating Impacts to

Mandy Huffman
 Los Angeles County Sanitation District
 January 12, 2024
 Page 3 of 5

Special Status Native Plant Populations and Natural Communities (see <https://www.wildlife.ca.gov/Conservation/Plants/Info>). CDFW recommends that floristic, alliance-based and/or association-based mapping and vegetation impact assessments be conducted at the Project site and neighboring vicinity, and at potential mitigation sites for the project. Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

- b. A current inventory of the biological resources associated with each habitat type on site and within the area of potential effect. CDFW's California Natural Diversity Data Base (CNDDDB) in Sacramento should be consulted at <https://www.wildlife.ca.gov/Data/BIOS> to obtain current information on any previously reported sensitive species and habitat.
- c. An inventory of rare, threatened, endangered and other sensitive species on site and within the area of potential effect. CNDDDB indicates the occurrence of several special status species within the Project vicinity. Species to be addressed should include sensitive fish, wildlife, reptile, invertebrate, and amphibian species. Seasonal variations in the use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service.

COMMENT #3: Biological Direct, Indirect, and Cumulative Impacts

To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DEIR:

- a. Specific acreages of habitat types that will be impacted due to Project-related activities. Details should be provided on whether impacts will be temporary or permanent.
- b. Potential adverse impacts from lighting, noise, human activity, invasive species, and drainage. Mitigation measures proposed to alleviate such impacts in onsite undeveloped areas and onto adjacent lands should be included.
- c. Indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a NCCP). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR.
- d. Cumulative effects on biological resources. This analysis should be developed as described under CEQA Guidelines, section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
- e. Because there may be impacts to a mitigation site, the discussion needs to also include an analysis of the past project and its impacts to assess how those previous impacts will be fully offset by replacement mitigation.

COMMENT #4: Mitigation and Avoidance of Project-Related Biological Impacts

The DEIR should include mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological

Mandy Huffman
Los Angeles County Sanitation District
January 12, 2024
Page 4 of 5

functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.

COMMENT #5: Fire and Fuel Modification

According to the Initial Study, the Project is in a Very High Fire Risk area. The DEIR should include a discussion of fire risk and fuel modification areas, and associated impacts to biological resources. This should include a map of fuel modification buffer zones, as well as allowances for sensitive plant species, if applicable. Areas that are part of fuel modification zones should be considered impacted and should not be included in compensatory mitigation or preservation acreages.

COMMENT #6: Nesting Birds

The Initial Study states that the Project may impact trees on the Project site. CDFW recommends that measures be taken to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit the take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Sections 3503.5 and 3513 of the California Fish and Game Code prohibit the taking of all raptors and other migratory nongame birds and section 3503 prohibits take of the nests and eggs of all birds. Proposed project activities, including but not limited to staging and disturbances to native and nonnative vegetation, structures, and substrates, should occur outside of the avian breeding season which generally runs from February 1- September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, CDFW recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300 feet of the disturbance area (within 500 feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)


CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the LACSD in identifying and mitigating Project impacts on biological resources.

Mandy Huffman
Los Angeles County Sanitation District
January 12, 2024
Page 5 of 5

Questions regarding this letter or further coordination should be directed to Brigid Moran at Brigid.Moran@wildlife.ca.gov.

Sincerely,

DocuSigned by:

D700B4520375406...

David Mayer
Environmental Program Manager
South Coast Region

ec: **California Department of Fish and Wildlife**

Jennifer Turner
Jennifer.Turner@wildlife.ca.gov

Brigid Moran
Brigid.Moran@wildlife.ca.gov

Cindy Hailey
Cindy.Hailey@wildlife.ca.gov

Office of Planning and Research

State Clearinghouse
State.Clearinghouse@opr.ca.gov

U.S. Fish and Wildlife Service

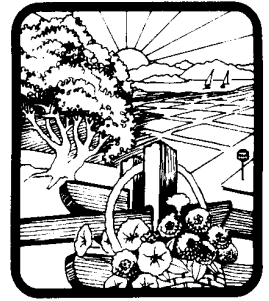
Jonathan Snyder
Jonathan_d_Snyder@fws.gov

REFERENCES

California Environmental Quality Act (CEQA). California Public Resources Code in section 21000 et seq. The “CEQA Guidelines” are found in Title 14 of the California Code of Regulations, commencing with section 15000.

California Office of Planning and Research. 2009 or current version. CEQA: California Environmental Quality Act. Statutes and Guidelines, § 21081.6 and CEQA Guidelines, § 15097, §15126.4(2).

SCOPE
Santa Clarita Organization for Planning and the Environment
TO PROMOTE, PROTECT AND PRESERVE THE ENVIRONMENT, ECOLOGY
AND QUALITY OF LIFE IN THE SANTA CLARITA VALLEY
POST OFFICE BOX 1182, SANTA CLARITA, CA 91386



January 22, 2024

Mandy Huffman
Environmental Planner
Los Angeles County Sanitation Districts--Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90610

Sent via email to: Mandyhuffman@lacsds.org

Re: VALENCIA WATER RECLAMATION PLAN MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT (PROJECT) NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) SCH# 2023110644

Dear Mandy Huffman:

Santa Clarita Organization for Planning and the Environment is a local conservation group that has focused on planning issues in the Santa Clarita Valley for over 35 years. We are particularly concerned with the preservation of the Santa Clara River, Los Angeles County's last free flowing river, its flood plain, habitat and its many endangered species.

Thank you for providing us with the NOP for this project. We also request that you provide us with the DEIR when it becomes available.

We have several issues that we ask that you address in the DEIR.

First, on Page 1 of the recently released "VWRP MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT Initial Study", Nov 23, this document states:

"Santa Clarita Valley Sanitation District (SCVSD) has determined through previous studies that under a Capital Storm event, the Valencia Water Reclamation Plant (VWRP) has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour."

We requested these documents and received only a report dated 2016 which was used to substantiate the need for the retaining wall that was recently built around 2018. Please provide any hydrology studies regarding this project in the DEIR. Also, please discuss why an additional wall is needed when you just built on in 2018.

Also, there is an existing conservation easement held by California Fish and Wildlife meant to protect the floodplain and endangered species in the area. Please include a discussion of that easement and how you plan to avoid it.

Page 2

Last, as mentioned above, there are several endangered species in the general project area including but not limited to the Least Bell's Vireo, Willow Flycatcher, Arroyo Toad and Unarmored Three-spined Stickleback. Please provide recent surveys for these species and identify how your agency plans to avoid them if construction proceeds.

Thank you in advance for addressing our concerns.

Sincerely,

A handwritten signature in dark ink, appearing to read "Raymond O. Plumb". The signature is fluid and cursive, with a large initial "R" and "O".

President

www.scope.org

661 255-6899



MARK PESTRELLA, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
<http://dpw.lacounty.gov>

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

January 29, 2024

IN REPLY PLEASE

REFER TO FILE:

LD-4

Ms. Mandy Huffman
Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90601

Dear Ms. Huffman:

**ENVIRONMENTAL PLAN (RPPL2023006637)
INITIAL STUDY/NOTICE OF PREPARATION
VALENCIA WATER RECLAMATION PLANT
MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT**

As requested, Public Works has reviewed the Initial Study/Notice of Preparation for the Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project. The proposed project includes a new ground retaining wall structure to fortify the middle section of the wall and protect the Valencia Water Reclamation Plant during a flood scour event and design-level earthquake.

1. General comment:

- 1.1. The proposed project is in a Federal Emergency Management Agency (FEMA) Zone AE (one percent annual chance flood area with defined Base Flood Elevations). This Zone AE also has a regulatory floodway. The proposed project appears to encroach into the regulatory floodway. 44 CFR 60.3 (d)(3) prohibits encroachments into FEMA's regulatory floodways that result in any increase in the Base Flood Elevation unless the project proponent obtains a Conditional Letter of Map Revision (CLOMR) from FEMA prior to construction. FEMA's regulations also require the project proponent within six months after construction completion to apply to FEMA for a final Letter of Map Revision (LOMR) showing the As-built conditions.
- 1.2. If the proposed project constitutes a "fill" project, then a Conditional Letter of Map Revision Based on Fill (CLOMR-F) and a final Letter of Map Revision Based on Fill (LOMR-F) are required. Please note that FEMA has suspended issuances of CLOMR-Fs and LOMR-Fs in Los Angeles County until the agency has completed an Endangered Species Act Section 7 consultation for its mapping regulations.

Ms. Mandy Huffman
January 29, 2024
Page 2

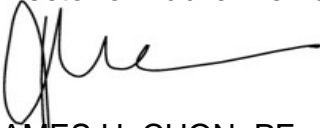
- 1.3. The project's Environmental Impact Report should discuss how the proposed project will affect the FEMA flood hazard, the County Floodplain, and Floodway boundaries.

For questions regarding the above comments, please contact Ms. Patricia Wood of Public Works, Stormwater Engineering Division, at (626) 458-6132 or pwood@pw.lacounty.gov.

If you have any questions, please contact Toan Duong of Public Works, Land Development Division, at (626) 458-4921 or tduong@pw.lacounty.gov.

Very truly yours,

MARK PESTRELLA, PE
Director of Public Works

A handwritten signature in black ink, appearing to read 'JH Chon', written over the printed name of James H. Chon.

JAMES H. CHON, PE
Assistant Division Engineer
Land Development Division

TD:kt

P:\LD\PUBSUB\POCHECK\PLAN CHECKING FILES\PROJECTS SUBMITTED BY OTHER AGENCIES\RPPL2023006637-28185 THE OLD ROAD\2024-01-02 SUBMITTAL\DPW_CLEARED_2024-01-04_RPPL2023006637.DOCX

Appendix B

Air Quality Emissions and Calculations



626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 [phone](#)
213.599.4301 [fax](#)

esassoc.com

memorandum

date July 3, 2024

to Santa Clarita Valley Sanitation District

cc Mandy Huffman

from Nicolle Steiner, Tim Witwer, Joneil Manansala

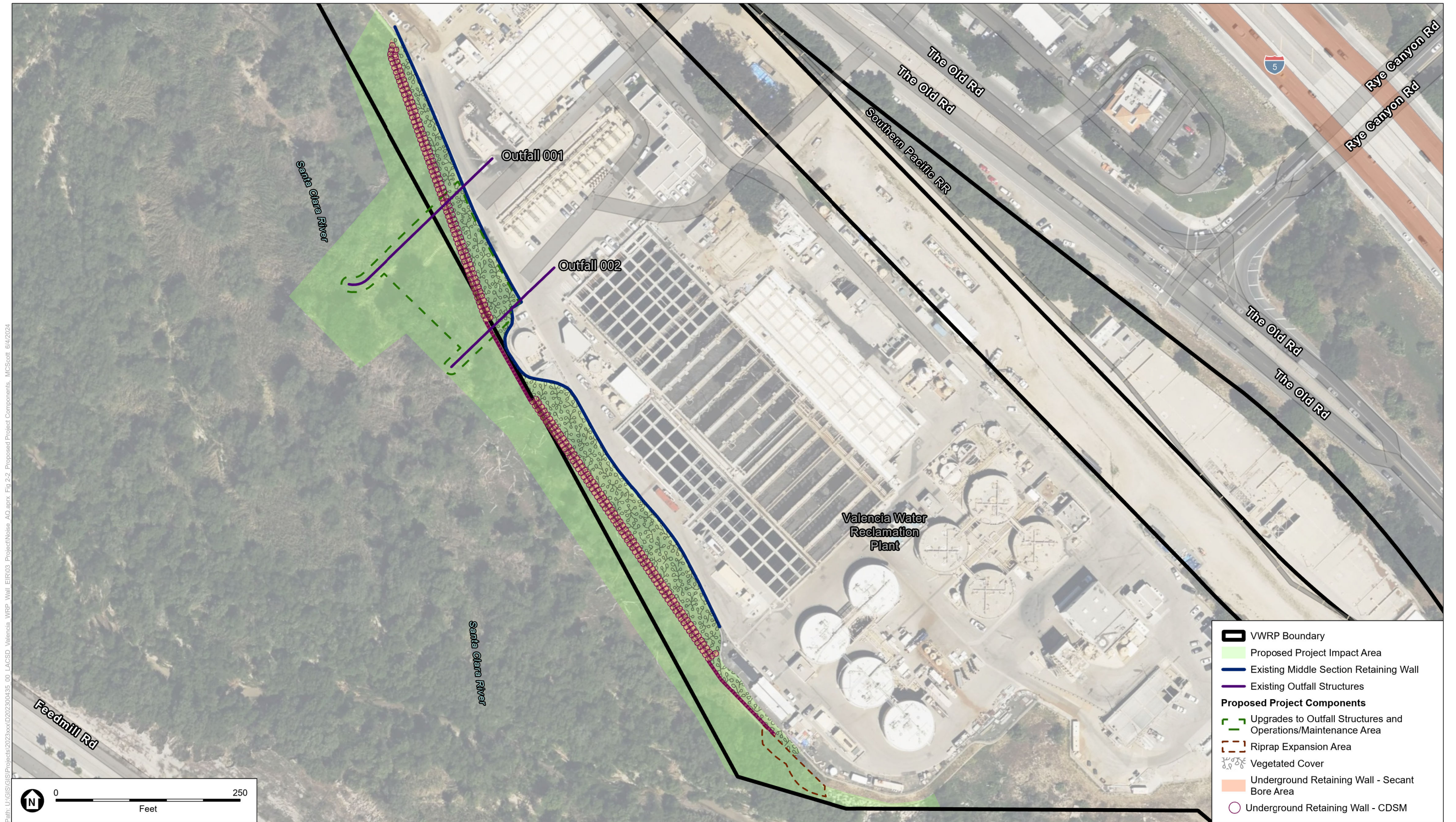
subject Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project – Air Quality Analysis

Introduction

The Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (proposed project) includes the reinforcement of the existing middle section retaining wall along the west side of the VWRP and upgrades to two existing outfall structures. The VWRP is located at 28151 The Old Road in Valencia. The VWRP is located in an urbanized area in unincorporated Los Angeles County. The project site is bound by The Old Road to the north and adjacent commercial businesses to the northeast, the Santa Clara River to the west and south, and Six Flags Magic Mountain amusement park to the southwest beyond the Santa Clara River. The objective of the proposed project is to achieve long-term protection of the middle section of the VWRP boundary along the Santa Clara River in case of Capital Flood scour event as previous studies found that scour of the Santa Clara River under a Capital Flood may erode the existing 1000-foot-long middle section property edge retaining wall by as much as 25 to 35 feet to the point that facilities of the VWRP may be damaged or destroyed. Additionally, two discharge outfalls (Discharge Outfall 001 and Discharge Outfall 002) are currently infiltrated by vegetation and roots causing pipe joint separation and/or soil debris settlement which cause pipe backflow conditions. The proposed project includes demolition and replacement of a portion of Discharge Outfall 001. Sections upstream and downstream of this replacement section would be rehabilitated with sliplining with 42-inch diameter fiberglass reinforced plastic pipe. The entire length of Discharge Outfall 002 downstream of the proposed ground improvement wall penetration would also be demolished and replaced, including the headwall structure at the discharge point.

Thus, this memorandum provides an analysis of the air quality impacts associated with construction and installation of the VWRP Middle Section Retaining Wall Ground Improvements requested by Santa Clarita Valley Sanitation District and includes a description of ESA's assumptions and the results of the analysis.

Figure 1, *Proposed Project*, shows the location of the existing middle section retain wall and discharge outlets within the VWRP.



SOURCE: ESA, 2024

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 1
Proposed Project Components

Environmental Setting

Regional Climate and Meteorology

The proposed project is located in the eastern portion of the South Coast Air Basin (Air Basin). The Air Basin includes all of Orange County, Los Angeles County (excluding the Antelope Valley portion), the western, non-desert portion of San Bernardino County, the western Coachella Valley and San Geronimo Pass portions of Riverside County, and the non-desert portions of Los Angeles County, Riverside County, and San Bernardino County. The South Coast Air Quality Management District (SCAQMD) is the local air district with jurisdiction over air pollution sources in the County of Los Angeles where the proposed project is located. The Air Basin is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Air Basin is a subregion within the western portion of the SCAQMD jurisdiction. While air quality in the Air Basin has improved, the Air Basin requires continued diligence to meet the air quality standards.

Criteria Air Pollutants

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality. The following pollutants are regulated by the United States Environmental Protection Agency (USEPA) and are subject to emissions control requirements adopted by Federal, State and local regulatory agencies. These pollutants are referred to as “criteria air pollutants” as a result of the specific standards, or criteria, which have been adopted for them. A description of the health effects of these criteria air pollutants are provided below.

Ozone (O₃)

Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the USEPA, ozone can cause the muscles in the airways to constrict potentially leading to wheezing and shortness of breath (USEPA 2023a). Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease (USEPA 2023a). Long-term exposure to ozone is linked to aggravation of asthma and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children (USEPA 2023a). According to the California Air Resources Board (CARB), inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath (CARB 2024a).

The USEPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers (USEPA 2023a). Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure (USEPA 2023a). According to CARB, studies show that children are no more or less likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults and are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults.

Volatile Organic Compounds

VOCs are organic chemical compounds of carbon and are not “criteria” pollutants themselves; however, they contribute with NO_x to form ozone, and are regulated to prevent the formation of ozone (USEPA 2023b). According to CARB, some VOCs are highly reactive and play a critical role in the formation of ozone, other VOCs have adverse health effects, and in some cases, VOCs can be both highly reactive and have adverse health effects (CARB 2024b). VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.) (CARB 2024b).

Nitrogen Dioxide (NO₂) and Nitrogen Oxides

NO_x is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include nitrogen dioxide (NO₂) and nitric oxide (NO). Ambient air quality standards have been promulgated for NO₂, which is a reddish-brown, reactive gas (CARB 2024c). The principle form of NO_x produced by combustion is NO, but NO reacts quickly in the atmosphere to form NO₂, creating the mixture of NO and NO₂ referred to as NO_x (CARB 2024c). Major sources of NO_x include emissions from cars, trucks and buses, power plants, and off-road equipment (USEPA 2023c). The terms NO_x and NO₂ are sometimes used interchangeably. However, the term NO_x is typically used when discussing emissions, usually from combustion-related activities, and the term NO₂ is typically used when discussing ambient air quality standards. Where NO_x emissions are discussed in the context of the thresholds of significance or impact analyses, the discussions are based on the conservative assumption that all NO_x emissions would oxidize in the atmosphere to form NO₂. According to the USEPA, short-term exposures to NO₂ can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms while longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections (USEPA 2023c). According to CARB, controlled human exposure studies that show that NO₂ exposure can intensify responses to allergens in allergic asthmatics (CARB 2023c). In addition, a number of epidemiological studies have demonstrated associations between NO₂ exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses (CARB 2024c). Infants and children are particularly at risk from exposure to NO₂ because they have disproportionately higher exposure to NO₂ than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Adults risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2024c).

Carbon Monoxide (CO)

Carbon monoxide (CO) is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources (CARB 2024d). According to the USEPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain and at very high levels, which are possible indoors or in other enclosed environments. CO can cause dizziness, confusion, unconsciousness and death (USEPA 2023d). Very high levels of CO are not likely to occur outdoors; however, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease since these people already have a reduced ability for getting oxygenated blood to their hearts and are especially vulnerable to the effects of CO when exercising or under increased stress (USEPA 2023d). In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (USEPA 2023d). According to CARB, the most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain (USEPA 2023d). Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (USEPA 2023d).

Sulfur Dioxide (SO₂)

According to the USEPA, the largest source of sulfur dioxide (SO₂) emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content (USEPA 2023e). In 2006, California phased-in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 parts per million, down from the previous requirement of 500 parts per million, substantially reducing emissions of sulfur from diesel combustion (CARB 2004). According to the USEPA, short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult (USEPA 2023e). According to CARB, health effects at levels near the State one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity and exposure at elevated levels of SO₂ (above 1 part per million (ppm)) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality (USEPA 2023e). Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO₂ (CARB 2024e; USEPA 2023e).

Particulate Matter (PM₁₀ and PM_{2.5})

Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air (USEPA 2023f). Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye while other particles are so small they can only be detected using an electron microscope (USEPA 2023f). Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM₁₀); and fine inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM_{2.5}) (USEPA 2023f). Thus, PM_{2.5} comprises a portion or a subset of PM₁₀. Sources of PM₁₀ emissions include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands (CARB 2024f). Sources of PM_{2.5} emissions include combustion of gasoline, oil, diesel fuel, or wood (CARB 2024f). PM₁₀ and PM_{2.5} may be

either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO_2 , NO_x , and certain organic compounds (CARB 2024f).

According to CARB, both PM_{10} and $\text{PM}_{2.5}$ can be inhaled, with some depositing throughout the airways. PM_{10} is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while $\text{PM}_{2.5}$ is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung inflammation (CARB 2024f). Short-term (up to 24 hours' duration) exposure to PM_{10} has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2024f). The effects of long-term (months or years) exposure to PM_{10} are less clear, although studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2024f). Short-term exposure to $\text{PM}_{2.5}$ has been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days; long-term exposure to $\text{PM}_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children (CARB 2024f). According to CARB, populations most likely to experience adverse health effects with exposure to PM_{10} and $\text{PM}_{2.5}$ include older adults with chronic heart or lung disease, and children (CARB 2024f).

Lead (Pb)

Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers (USEPA 2023g). In the past, leaded gasoline was a major source of lead emissions; however, the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014 (USEPA 2023d). Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood (USEPA 2023g). The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence, anemia, and liver or kidney damage (CARB 2024g). Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain (CARB 2024g).

Additional Criteria Pollutants (California Only)

In addition to the national standards, the State of California regulates State-identified criteria pollutants, including sulfates (SO_4^{2-}), hydrogen sulfide (H_2S), visibility-reducing particles, and vinyl chloride. With respect to the State-identified criteria pollutants, most land use development projects either do not emit them (i.e., H_2S [nuisance odor] and vinyl chloride), or otherwise account for these pollutants (i.e., SO_4^{2-} and visibility reducing particles) through other criteria pollutants. For example, SO_4^{2-} are associated with SO_x emissions, and visibility-reducing particles are associated with particulate matter emissions. A description of the health effects of the State-identified criteria air pollutants is provided below.

Sulfates (SO_4^{2-}): SO_4^{2-} are the fully oxidized ionic form of sulfur. SO_4^{2-} occur in combination with metal and/or hydrogen ions (CARB 2024h). In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized during the combustion process and subsequently converted to SO_4^{2-} in the atmosphere. Effects of sulfate exposure at levels

above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease (CARB 2024h). SO_4^{2-} are particularly effective in degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property (CARB 2024h).

Hydrogen Sulfide (H_2S): H_2S is a colorless gas with the odor of rotten eggs. The most common sources of H_2S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. Industrial sources of H_2S include petrochemical plants and kraft paper mills. H_2S is also formed during bacterial decomposition of human and animal wastes and is present in emissions from sewage treatment facilities and landfills (CARB 2024i). Exposure to H_2S can induce tearing of the eyes and symptoms related to overstimulation of the sense of smell, including headache, nausea, or vomiting; additional health effects of eye irritation have only been reported with exposures greater than 50 parts per million (ppm), which is considerably higher than the odor threshold (CARB 2024i). H_2S is regulated as a nuisance based on its odor detection level; if the standard were based on adverse health effects, it would be set at a much higher level (CARB 2024i).

Visibility-Reducing Particles: Visibility-reducing particles come from a variety of natural and manmade sources and can vary greatly in shape, size and chemical composition. Visibility reduction is caused by the absorption and scattering of light by the particles in the atmosphere before it reaches the observer. Certain visibility-reducing particles are directly emitted to the air, such as windblown dust and soot, while others are formed in the atmosphere through chemical transformations of gaseous pollutants (e.g., SO_4^{2-} , nitrates, organic carbon particles) which are the major constituents of particulate matter. As the number of visibility-reducing particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range (CARB 2024j). Exposure to some haze-causing pollutants have been linked to adverse health impacts similar to PM_{10} and $\text{PM}_{2.5}$, as discussed above (CARB 2024j).

Vinyl Chloride: Vinyl chloride is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products and is generally emitted from industrial processes. Other major sources of vinyl chloride have been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents (CARB 2024k). Short-term health effects of exposure to high levels of vinyl chloride in the air include central nervous system effects, such as dizziness, drowsiness, and headaches while long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage and has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans (CARB 2024k). Most health data on vinyl chloride relate to carcinogenicity and control methodologies applied to industrial facilities generally prevent emissions to the ambient air. There are no known sources of vinyl chloride emissions outside of occupational or industrial settings (CARB 2024k).

Toxic Air Contaminants

In addition to criteria pollutants, the SCAQMD periodically assesses levels of toxic air contaminants (TACs) in the Air Basin. A TAC is defined by California Health and Safety Code Section 39655:

“Toxic air contaminant” means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.

Diesel particulate matter, which is emitted in the exhaust from diesel engines, was listed by the State as a toxic air contaminant in 1998. Most major sources of diesel emissions, such as ships, trains, and trucks operate in and around ports, railyards, and heavily traveled roadways. These areas are often located near highly populated areas resulting in greater health consequences for urban areas than rural areas (CARB 2024I). Diesel particulate matter has historically been used as a surrogate measure of exposure for all diesel exhaust emissions. Diesel particulate matter consists of fine particles (fine particles have a diameter $<2.5\ \mu\text{m}$), including a subgroup of ultrafine particles (ultrafine particles have a diameter $<0.1\ \mu\text{m}$). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or “soot.” Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

Exposure to diesel particulate matter may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Diesel particulate matter levels and resultant potential health effects may be higher in proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, diesel particulate matter exposure may lead to the following adverse health effects: aggravated asthma; chronic bronchitis; increased respiratory and cardiovascular hospitalizations; decreased lung function in children; lung cancer; and premature deaths for people with heart or lung disease (CARB 2024I).

Odorous Emissions

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, increasing the distance between the receptor and the source will mitigate odor impacts.

Existing Conditions

The Southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific that leads to mild climate, moderated by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The area’s natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle) play a major role in degree and severity of the air pollution problem in the Air Basin where factors, such as wind, sunlight, temperature, humidity, rainfall, and topography, affect the accumulation and dispersion of air pollutants throughout the Air Basin, making it an area of high pollution potential.

The greatest air pollution throughout the Air Basin occurs from June through September that is generally attributed to light winds, shallow vertical atmospheric mixing, as well as the large amount of pollutant emissions. This frequently reduces pollutant dispersion, resulting in elevated air pollution levels. In addition, pollutant concentrations in the Air Basin vary with location, season, and time of day. For instance, O_3 concentrations tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert. While substantial progress has been made in reducing air pollution levels in Southern California, the Air Basin still fails to meet the national standards for O_3 and $\text{PM}_{2.5}$ and, therefore, is considered a federal “non-attainment” area for these pollutants.

As described above, at the regional level, SCAQMD is the regulatory agency responsible for improving air quality for large areas of Los Angeles, Orange County, Riverside and San Bernardino Counties. Specifically, the SCAQMD has the responsibility for ensuring that all national and State ambient air quality standards are achieved and maintained throughout the Air Basin. To meet the standards, SCAQMD has adopted a series of AQMPs. The 2022 AQMP builds upon measures already in place from previous AQMPs and includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies and low NO_x technologies), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other Clean Air Act (CAA) measures to achieve the 2015 8-hour ozone standard by 2037 (SCAQMD 2022). However, the 2037 NO_x limit is 60 tons per day and emissions from federal and international sources are estimated to be 85 tons per day in 2037; thus, federal sources alone would emit more than the 60 tons per day limit in 2037 (SCAQMD 2022). The SCAQMD and CARB cannot sufficiently reduce NO_x emissions to meet the standard without federal action (SCAQMD 2022).

The 2022 AQMP states that despite the projected growth in the region, air quality has improved substantially over the years. This is largely because of local, State and federal air quality control programs as described above. As seen in Figure 1-4 on page 1-9 of the 2022 AQMP, the percent change in air quality is shown along with demographic data for the 4-county region from the 2022 AQMP where in particular, the trends since 1995 of the 8-hour O₃ levels, the 1-hour O₃ levels, and annual average PM_{2.5} concentrations (since 2001), compared to the regional gross domestic product, total employment and population (SCAQMD 2022). In addition, the O₃ and particulate matter levels continue to trend downward as the economy and population increase, demonstrating that it is possible to maintain a healthy economy while improving public health through air quality improvements (SCAQMD 2022).

Attainment Status

The extent and severity of pollutant concentrations in the Air Basin are a function of the area's natural physical characteristics (weather and topography) and man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential. The Air Basin's meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone, which is a secondary pollutant that forms through photochemical reactions in the atmosphere. California Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. **Table 1** *South Coast Air Basin Attainment Status (Los Angeles County)* provides a summary of the attainment status of the Los Angeles County portion of the Air Basin with respect to federal and State standards. The Air Basin is designated as attainment for the California standards for sulfates and unclassified for hydrogen sulfide and visibility-reducing particles.¹ The Air Basin is currently in non-attainment for O₃, PM₁₀, and PM_{2.5} under the CAAQS and O₃, and PM_{2.5} under the NAAQS. Since vinyl chloride is a carcinogenic toxic air contaminant, CARB does not classify attainment status for this pollutant.

¹ Unclassified is the category designation of an area for a pollutant with insufficient data. CARB, Proposed 2017 Amendments to Area Designations for State Ambient Air Quality Standards, December 19, 2017 (release date).

TABLE 1
SOUTH COAST AIR BASIN ATTAINMENT STATUS (LOS ANGELES COUNTY PORTION)

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
O ₃ (1-hour standard)	N/A ^a	Non-attainment
O ₃ (8-hour standard)	Non-attainment – Extreme	Non-attainment
CO	Attainment (Maintenance)	Attainment
NO ₂	Attainment (Maintenance)	Attainment
SO ₂	Attainment/Unclassifiable	Attainment
PM ₁₀	Attainment (Maintenance)	Non-attainment
PM _{2.5}	Non-attainment – Serious	Non-attainment
Lead (Pb)	Non-attainment (partial) ^c	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride ^b	N/A	N/A ^c

N/A = not applicable

a. The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.

b. In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

c. Lead partial nonattainment designation – Los Angeles County portion of Air Basin only for near-source monitors. Expecting redesignation to attainment based on current monitoring data.

SOURCE: USEPA, 2023. The Green Book Non-Attainment Areas for Criteria Air Pollutants, last updated December 23, 2023. <https://www.epa.gov/green-book>. Accessed February 2024.

CARB, 2022 Area Designations Maps/State and National, November. <http://www.arb.ca.gov/desig/adm/adm.htm>. Accessed February 2024.

Sources of Emissions

As detailed in the AQMP, the major sources of air pollution in the Air Basin are divided into four major source classifications: point, area stationary sources, and on-road and off-road mobile sources. Point and area sources are the two major subcategories of stationary sources (SCAQMD 2012). Point sources are permitted facilities that contain one or more emission sources at an identified location (e.g., power plants, refineries, emergency generator exhaust stacks). Area sources consist of many small emission sources (e.g., residential water heaters, architectural coatings, consumer products, and permitted sources such as large boilers) which are distributed across the region. Mobile sources consist of two main subcategories: On-road sources (such as cars and trucks) and off-road sources (such as heavy construction equipment).

Local Air Quality

Existing Criteria Pollutant Levels at Nearby Monitoring Stations

The SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin to measure ambient pollutant concentrations. The monitoring station most representative of the project site is the Santa Clarita Valley Monitoring Station, located at 22224 Placerita Canyon Road Santa Clarita, CA 91321. Criteria pollutants monitored at this station include ozone, NO₂, CO, and PM₁₀. Additional monitoring stations were used to complete **Table 2, Ambient Air Quality in the Project Vicinity**, the West San Fernando Valley Monitoring Station was referenced for PM_{2.5} data, located at 18330 Gault St, Reseda CA 91702. Lastly, the Central Los Angeles Monitoring Station, located at 1630 North Main Street, Los Angeles, CA 90012, was

referenced for Pb and SO₂ data. The most recent data available from the SCAQMD for this monitoring station are from years 2020 to 2022.² As shown in Table 2, the CAAQS and NAAQS were not exceeded in the project site vicinity for most pollutants between 2020 and 2022, except for O₃ and PM_{2.5}.

TABLE 2
AMBIENT AIR QUALITY IN THE PROJECT VICINITY

Pollutant/Standard ^a	2020	2021	2022
Ozone, O₃ (1-hour)			
Maximum Concentration (ppm)	0.148	0.125	0.129
Days > CAAQS (0.09 ppm)	44	30	28
Ozone, O₃ (8-hour)			
Maximum Concentration (ppm)	0.122	0.103	0.114
4 th High 8-hour Concentration (ppm)	0.106	0.097	0.095
Days > CAAQS (0.070 ppm)	73	61	66
Days > NAAQS (0.070 ppm)	73	63	68
Nitrogen Dioxide, NO₂ (1-hour)			
Maximum Concentration (ppm)	0.046	0.057	0.052
Days > CAAQS (0.18 ppm)	0	0	0
98 th Percentile Concentration (ppm)	0.0535	0.035	0.033
Days > NAAQS (0.100 ppm)	0	0	0
Nitrogen Dioxide, NO₂ (Annual)			
Annual Arithmetic Mean (0.030 ppm)	0.009	0.010	0.009
Carbon Monoxide, CO (1-hour)			
Maximum Concentration (ppm)	1.2	1.0	1.5
Days > CAAQS (20 ppm)	0	0	0
Days > NAAQS (35 ppm)	0	0	0
Carbon Monoxide, CO (8-hour)			
Maximum Concentration (ppm)	0.8	0.7	0.6
Days > CAAQS (9.0 ppm)	0	0	0
Days > NAAQS (9 ppm)	0	0	0
Respirable Particulate Matter, PM₁₀ (24-hour)			
Maximum Concentration (µg/m ³)	24	47	36
Samples > CAAQS (50 µg/m ³)	0	0	0
Samples > NAAQS (150 µg/m ³)	0	0	0
Respirable Particulate Matter, PM₁₀ (Annual)			
Annual Arithmetic Mean (20 µg/m ³)	22.5	19.9	18.5
Fine Particulate Matter, PM_{2.5} (24-hour)			
Maximum Concentration (µg/m ³)	27.6	55.5	20.5
98 th Percentile Concentration (µg/m ³)	26.4	36.1	36.1
Samples > NAAQS (35 µg/m ³)	0	3	0
Fine Particulate Matter, PM_{2.5} (Annual)			
Annual Arithmetic Mean (12 µg/m ³)	10.1	10.1	8.8
SO₂ (1-hour)			
Maximum Concentration (ppm)	0.004	0.002	0.007
99 th Percentile Concentration (ppm)	0.003	0.002	0.002

² SCAQMD, Historical Data by Year, (2020-2022), <http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year>. Accessed February 2024.

Pollutant/Standard ^a	2020	2021	2022
Lead			
Maximum 30-day average ($\mu\text{g}/\text{m}^3$)	0.013	0.012	0.008
Samples > CAAQS ($1.5 \mu\text{g}/\text{m}^3$)	0	0	0
Maximum 3-month rolling average ($\mu\text{g}/\text{m}^3$)	0.011	0.012	0.007
Days > NAAQS ($0.15 \mu\text{g}/\text{m}^3$)	0	0	0

a. ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

SOURCE: SCAQMD, 2020, 2021, 2022. Historical Data by Year, <http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year>; CARB, Air Quality Data Statistics, <http://www.arb.ca.gov/adam/>; USEPA, AirData, http://www.epa.gov/airdata/ad_rep_mon.html. Accessed February 2024.

Sensitive Receptors

Land uses, such as schools, hospitals, and convalescent homes are considered to be sensitive to poor air quality conditions because infants, children, the elderly, and people with health afflictions (especially respiratory ailments), are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution, even though exposure periods during exercise are generally short.

There are no sensitive receptors (i.e., residence, hospital, convalescent facility, etc.) within one-quarter mile of the project site location. The nearest sensitive receptors to the project site are located west and south/southwest of the project site as shown in **Figure 2, Sensitive Receptors**.

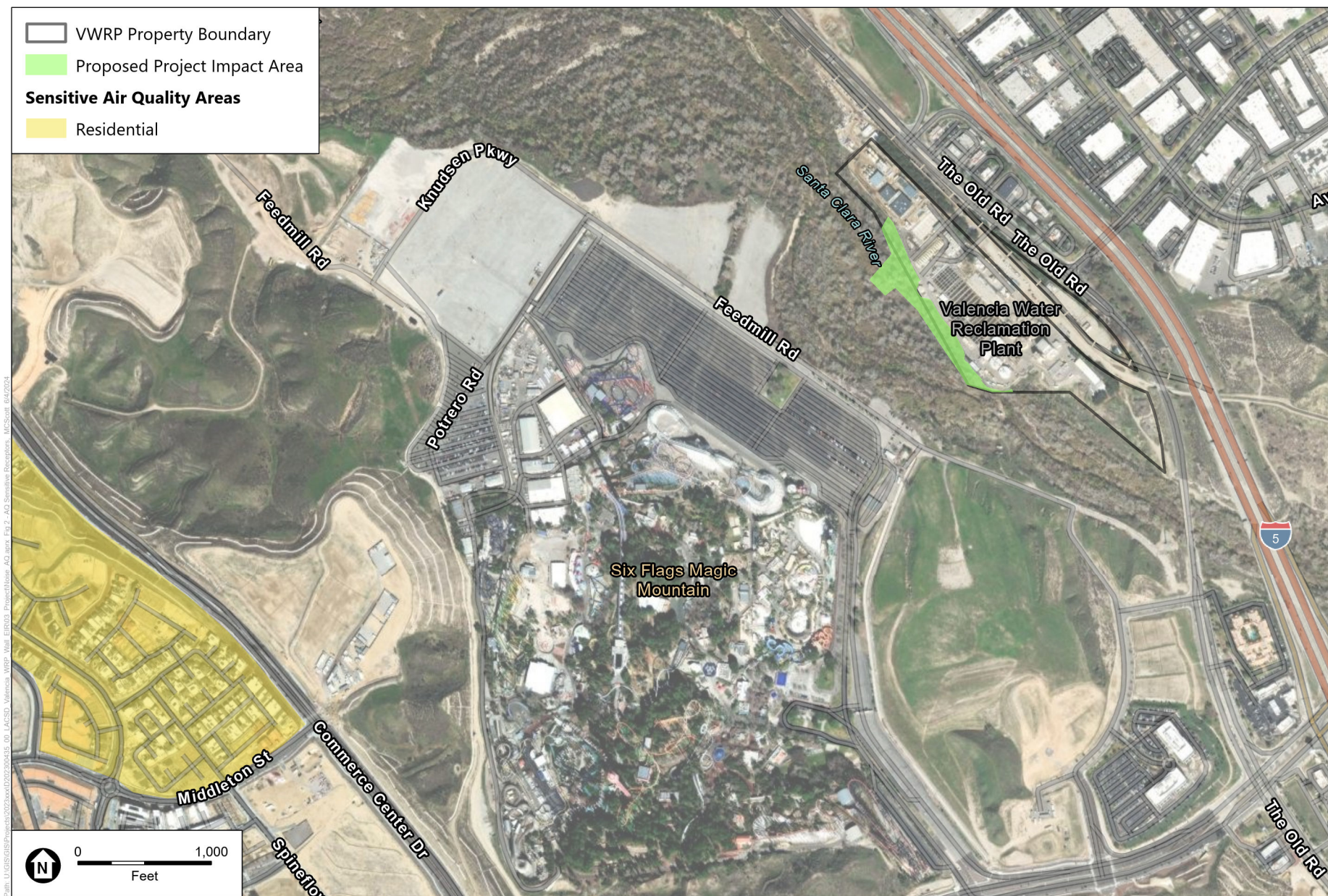
Regulatory Framework

Numerous statutes, regulations, plans, and policies have been adopted that address the air quality concerns that are applicable to the VWRP Middle Section Retaining Wall Ground Improvement Project.

Federal

The federal Clean Air Act (CAA) was enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990 (USC 1970). The CAA is the comprehensive federal law that regulates air emissions in order to protect public health and welfare (USEPA 2023h). The USEPA is responsible for the implementation and enforcement of the CAA, which establishes federal NAAQS, specifies future dates for achieving compliance, and requires USEPA to designate areas as attainment, nonattainment, or maintenance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for each criteria pollutant for which the state has not achieved the applicable NAAQS. The SIP includes pollution control measures that demonstrate how the standards for those pollutants will be met. The sections of the CAA most applicable to the project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions) (USEPA 2023i).³

³ Mobile sources include on-road vehicles (e.g., cars, buses, motorcycles) and non-road vehicles (e.g., aircraft, trains, construction equipment). Stationary sources are comprised of both point and area sources. Point sources are typically stationary facilities that emit large amount of pollutants (e.g., municipal waste incinerators, power plants). Area sources are typically smaller stationary sources that alone are not large emitters but combined could account for larger amounts of pollutants (e.g., consumer products, residential heating, dry cleaners).



SOURCE: ESA, 2023

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 2
Air Quality Sensitive Receptors

Title I requirements are implemented for the purpose of attaining NAAQS for criteria air pollutants. The NAAQS were amended in July 1997 to include an 8-hour standard for ozone and to adopt a NAAQS for PM_{2.5}. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM_{2.5}, as well as to revoke the annual PM₁₀ threshold. **Table 3, *Ambient Air Quality Standards***, shows the NAAQS currently in effect for each criteria pollutant. The NAAQS and the CAAQS for the California criteria air pollutants (discussed above) have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including against decreased visibility and damage to animals, crops, vegetation, and buildings. In addition to criteria pollutants, Title I also includes air toxics provisions which require USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, USEPA establishes National Emission Standards for Hazardous Air Pollutants. The list of hazardous air pollutants (HAPs), or air toxics, includes specific compounds that are known or suspected to cause cancer or other serious health effects.

TABLE 3
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
O ₃ ^h	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
NO ₂ ⁱ	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemi- luminescence	100 ppb (188 µg/m ³)	None	Gas Phase Chemi- luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		53 ppb (100 µg/m ³)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m ³)		9 ppm (10 mg/m ³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
SO ₂ ^j	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ^j	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ^j	—	
PM ₁₀ ^k	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
PM2 ^k	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ^{3k}	15 µg/m ³	
Lead ^{l,m}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ^m	Same as Primary Standard	
	Rolling 3-Month Average ^m	--		0.15 µg/m ³		
Visibility Reducing Particles ⁿ	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates (SO ₄)	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ^l	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

- a. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- b. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms/per cubic meter (µg/m³) is equal to or less than one. For PM_{2.5}, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
- c. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- d. Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.
- e. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- f. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- g. Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.
- h. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- i. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- j. On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- k. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³.
- l. The California Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Pollutant	Average Time	California Standards ^a		National Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
m. The national standard for lead was revised on October 15, 2008 to a rolling three-month average. The 1978 lead standard (1.5 µg/m ³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.						
n. In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.						
SOURCE: California Air Resources Board, 2016. Ambient Air Quality Standards (5/4/16). https://ww2.arb.ca.gov/resources/documents/ambient-air-quality-standards-0 . Accessed February 2024.						

Title II requirements pertain to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_x emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

State

California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both State and federal air pollution control programs within California. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products, and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. Table 3 includes the CAAQS currently in effect for each of the criteria pollutants, as well as other pollutants recognized by the state. As shown in Table 3, the CAAQS have more stringent standards than the NAAQS. The Air Basin fails to meet State standards for O₃, PM₁₀, and PM_{2.5} and, therefore, is considered “non-attainment” for these pollutants.

California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in Title 13 of the CCR states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location. In addition, Section 93115 in Title 17 of the CCR states that operations of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emissions standards.

California Air Resources Board On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight

ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In 2008 CARB approved the Truck and Bus regulation to reduce NO_x, PM₁₀, and PM_{2.5} emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The requirements were amended to apply to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks in the fleet, those with a GVWR greater than 26,000 pounds, full implementation was required by 2023.

In June 2020, the Advanced Clean Trucks (ACT) regulation was approved by CARB, which mandates zero-emission vehicle (ZEV) sales requirements for truck manufacturers and a one-time reporting requirement for large entities and fleets (CARB 2024m). The regulation is designed to accelerate widespread adoption of ZEVs in the medium- and heavy-duty truck sector to reduce on-road mobile source emissions on the path to carbon neutrality by 2045 (EO B-55-18). Starting in 2024, zero-emission powertrain certification will be required. Vehicle classes separate vehicles by their GVWR, maximum weight, and classes range from 1 to 8. However, in the context of ACT, Class 2b–3 group includes on-road vehicles with a GVWR that is 8,501 pounds up to 14,000 pounds; Class 4–8 group includes on-road vehicles with a GVWR that is 14,001 pounds and above, including “yard tractors”; and Class 7–8 group includes on-road vehicles that have a GVWR 26,001 pounds and above, including vehicles defined as “tractors” (CARB 2019). The ACT has different truck sales requirement for the different vehicle groups. Manufacturers will need to increase their percentage of ZEVs in order to achieve 55 percent of Class 2b–3 truck sales, 75 percent of Class 4–8 Vocational straight truck sales, and 40 percent of Class 7–8 Tractor sales by 2035. Currently, there are over 70 different models of ZE vans, trucks, and buses commercially available (CARB 2019). Most recently, in September 2020, Governor Gavin Newsom announced Executive Order N-79-20 stating that 100 percent of new passenger cars and 100 percent of operations for drayage trucks and off-road vehicles and equipment shall be ZE by 2035. By 2045, 100 percent of operations of medium- and heavy-duty vehicles shall be ZE (JD Supra 2020).

In addition to limiting exhaust from idling trucks, CARB promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR, Section 2449). Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets to begin compliance in 2014, medium fleets in 2017, and small fleets in 2019. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

Toxic Air Contaminants

The California Air Toxics Program was established in 1983, when the California Legislature adopted Assembly Bill (AB) 1807 to establish a two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air. In the risk identification step, CARB and Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or “listed,” as a TAC in California. Since the inception of the program, a number of such substances have been listed (<https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants>). In 1993, the California Legislature amended the program to identify the 189 federal HAPs as TACs. The SCAQMD has not adopted guidance applicable to land use projects that requires a quantitative health risk assessment be performed for construction exposures to TAC emissions (SCAQMD 2016). The SCAQMD states that: “SCAQMD currently does not have guidance on construction Health Risk Assessments.” (SCAQMD 2016).

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on the results of that review, CARB has promulgated a number of air toxic control measures (ATCMs), both for mobile and stationary sources. As discussed above, in 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, as discussed above, CARB promulgated emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation aims to reduce diesel emissions by the installation of diesel particulate filters and encouraging the replacement of older, dirtier engines with newer emission-controlled models.

The AB 1807 program is supplemented by the AB 2588 Air Toxics “Hot Spots” program, which was established by the California Legislature in 1987. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan.

Regional

To meet the NAAQS and CAAQS, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs), which serve as a regional blueprint to develop and implement an emission reduction strategy that will bring the Air Basin into attainment with the standards in a timely manner. The most current AQMP is the *2022 Air Quality Management Plan* (2022 AQMP), which was adopted on December 2, 2022 (SCAQMD 2022). The goal of the 2022 AQMP is to provide a regional roadmap to help the Air Basin achieve the USEPA's NAAQS 2015 8-hour ozone standard (70 parts per billion).

On January 26, 2023, CARB adopted Resolution 23-4, which directs the CARB Executive Officer to submit the 2022 AQMP to the USEPA for inclusion in the California SIP to be effective, for purposes of federal law, after

notice and public hearing as required by Section 110(l) of the Clean Air Act and 40 Code of Federal Regulations Section 51.102 and approval by the USEPA. USEPA approval has not yet occurred.

The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NO_x technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 8-hour ozone standard.

The 2022 AQMP incorporates the transportation strategy and transportation control measures from Southern California Association of Governments (SCAG) Connect SoCal 2020 (2020-2045 *Regional Transportation Plan/Sustainable Communities Strategy* [2020-2045 RTP/SCS]) (SCAG 2020). SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements. Pursuant to California Health and Safety Code Section 40460, SCAG has the responsibility of preparing and approving the portions of the AQMP relating to the regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG is required by law to ensure that transportation activities “conform” to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. The RTP/SCS includes transportation programs, measures, and strategies generally designed to reduce vehicle miles traveled (VMT), which are contained in the AQMP.

The 2022 AQMP forecasts future emissions inventories with growth based on SCAG’s 2020-2045 RTP/SCS. According to the 2022 AQMP, the region is projected to see a 12 percent growth in population, 17 percent growth in housing units, 11 percent growth in employment, and an 8 percent growth in VMT between 2018 and 2037. Despite regional growth in the past, air quality has improved substantially over the years, primarily due to the effects of air quality control programs at the local, state and federal levels (SCAQMD 2022).

Noteworthy control strategies for mobile sources in the 2022 AQMP with potential applicability to reducing short-term emissions from construction activities associated with the proposed project include strategies denoted in the 2022 AQMP as MOB-06, MOB-11, and MOB-15, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment (SCAQMD 2022). Descriptions of measures MOB-06, MOB-11, and MOB-15 are provided below:

- **MOB-06 – Accelerated Retirement of Older On-Road Heavy-Duty Vehicles:** This measure seeks additional emission reductions from existing heavy-duty vehicles with GVWR greater than 8,500 pounds through an accelerated vehicle replacement program with zero or low NO_x emission vehicles.
- **MOB-11 – Emission Reductions from Incentive Programs:** This control measure seeks to quantify and take credit for the emission reductions achieved through the implementation of SCAQMD administered incentive programs for SIP purposes. The South Coast AQMD has been implementing a variety of incentive programs including, but not limited to, Carl Moyer Memorial Air Quality Standards Attainment Program, Proposition 1B, Lower Emission School Bus, Community Air Protection Program, and Volkswagen Environmental Mitigation Trust. Examples of projects funded by these programs include heavy-duty vehicle/equipment replacements, installation of retrofit units, and engine repowers. These incentive programs result in substantial emission reductions that are typically not eligible for credit in plans to attain ozone standards because they are

not required by regulation. However, actual emission reductions that are realized and quantified may qualify for credit.

- **MOB-15 – Zero Emission Infrastructure for Mobile Sources:** This control measure is intended to support and accelerate the deployment of zero emission infrastructure needed for the widespread adoption of zero emission vehicles and equipment. AB 2127 estimated that the State will need 157,000 electric vehicle charging stations for medium and heavy-duty vehicles by 2030. AB 8 assessed the fueling needs for hydrogen fuel cell vehicles and found that 1,700 hydrogen stations will be needed to support 1.8 million fuel cell electric vehicles (FCEVs) statewide by 2035. The proposed measure seeks to address these concerns and identify the unique challenges and opportunities for zero emission infrastructure development in the South Coast Air Basin, particularly as it relates to zero emission medium and heavy vehicle deployments.

SCAQMD Air Quality Guidance Documents

The SCAQMD published the *CEQA Air Quality Handbook* to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts (SCAQMD 1993). The *CEQA Air Quality Handbook* provides standards, methodologies, and procedures for conducting air quality analyses and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the *CEQA Air Quality Handbook* with the *Air Quality Analysis Guidance Handbook*. While this process is underway, the SCAQMD recommends that lead agencies avoid using the screening tables in Chapter 6 (Determining the Air Quality Significance of a project) and the on-road mobile source emission factors in Table A9-5-J1 through A9-5 of the *CEQA Air Quality Handbook* as they are outdated.

The SCAQMD instead recommends using other approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod) software, which is a model developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts, which is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions from a variety of land use projects.

The SCAQMD has also adopted land use planning guidelines in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which considers impacts to sensitive receptors from facilities that emit TAC emissions (SCAQMD 2005). SCAQMD's general land use siting distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity to freeways and high-traffic roads, a 1,000-foot siting distance for sensitive land uses proposed in proximity to a major service and maintenance rail yard, and the same siting criteria for distribution centers and dry cleaning facilities). The SCAQMD's document introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

The SCAQMD has published a guidance document called the *Final Localized Significance Threshold Methodology* for CEQA Evaluations that is intended to provide guidance when evaluating the localized effects from mass emissions during construction (SCAQMD 2003 and 2008). The SCAQMD adopted additional guidance regarding PM_{2.5} emissions in a document called *Final Methodology to Calculate Particulate Matter (PM)_{2.5} and PM_{2.5} Significance Thresholds* (SCAQMD 2006). This latter document has been incorporated by the SCAQMD into its CEQA significance thresholds and *Final Localized Significance Threshold Methodology*.

SCAQMD has adopted two rules to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401 (New Source Review of Toxic Air Contaminants) regulates new or modified facilities, and Rule 1402 (Control of Toxic Air Contaminants from Existing Sources) regulates facilities that are already operating. Rule 1402 incorporates the requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities.

SCAQMD Rules and Regulations

The SCAQMD has adopted many rules and regulations to regulate sources of air pollution in the Air Basin and to help achieve air quality standards. The proposed project may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which apply to the proposed project:

Rule 401 – Visible Emissions: This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.

Rule 402 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 – Fugitive Dust: This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM10 emissions to less than 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering or using non-toxic chemical stabilizers to prevent the generation of visible dust plumes, limiting vehicle speeds to 15 miles per hour on unpaved surfaces, and/or ceasing all activities. Finally, a contingency plan may be required if so determined by USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for specific sources. The following is a list of rules which may apply to the project:

Rule 1113 – Architectural Coatings: This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Rule 1186 – PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations: This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM10 emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).

Local

Los Angeles County 2035 General Plan

Local jurisdictions, such as the County, have the authority and responsibility to reduce air pollution through their policy power and decision-making authority. Specifically, the County is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The County is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the County assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation measures.

The Los Angeles County General Plan 2035 provides the fundamental basis for the County’s land use and development policy, and represents the basic community values, ideals, and aspirations to govern a shared environment through 2035 (LA County 2022). The General Plan addresses all aspects of development including public health, land use, community character, transportation, economics, housing, air quality, and other topics. The General Plan sets forth objectives, policies, standards, and programs for land use and new development, circulation and public access, and service systems for the Los Angeles County as a whole.

The applicable measures of the Los Angeles County General Plan Air Quality Element are specified below as being the most current standards.

Goal AQ-1: Protection from exposure to harmful air pollutants.

Policy AQ 1.1: Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

Policy AQ 1.2: Encourage the use of low or no volatile organic compound (VOC) emitting materials.

Policy AQ 1.3: Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

Policy AQ 1.4: Work with local air quality management districts to publicize air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources.

Goal AQ-2: The reduction of air pollution and mobile source emissions through coordinated land use, transportation and air quality planning.

Policy AQ 2.1: Encourage the application of design and other appropriate measures when siting sensitive uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks with active recreational facilities within proximity to major sources of air pollution, such as freeways.

Policy AQ 2.2: Participate in, and effectively coordinate the development and implementation of community and regional air quality programs.

Policy AQ 2.3: Support the conservation of natural resources and vegetation to reduce and mitigate air pollution impacts.

Policy AQ 2.4: Coordinate with different agencies to minimize fugitive dust from different sources, activities, and uses.

Methodology

The methodology to evaluate the VWRP Middle Section Retaining Wall Ground Improvements construction and operational criteria pollutant emission impacts has been conducted as follows.

Consistency with Air Quality Plan

The SCAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the Air Basin is in non-attainment of the NAAQS (e.g., ozone and PM_{2.5}). The SCAQMD's 2022 AQMP contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving the NAAQS. These strategies are developed, in part, based on regional growth projections prepared by the SCAG. As part of its air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide and the 2020–2045 RTP/SCS which provide the basis for the land use and transportation components of the AQMP and are used in the preparation of the air quality forecasts and the consistency analysis included in the AQMP (SCAG, 2020). Both the Regional Comprehensive Plan and AQMP are based, in part, on projections originating with county and city general plans. The 2022 AQMP was prepared to accommodate growth, reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, return clean air to the region, and minimize the impact on the economy. Projects that are consistent with the assumptions used in the AQMP do not interfere with attainment because the growth is included in the projections utilized in the formulation of the AQMP. Thus, projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's numeric indicators. As noted above, the 2022 AQMP was adopted by the SCAQMD and CARB and therefore will be used for consistency in this analysis.

Regional Criteria Pollutant Emissions

Construction Emissions

Maximum daily construction emissions were estimated for each construction phase. Some individual construction phases potentially overlap and the maximum daily emissions include these overlaps by combining the relevant construction phase emissions. The maximum daily emissions are predicted values for a representative worst-case day and do not represent emissions that would occur for every day of construction. Detailed emissions calculations are provided in Appendix A of this Memorandum.

Construction of the proposed project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and backhoes, and through vehicle trips generated from workers and haul trucks traveling to and from the project site. On average, there would be approximately 10 hauling trucks and 8 vendor truck trips per day during the Retaining Wall/Outfall phase. The assessment of construction air quality impacts considers each of these potential sources. Mobile source emissions, primarily NO_x, would result from the use of construction equipment such as tractors and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts considered each of these potential sources. Construction emissions were compared to the SCAQMD prescribed

daily regional numerical indicators of significance. If construction emissions exceed any of the applicable numerical indicators, the proposed project would potentially cause or contribute to an exceedance of an ambient air quality standard.

Emissions were estimated using the CalEEMod version 2022, the most recent version of CalEEMod (<http://www.caleemod.com/>). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying criteria pollutant and GHG emissions from construction and operations of various land use projects throughout California.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. CalEEMod utilizes emission factors for off-road equipment from CARB's OFFROAD model and on-road vehicles from CARB's Emission FACTors (EMFAC) model. OFFROAD and EMFAC emission factors were used to calculate emissions from construction activities, including on- and off-road vehicles. Embedded within CalEEMod 2022 are on-road mobile source emission factors from the EMFAC2021 dataset from CARB. The proposed Project's calculated construction emissions are based on EMFAC2021 emission factors. The input values used in this analysis are based on CalEEMod default values for phase length, construction equipment, worker trips, vendor trips, and hauling trips except where Project-specific information was provided and confirmed by the Applicant. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in Appendix A of this Memorandum⁴.

Construction of the proposed project would begin as early as the first quarter of 2026 and would last 20 months. Construction on the middle retaining wall and both outfalls will occur simultaneously. Construction may commence on a later date or construction could occur over a longer period of time than that analyzed in this air quality impact analysis. Should the proposed project commence construction on a later date or occur over a longer period of time than that analyzed in this air quality impact analysis, air quality impacts would be less than the impacts disclosed herein due to a more energy-efficient and cleaner burning construction equipment fleet mix and/or reduced peak daily emissions.

Subphases of construction would include demolition, grading/excavation, and retaining wall/outfall construction. The proposed project would require the removal of vegetation surrounding Discharge Outfall 001 and Discharge Outfall 002 prior to construction.

Earthwork would require a net import of approximately 6,000 cy of riprap and 113 cy of granular bedding material for construction of the underground retaining wall. The proposed project would excavate to a maximum depth of approximately 70 feet below grade and approximately four feet wide for installation of a secant pile wall

⁴ Construction modeling is based on a construction start year of 2025, which would be more conservative than future years as equipment gets cleaner in the future.

(SPW) and approximately 40 to 70 feet deep and 8-foot diameter individual columns for Cement Deep Soil Mixing (CDSM). This would result in approximately 19,000 cy of soil spoils due to CDSM activities to be exported offsite. The proposed project would include import of 4,500 cubic yards of concrete for the secant piles and 5,000 tons of concrete for the CDSM piles. Cement would be mixed on-site at a concrete batch plant. Export materials will be hauled to the closest landfill, which is expected to be the Chiquita Canyon landfill in the City of Castaic. The haul route is expected to The Old Road and Magic Mountain Parkway to I-5 north to CA-126 west to Chiquita Canyon landfill, approximately 6 miles from the project site.

Emissions Sources

Off-road equipment emissions, primarily NO_x and particulate matter, would result from the use of heavy construction equipment such as backhoes, loaders, drill rigs, cranes, and other equipment; refer to Appendix A. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Construction generates on-road vehicle exhaust, evaporative, and dust emissions from workers, vendors, and haul trucks traveling to and from the site. These emissions are based on the number of trips and default CalEEMod vehicle miles traveled (VMT) along with emission factors from EMFAC2021.

Operational Emissions

The proposed project would result in improvements to two existing discharge outfalls and an existing retaining wall. However, operation of the VWRP would remain similar to existing conditions and the proposed project would not result in new operational emissions. Therefore, operational emissions are analyzed qualitatively.

Localized Pollutant Concentrations

The localized effects from the on-site portion of the emissions are evaluated at nearby receptor locations potentially impacted by the proposed project according to the SCAQMD's Localized Significance Threshold Methodology (June 2003, revised July 2008), which relies on on-site mass emission rate screening tables and project-specific dispersion modeling, where appropriate. The localized significance thresholds are only applicable to NO_x, CO, PM₁₀, and PM_{2.5}. For NO_x and CO, the thresholds are based on the ambient air quality standards. For PM₁₀ and PM_{2.5}, the thresholds are based on requirements in SCAQMD Rule 403, Fugitive Dust. The SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards without project-specific dispersion modeling. The screening criteria depend on: (1) the area in which the project is located, (2) the size of the Project Site, and (3) the distance between the Project Site and the nearest exposed individual. The maximum daily onsite emissions from construction and operation of the proposed project were compared to these screening criteria. The proposed project could disturb up to 3.6-acres per day. Based on the LST guidance and for conservatism, a 2-acre per day land disturbance was utilized. As sensitive receptors are located more than a ¼ mile from the project site, the LST threshold for 500 meters (1,640 feet) were utilized. As discussed above, for the localized construction emissions, the screening criteria used in the analysis was for a 2-acre of disturbance per day in the SRA 13 (Santa Clarita) area with sensitive receptors assumed at 500 meters (1,640 feet) away.

CO Hotspots

In addition, emissions of CO are produced in greatest quantities from motor vehicle combustion and are usually concentrated at or near ground level because they do not readily disperse into the atmosphere, particularly under cool, stable (i.e., low or no wind) atmospheric conditions. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO hotspots. The potential for the proposed project to cause or contribute to the formation of offsite CO hotspots are evaluated based on prior dispersion modeling of the four busiest intersections in the Air Basin that has been conducted by the SCAQMD for its CO Attainment Demonstration Plan in the AQMP. The analysis compares the intersections with the greatest peak-hour traffic volumes that would be impacted by the proposed project to the intersections modeled by the SCAQMD. Project impacted intersections with peak-hour traffic volumes that are lower than the intersections modeled by the SCAQMD, in conjunction with lower background CO levels, would result in lower overall CO concentrations compared to the SCAQMD modeled values in its AQMP.

Toxic Air Contaminants

Construction

Construction activities would occur on the project site over approximately 20 months. For potential health risks, the construction duration would be significantly lower than the 30-year residential exposure period associated with cancer health risks. Sensitive receptors (i.e., residential receptors) may be exposed to diesel particulate matter (DPM), which the State of California has identified as a toxic air contaminant (TAC), from the exhaust from construction equipment and diesel-fueled motor vehicles. The construction area is spread out over approximately 3.6 acres with open space buffers along multiple proposed project boundaries. Construction activities will move around the project site, and construction near any single receptor is expected to be of a much shorter duration than the estimated 20-month construction schedule.

Health risk impacts would not be anticipated due to the short-term and temporary construction duration, the buffers and distance to nearby sensitive receptors, the movement of construction activities around the project site and short time frame near any single receptor, and the correspondingly small emissions relative to the SCAQMD thresholds. Furthermore, construction contractors would be required to comply with regulations that limit diesel emissions, such as the CARB Air Toxics Control Measure that limits diesel vehicle idling to no more than five minutes at a location (Section 2485 in Title 13 of the California Code of Regulations [CCR]), the Truck and Bus regulation that reduces NO_x, PM₁₀, and PM_{2.5} emissions from existing diesel vehicles operating in California (13 CCR, Section 2025) and the In-Use Off-Road Diesel Fueled Fleets regulation that reduces emissions by the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models (13 CCR, Section 2449).

Operation

The proposed project would result in improvements to two existing discharge outfalls and an existing retaining wall. However, operation of the VWRP would remain similar to existing conditions and the proposed project would not result in new operational emissions. Therefore, operational emissions are analyzed qualitatively.

Thresholds of Significance

CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions pertaining to air quality. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the proposed project would have a significant adverse environmental impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan. (Refer to Impact 1)
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold for ozone precursors. (Refer to Impact 2)
- Expose sensitive receptors to substantial pollutant concentrations. (Refer to Impact 3)
- Create objectionable odors affecting a substantial number of people. (Refer to Impact 4)

The State CEQA Guidelines (Section 15064.7) provide that, when available, the significance criteria established by other public agencies such as the applicable air quality management district or air pollution control district may be relied upon to make determinations of significance. The potential air quality impacts of the proposed project are, therefore, evaluated according to specific thresholds developed by SCAQMD in the CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent guidance.

Regional Criteria Pollutant Emissions

Construction Emissions

The SCAQMD has established numerical emission indicators of significance for construction. The numerical emission indicators are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health. Given that construction impacts are temporary and limited to the construction phase, the SCAQMD has established significance thresholds specific to construction activity. Based on the indicators in the SCAQMD CEQA Air Quality Handbook, the proposed project would potentially cause or contribute to an exceedance of an ambient air quality standard if the following would occur: Regional construction emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed daily emissions thresholds shown in Table 4, *SCAQMD Regional Construction Emissions Thresholds (Pounds per Day)* (SCAQMD 2023).

TABLE 4
SCAQMD REGIONAL CONSTRUCTION EMISSIONS THRESHOLDS (POUNDS PER DAY)

Activity	VOC	NOx	CO	SO ₂	PM10	PM2.5
Construction	75	100	550	150	150	55

SOURCE: SCAQMD, 2023. South Coast AQMD Air Quality Significance Thresholds, March. <https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25>. Accessed February 2024.

Operational Emissions

The SCAQMD has established numerical emission indicators of significance for operations. The numerical emission indicators are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health. The

SCAQMD has established significance thresholds in part based on Section 182(e) of the CAA which identifies 10 tons per year of VOC as a significance level for stationary source emissions in extreme non-attainment areas for ozone. The Air Basin is designated as extreme non-attainment for ozone. The SCAQMD converted this significance level to pounds per day for ozone precursor emissions ($10 \text{ tons per year} \times 2,000 \text{ pounds per ton} \div 365 \text{ days per year} = 55 \text{ pounds per day}$). The numeric indicators for other pollutants are also based on federal stationary source significance levels. Based on the indicators in the SCAQMD CEQA Air Quality Handbook, the proposed project would potentially cause or contribute to an exceedance of an ambient air quality standard if the following would occur.

Operational emissions exceed any of the following SCAQMD prescribed daily regional numeric indicators shown in Table 5, *SCAQMD Regional Operational Emissions Thresholds (Pounds Per Day)* (SCAQMD 2023).

TABLE 5
SCAQMD REGIONAL OPERATIONAL EMISSIONS THRESHOLDS (POUNDS PER DAY)

Activity	VOC	NOx	CO	SO ₂	PM10	PM2.5
Construction	55	55	550	150	150	55

SOURCE: SCAQMD, 2023. South Coast AQMD Air Quality Significance Thresholds, March. <https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25>. Accessed February 2024.

Localized Significance Thresholds

The SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards or ambient concentration limits without project-specific dispersion modeling. According to the CalEEMod methodology and SCAQMD guidance, the proposed project would disturb up to 1 acres per day. The proposed project's localized emissions are analyzed against the 1-acre LST thresholds. The proposed project is located in SRA 13 (Santa Clarita), with sensitive receptors assumed located within 500 meters of the project site. Table 6, *SCAQMD Localized Significance Emissions Thresholds (Pounds per Day)*, highlights the SCAQMD LST construction and operational thresholds for a Project located in SRA 13, with 1-acres of disturbance per day, and a receptor distance of 500 meters.

TABLE 6
SCAQMD LOCALIZED SIGNIFICANCE EMISSIONS THRESHOLDS (POUNDS PER DAY)

Activity	NOx	CO	PM10	PM2.5
Construction	273	8,174	131	74
Operations	273	8,174	32	18

SOURCE: SCAQMD, 2009. Localized Significance Thresholds Appendix C – Mass Rate LST Look-up Tables, October 21. <https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>. Accessed February 2024.

Toxic Air Contaminants

Based on the criteria set forth by the SCAQMD, the proposed project would expose sensitive receptors to substantial concentrations of toxic air contaminants if any of the following would occur (SCAQMD 2023):

- The Project emits carcinogenic materials or TACs that exceed the maximum incremental cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million) or chronic hazard index of 1.0.

Because the proposed project would have limited sources of TACs associated with construction and would not have any stationary sources during operations, a qualitative assessment was used to determine whether the proposed project would result in a significant impact by exceeding the above-referenced standard.

Environmental Impacts

Applicable Air Quality Plan

Impact 1 – Conflict with or obstruct implementation of the applicable air quality plan.

Retaining Wall Improvement and Outfall Structures

Construction

The SCAQMD recommends that lead agencies demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions (typically land-use related, such as resultant employment or residential units) upon which the air quality plan is based. The proposed project's construction would result in an increase in short-term employment compared to existing conditions. Being relatively small in number and temporary in nature, construction jobs under the proposed project would not conflict with the long-term employment projections upon which the AQMP is based. Control strategies in the AQMP with applicability to short-term emissions from construction activities include strategies denoted in the 2022 AQMP as MOB-06 and MOB-11 and are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions prone engines with newer engines meeting more stringent emission standards. Construction contractors would be required to comply with the CARB Air Toxic Control Measure that limits heavy duty diesel motor vehicle idling to no more than five minutes at any given location with certain limited exceptions defined in the regulation for equipment in which idling is integral to the function of the equipment or activity (such as concrete trucks and concrete pouring). In addition, contractors would be required to comply with required and applicable BACT and the CARB In-Use Off-Road Diesel Vehicle Regulation to use lower emitting equipment in accordance with the phased-in compliance schedule for equipment fleet operators. The proposed project would not conflict with implementation of these strategies. The proposed project is also required to comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403. Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Thus, the proposed project would not conflict with implementation of these strategies.

Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Therefore, construction of the

proposed project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

Operation

The AQMP was prepared to accommodate growth, reduce the levels of pollutants within the areas under the jurisdiction of SCAQMD, return clean air to the region, and minimize the impact on the economy. Projects that are considered consistent with the AQMP would not interfere with attainment because this growth is included in the projections used in the formulation of the AQMP. The proposed project would result in improvements to two existing discharge outfalls and an existing retaining wall. However, operation of the VWRP would remain similar to existing conditions and the proposed project would not result in new growth and would not interfere with growth projections contained in the 2020-3045 RTP/SCS, which forms the basis of the growth projections in the 2022 AQMP. Additionally, operation of the proposed project would not result in new emissions over those of existing conditions. As a result, the proposed project would not conflict with or obstruct implementation of the AQMP and impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant Impact

Regional Criteria Pollutant Emissions

Impact 2 – Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Retaining Wall Improvement

Construction

Construction of the proposed project has the potential to generate temporary regional criteria pollutant emissions through the use of heavy-duty construction equipment, such as backhoes, loaders, drill rigs, cranes, and other equipment; and through vehicle trips generated by workers and haul trucks traveling to and from the psite. In addition, fugitive dust emissions would result from site preparation and various soil-handling activities. Mobile source emissions, primarily NO_x, would result from the use of construction equipment such as drill rigs, cranes, dozers, and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

The results of the unmitigated criteria pollutant calculations are presented in **Table 7**, Retaining Wall Improvements *Maximum Unmitigated Regional Construction Emissions (Pounds per Day)*. The maximum daily construction emissions for the proposed project were estimated for each construction phase. These calculations assume compliance with applicable dust control measures during each phase of construction, as required by SCAQMD Rule 403 (Control of Fugitive Dust). The maximum daily emissions are predicted values for a representative worst-case day, and do not represent the actual emissions that would occur for every day of construction, which would likely be lower on many days. As shown in Table 7, construction-related daily criteria

air pollutant emissions would not exceed the SCAQMD regional significance thresholds during any phase of construction. Therefore, with respect to regional emissions from unmitigated construction activities, impacts would be less than significant.

TABLE 7
RETAINING WALL IMPROVEMENTS ESTIMATED MAXIMUM UNMITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY)
^a

Phase and Year	VOC	NO _x	CO	SO ₂	PM10 ^b	PM2.5 ^b
Maximum Daily Emissions per Phase						
Demolition – 2026	2.14	19.21	17.62	0.03	0.97	0.77
Grading/Excavation – 2026	1.58	11.21	14.79	0.04	0.92	0.49
Retaining Wall/Outfall Structures – 2026	1.72	15.23	21.04	0.04	2.19	0.80
Retaining Wall/Outfall Structures – 2027	1.69	14.48	20.94	0.04	2.15	0.76
Maximum Daily Emissions	2.14	19.21	20.94	0.04	2.19	0.80
SCAQMD Numeric Indicators	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

NOTES:

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A of this Memorandum.

^b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

SOURCE: ESA, VWRP Middle Section Retaining Wall Ground Improvement Project Air Quality Memorandum, February 2024.

Operation

The Project would result in improvements to an existing retaining wall which would achieve long-term protection of the middle section of the VWRP boundary along the Santa Clara River in case of a future Capital Flood scour event and improvements to two discharge outfalls which would help with the pipe backflow conditions in both outfalls resulting from infiltration by vegetation and roots causing pipe joint separations and soil/debris settlement. The operation of the VWRP would remain similar to existing conditions and the Project would not result in the generation of new operational criteria pollutant emissions. As a result, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard and impacts would be less than significant.

Mitigation Measures

None required

Significance Determination

Less than Significant Impact

Localized Pollutant Concentrations

Impact 3 – Expose sensitive receptors to substantial pollutant concentrations.

Localized Criteria Pollutant Emissions

Retaining Wall Improvements

Construction

The Localized construction emissions analysis only included on-site emissions from heavy-duty construction equipment in accordance with SCAQMD localized methodology. Localized emissions are the same as regional emissions except that they don't include off-site (mobile) emissions. Table 6, above, shows the SCAQMD LST construction thresholds adopted for this proposed project. As shown in **Table 11, Retaining Wall Improvements Estimated Maximum Localized Construction Emissions (Pounds per Day)**, maximum localized construction emissions for sensitive receptors would not exceed the localized threshold of significance for any criteria pollutant. As the proposed project's maximum localized emissions from construction would not exceed the localized thresholds of significance, localized construction emissions impacts would be less than significant. Detailed emissions calculations are provided in Appendix A of this Memorandum.

TABLE 11
RETAINING WALL IMPROVEMENTS ESTIMATED MAXIMUM LOCALIZED CONSTRUCTION EMISSIONS (POUNDS PER DAY) ^a

Phase	NO _x	CO	PM10 ^b	PM2.5 ^b
Demolition – 2026	19.00	17.00	0.80	0.73
Grading/Excavation – 2026	10.50	13.50	0.55	0.39
Retaining Wall/Outfall – 2026	14.00	19.30	1.67	0.66
Retaining Wall/Outfall – 2027	13.30	19.30	1.63	0.62
Maximum Localized (On-Site) Emissions	19.00	19.30	1.67	0.73
SCAQMD Screening Numeric Indicator ^c	273	8,174	131	74
Exceed Screening Numeric Indicator?	No	No	No	No

NOTES:

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A of this Memorandum.

^b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

^c The SCAQMD LSTs are based on Source Receptor Area 13 (Santa Clarita) for a 1-acre site with sensitive receptors conservatively assumed to be located 500 meters from the nearest sensitive receptor.

SOURCE: ESA, VWRP Middle Section Retaining Wall Ground Improvement Project Air Quality Memorandum, February 2024.

Operation

The Project would result in improvements to an existing retaining wall which would achieve long-term protection of the middle section of the VWRP boundary along the Santa Clara River in case of a future Capital Flood scour event and improvements to two discharge outfalls which would help with the pipe backflow conditions in both outfalls resulting from infiltration by vegetation and roots causing pipe joint separations and soil/debris settlement. The operation of the VWRP would remain similar to existing conditions and the Project would not result in the generation of new operational criteria pollutant emissions. As a result, the Project would not result in

a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard and impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant Impact

Carbon Monoxide Hotspots

Retaining Wall Improvements and Outfall Structures

Construction

As shown previously in Table 2, above, CO levels in the Project area are substantially below the federal and state standards. Maximum CO levels in recent years are 1.5 ppm (one-hour average) and 0.8 ppm (eight-hour average) compared to the thresholds of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). No exceedances of CO have been recorded at the SRA 13 monitoring stations in the last three years, as shown in Table 2, and the Air Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS. Thus, it is not expected that CO levels at Project-impacted intersections would rise to the level of an exceedance of these standards.

Additionally, the SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin. These include: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (one-hour average) and 3.2 (eight-hour average) at Wilshire Boulevard and Veteran Avenue.

The amount of construction worker vehicles and trucks commuting to the project site daily would be well below 100,000 vehicles. However, even assuming the project would have the peak modeled CO concentration at Wilshire Boulevard and Veteran Avenue, when added with the maximum CO level in the proposed project vicinity, the proposed project would have a CO concentration of 6.1 ppm ($4.6 + 1.5$) for the one-hour-average and 4.0 ppm ($3.2 + 0.8$) for the eight-hour average which would still be below the thresholds of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). Thus, this comparison demonstrates that construction of the Project would not contribute considerably to the formation of CO hotspots during construction. Therefore, the Project would not expose sensitive receptors to substantial CO pollutant concentrations and impacts would be less than significant.

Operation

The proposed project would result in improvements to the middle section retaining wall and two discharge outfalls. As such, there would be no new vehicle trips associated with the operation of the proposed project. Since

there are no new vehicle trips, operation of the proposed project would not contribute considerably to the formation of CO hotspots. Therefore, the proposed project would result in less than significant impacts with respect to CO hotspots as it would not expose sensitive receptors to substantial CO pollutant concentrations.

Mitigation Measures

None Required

Significance Determination

Less than Significant Impact

Toxic Air Contaminants

Retaining Wall Improvements and Outfall Structures

Construction

Construction activities would occur on the project site over approximately 30 months. For potential health risks, the construction duration would be significantly lower than the 30-year residential exposure period associated with cancer health risks. Sensitive receptors (i.e., residential receptors) may be exposed to DPM, a TAC, from the exhaust from construction equipment and diesel-fueled motor vehicles. The construction area is spread out over the approximately 3.6-acre Project Site, with sensitive receptor distances located more than ¼ mile from construction activity.

Health risk impacts would not be anticipated due to the short-term and temporary construction duration, the buffers to nearby sensitive receptors, the movement of construction activities around the project site and short time frame near any single receptor, and the small number of construction equipment. Furthermore, as shown in Table 11, the proposed project construction PM₁₀ (DPM) and PM_{2.5} emissions are below the SCAQMD thresholds. Furthermore, construction contractors would be required to comply with regulations that limit diesel emissions, such as the CARB Air Toxics Control Measure that limits diesel vehicle idling to no more than five minutes. Therefore, the Project would not expose sensitive receptors to substantial TAC emissions and impacts would be less than significant.

Operation

The proposed project would result in improvements to the middle section retaining wall and two discharge outfalls. TAC emissions are not expected from either of these improvements. Additionally, the operation of the VWRP would not significantly change from existing operations as a result of the proposed project, since it is just improvements to already existing infrastructure. Thus, operation of the proposed project would not expose sensitive receptors to substantial toxic air contaminant concentrations and impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant Impact

Other Emissions (Such as Odors)

Impact 4 – Result in other emissions (such as those leading to odors) affecting a substantial number of people.

Retaining Wall Improvements and Outfall Structures

Construction

Potential sources that may emit odors during construction activities include the combustion of diesel fuel in on- and off-road equipment, as well as architectural coatings and solvents. Through mandatory compliance with SCAQMD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. Therefore, construction activities for the proposed project would result in less than significant impacts with respect to other emissions, including those leading to odors.

Operation

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Although the proposed project is in a water reclamation plant, the improvements to the retaining wall and outfall structures would not result in the emission of odors. Furthermore, the proposed project would comply with SCAQMD Rule 402 – Nuisance. Therefore, potential odor impacts would be less than significant.

Mitigation Measures

None Required

Significance Determination

Less than Significant Impact

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Appendix A

Air Quality Emissions and Calculations

AQ Emissions Calculations

Valencia WRP
 Air Quality Construction Analysis

Regional Emissions - UNMITIGATED	Onsite Emissions									
	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Source	lb/day									
3.1 Demolition - 2026	2.14	19.21	17.62	0.03	0.80	0.17	0.97	0.73	0.04	0.77
3.3 Grading/Excavation 2026	1.58	11.21	14.79	0.04	0.42	0.50	0.92	0.39	0.10	0.49
3.5 Retaining Wall/Outfall 2026	1.72	15.23	21.04	0.04	0.54	0.66	2.19	0.50	0.15	0.80
3.7 Retaining Wall/Outfall 2027	1.69	14.48	20.94	0.04	0.50	0.66	2.15	0.46	0.15	0.76
SCAQMD Thresholds	75	100	550	150			150			55
Project Daily Maximum Emissions	2.14	19.21	21.04	0.04	0.80	0.66	2.19	0.73	0.15	0.80

Localized Maximum - UNMITIGATED	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM10	Fugitive PM10	Total PM2.5
Source	lb/day									
3.1 Demolition - 2026	2.10	19.00	17.00	0.03	0.80	0.00	0.80	0.73	0.00	0.73
3.3 Grading/Excavation 2026	1.51	10.50	13.50	0.04	0.41	0.14	0.55	0.38	0.01	0.39
3.5 Retaining Wall/Outfall 2026	1.63	14.00	19.30	0.04	0.53	0.14	1.67	0.49	0.02	0.66
3.7 Retaining Wall/Outfall 2027	1.60	13.30	19.30	0.04	0.49	0.14	1.63	0.45	0.02	0.62
Project Daily Maximum Emissions	2.10	19.00	19.30	0.04	0.80	0.14	1.67	0.73	0.02	0.73
Threshold	273.0		8174.0				131.0		74.0	
Significant Impact?	No		No				No		No	

Batch Concrete Plant Emissions

Valencia Wall Project
Air Quality Assessment

Batch Concrete Plant Emissions

Emissions calculated for max daily requirement and a maximum year (first year of construction)
for concrete requirements. Concrete would need to be trucked in for the 6 major foundation/footing pours

	max hourly	max daily	annual
Cubic Yards of Concrete	11	89	30,355

The table calculate PM10 emissions based on throughput in cubic yards assuming the following composition of one cubic yard of concrete:

Material Requirements:			Material Requirements			
			ton/hr	ton/day	ton/yr	
Course Aggregate:	1,865	lb/CY	Aggregate	10	83	28,306
Sand:	1,428	lb/CY	Sand	8	64	21,673
Cement:	491	lb/CY	Cement	3	22	7,452
Cement Supplement:	73	lb/CY	Cement Supplement	0	3	1,108
Water:	167	lb/CY	water:	1	7	2,532
			total	22	180	61,071

Area for storage:	0.03	acre
Control Efficiency for Storage pile:	90%	

Process Name/Description	Process Material	PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	Material (ton/day)	Material (tons/yr)	PM10 (lb/day)	PM10 (tons/yr)	PM2.5 (lb/day)	PM2.5 (tons/yr)
Aggregate transfer ¹	aggregate	0.0033	0.0005	83	28,306	0.27	0.05	0.04	0.01
Sand transfer ¹	sand	0.00099	0.00015	64	21,673	0.06	0.01	0.01	0.00
Cement unloading	cement	0.00340	0.0005	22	7,452	0.07	0.01	0.01	0.00
Cement supplement unloading	cement supplement	0.0049	0.0007	3	1,108	0.02	0.00	0.00	0.00
Weigh hopper loading ¹	sand + aggregate	0.0028	0.0004	147	49,980	0.41	0.07	0.06	0.01
Mixer loading (central mix) ¹	cement + supplement	0.0055	0.0008	25	8,560	0.14	0.02	0.02	0.00
Wind erosion from sand and aggregate storage piles ²	acres used for storage	630				0.02	0.003	0.003	0.001
						1.00	0.17	0.15	0.02

¹ Reference: U.S. EPA AP-42, "Compilation of Air Pollutant Emission Factors: Volume I: Stationary Point and Area Sources," fifth ed. Tables 11.12-2(6/06)

² The stockpile emission factor above is uncontrolled. Dust control efforts on stockpiles is claimed for additional control measures using water or other dust suppressants. 90 % control efficiency is for regular watering or use of a chemical palliatives (dust suppressants)

Cement is mixed at batch plant rather than in trucks during transport. Therefore, loaded concrete is already mixed and emissions from cement truck loading would be negligible.

GHG Emission Calculations

Valencia WRP - Unmitigated Construction GHG Emission Calcs

	Annual MT CO2e	Yearly Emissions	MT CO2e
3.1 Demolition - 2026		2026	618
Off-road Equipment	70.1		
Worker	2.94	2027	597
Vendor	0		
Hauling	3.18	Total	1215
Phase Total	76.22	Amortized 30 years	41
3.3 Grading/Excavation 2026			
Off-road Equipment	227		
Worker	12.6		
Vendor	0		
Hauling	34		
Phase Total	273.6		
3.5 Retaining Wall/Outfall 2026			
Off-road Equipment	209		
Worker	12.5		
Vendor	12.4		
Hauling	33.9		
Phase Total	267.8		
3.7 Retaining Wall/Outfall 2027			
Off-road Equipment	468		
Worker	27.6		
Vendor	27.2		
Hauling	74.6		
Phase Total	597.4		

CalEEMod Assumptions

Valencia Wall - CalEEMod Assumptions

defaults are in blue

PROJECT CHARACTERISTICS

Location	LA County
Climate Zone	
Land Use Setting	Urban
Start of Construction	2/1/2026
Operational Year	2027
Utility Company	SCE
CO2 intensity	default

LAND USE

Land Use	Land Use Subtype	Unit Amt	Size Metric	Lot Ac	SF	Population
Parking	Other Non-Asphalt Surfaces	40.89	1000 sf	3.21	40,892	0

CONSTRUCTION

Construction Phasing

Construction Phase	Start Date	End Date	Days/wk	Total Days
Demolition	2/1/2026	3/30/2026	6	49
Grading/Excavation	4/1/2026	8/31/2026	6	131
CDSM/Outfall	9/1/2026	10/1/2027	6	340
520				

Offroad Equipment

Phase	Equipment Type	Unit Amt	Hours/Day	HP	LF
Demolition	Rubber Tired Dozers	2	8 defaults		defaults
Demolition	Concrete/Industrial Saws	1	8 defaults		defaults
Demolition	Excavators	1	8 defaults		defaults
Grading/Excavation	Excavator	2	8 defaults		defaults
Grading/Excavation	Grader	1	8 defaults		defaults
Grading/Excavation	Off-Highway Truck	2	8 defaults		defaults
Grading/Excavation	Tractor/Loader/Backhoe	1	8 defaults		defaults
CDSM/Outfall	Bore/Drill Rig	2	8 defaults		defaults
CDSM/Outfall	Cement Batch Plant	1	defaults		defaults
CDSM/Outfall	Crane	1	8 defaults		defaults
CDSM/Outfall	Excavator	1	8 defaults		defaults
CDSM/Outfall	Grader	1	8 defaults		defaults
CDSM/Outfall	Off-Highway Truck	1	8 defaults		defaults
CDSM/Outfall	Tractor/Loader/Backhoe	2	8 defaults		defaults
Total		19			

Dust from Material Movement

Phase	Material Import (cy)	Material Export (cy)	Size Metric	Acres Graded
Grading/Excavation	6000	0 cy	default	65.6
CDSM/Outfall	113	19000 cy	default	170
Cement	5,000 tons		2500 cy	
concrete	4,500 cy			
				Additional Vendor Trips
				1
				3
				Total 4

Demo

Size Metric	Unit Amt	
cy	41	
tons of debris	38.048	assumed concrete debris: https://cityofwoodland.org/DocumentCenter/View/1054
tips & VMT	truck hauling capacity - Demo	10 cy
	truck hauling capacity - Grading	14 cy

Trips & VMT

Phase Name	# of worker trips/day	# vendor trips/day	# haul trips (total per phase)	# One way truck trips per phase	Trip length worker (mi)	trip length vendor (mi)	Trip length haul (mi)	Vehicle Class Worker	Vehicle Class Vendor	Vehicle Class Hauling
Demolition	10	0	46	2	default	default	20	LDA,LDT1,LDT2	HHDT,MHC	HHDT
Grading/Excavation	16	0	857	8	default	default	20	LDA,LDT1,LDT2	HHDT,MHC	HHDT
CDSM/Outfall	20	8	2730	10	default	default	20			

^Assume two one-way trips for drop off/demo of each heavy piece of equipment,

Architectural Coating

Phase	VOC for Parking Lot Paint	Parking Area
Arch Coating	default	default

OPERATIONAL - N/A

MOBILE

Vehicle Trips

LU	Wkday Trip Rate	Sat Trip Rate	Sun Trip Rate	Trip Length
default	default	default	default	default

Fleet Mix

LU
default

AREA

Hearths

Assume none

Consumer Prods

defaults

Arch Coatings

defaults

Landscape Equip

defaults

ENERGY USE

defaults

WATER AND WASTEWATER

defaults

SOLID WASTE

defaults

OFFROAD EQUIP

none

STATIONARY SOURCES

Emergency Generators / Fire Pumps

Equip Type	# Equipment	Fuel Type	HP	LF	Hours/Day	Hours/Year
None						

Boilers

Equip Type	# Equipment	Fuel Type	Boiler Rating (MMBtu/hr)	Heat Input (MMBtu)	Heat Input (MMBtu/yr)
None					

MITIGATION MEASURES

Water Exposed Area

3x Per Day

CalEEMod Output

Valencia WRP Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Valencia WRP
Construction Start Date	2/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	16.0
Location	28185 The Old Rd, Valencia, CA 91355, USA
County	Los Angeles-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3615
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.25

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Other Non-Asphalt Surfaces	40.9	1000sqft	3.21	0.00	0.00	0.00	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.09	1.73	15.2	21.0	0.05	0.55	0.65	1.20	0.50	0.15	0.65	—	5,583	5,583	0.24	0.19	3.12	5,649
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.55	2.14	19.2	20.8	0.05	0.80	0.65	1.20	0.73	0.15	0.78	—	5,570	5,570	0.24	0.19	0.08	5,632
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	1.35	11.0	13.6	0.03	0.41	0.42	0.80	0.38	0.09	0.47	—	3,692	3,692	0.16	0.12	0.80	3,728
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.25	2.00	2.49	0.01	0.08	0.08	0.15	0.07	0.02	0.08	—	611	611	0.03	0.02	0.13	617

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.09	1.73	15.2	21.0	0.05	0.55	0.65	1.20	0.50	0.15	0.65	—	5,583	5,583	0.24	0.19	3.12	5,649
2027	2.05	1.69	14.4	20.9	0.05	0.50	0.65	1.15	0.46	0.15	0.61	—	5,558	5,558	0.23	0.19	2.88	5,623
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.55	2.14	19.2	20.8	0.05	0.80	0.65	1.20	0.73	0.15	0.78	—	5,570	5,570	0.24	0.19	0.08	5,632
2027	2.05	1.69	14.5	20.8	0.05	0.50	0.65	1.15	0.46	0.15	0.61	—	5,545	5,545	0.22	0.19	0.07	5,606
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.63	1.35	11.0	13.6	0.03	0.41	0.39	0.80	0.38	0.08	0.47	—	3,692	3,692	0.16	0.11	0.73	3,728
2027	1.32	1.09	9.31	13.4	0.03	0.32	0.42	0.74	0.30	0.09	0.39	—	3,570	3,570	0.14	0.12	0.80	3,610
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.30	0.25	2.00	2.49	0.01	0.08	0.07	0.15	0.07	0.02	0.08	—	611	611	0.03	0.02	0.12	617
2027	0.24	0.20	1.70	2.44	0.01	0.06	0.08	0.13	0.05	0.02	0.07	—	591	591	0.02	0.02	0.13	598

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.02	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.02	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.50	2.10	19.0	17.0	0.03	0.80	—	0.80	0.73	—	0.73	—	3,143	3,143	0.13	0.03	—	3,154
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.55	2.28	< 0.005	0.11	—	0.11	0.10	—	0.10	—	422	422	0.02	< 0.005	—	423
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.47	0.42	< 0.005	0.02	—	0.02	0.02	—	0.02	—	69.9	69.9	< 0.005	< 0.005	—	70.1
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.55	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	< 0.005	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.5	17.5	< 0.005	< 0.005	0.03	17.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.02	19.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.90	2.90	< 0.005	< 0.005	< 0.005	2.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.02	3.02	< 0.005	< 0.005	< 0.005	3.18

3.3. Grading/Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	10.5	13.5	0.04	0.41	—	0.41	0.38	—	0.38	—	3,809	3,809	0.15	0.03	—	3,822
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.54	3.76	4.85	0.01	0.15	—	0.15	0.14	—	0.14	—	1,367	1,367	0.06	0.01	—	1,372

Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.69	0.89	< 0.005	0.03	—	0.03	0.02	—	0.02	—	226	226	0.01	< 0.005	—	227
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.03	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	217	217	0.01	0.01	0.73	220
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.65	0.26	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	544	544	0.03	0.09	1.22	572
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.33	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	74.8	74.8	< 0.005	< 0.005	0.11	75.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.25	0.09	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	195	195	0.01	0.03	0.19	205
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.02	12.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.3	32.3	< 0.005	0.01	0.03	34.0
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3.5. Retaining Wall/Outfall (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.94	1.63	14.0	19.3	0.04	0.53	—	0.53	0.49	—	0.49	—	4,383	4,383	0.18	0.04	—	4,398
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.94	1.63	14.0	19.3	0.04	0.53	—	0.53	0.49	—	0.49	—	4,383	4,383	0.18	0.04	—	4,398
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.01	5.52	0.01	0.15	—	0.15	0.14	—	0.14	—	1,256	1,256	0.05	0.01	—	1,260

Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.73	1.01	< 0.005	0.03	—	0.03	0.03	—	0.03	—	208	208	0.01	< 0.005	—	209
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	0.01	0.01	0.92	275
Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	249	249	0.01	0.04	0.67	261
Hauling	0.05	0.01	0.82	0.32	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	680	680	0.04	0.11	1.53	715
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.02	0.01	0.29	0.14	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	250	250	0.01	0.04	0.02	260
Hauling	0.05	0.01	0.85	0.33	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	680	680	0.04	0.11	0.04	714
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.33	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	74.7	74.7	< 0.005	< 0.005	0.11	75.7
Vendor	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	71.5	71.5	< 0.005	0.01	0.08	74.7
Hauling	0.01	< 0.005	0.25	0.09	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	195	195	0.01	0.03	0.19	205

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.02	12.5
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.8	11.8	< 0.005	< 0.005	0.01	12.4
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.3	32.3	< 0.005	0.01	0.03	33.9

3.7. Retaining Wall/Outfall (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.60	13.3	19.3	0.04	0.49	—	0.49	0.45	—	0.45	—	4,381	4,381	0.18	0.04	—	4,396
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.60	13.3	19.3	0.04	0.49	—	0.49	0.45	—	0.45	—	4,381	4,381	0.18	0.04	—	4,396
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23	1.03	8.54	12.4	0.03	0.32	—	0.32	0.29	—	0.29	—	2,819	2,819	0.11	0.02	—	2,829
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.19	1.56	2.27	< 0.005	0.06	—	0.06	0.05	—	0.05	—	467	467	0.02	< 0.005	—	468
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.83	270
Vendor	0.02	0.01	0.26	0.13	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	245	245	0.01	0.03	0.64	256
Hauling	0.05	0.01	0.79	0.31	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	667	667	0.03	0.11	1.42	701
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255
Vendor	0.02	0.01	0.27	0.13	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	245	245	0.01	0.03	0.02	255
Hauling	0.05	0.01	0.82	0.32	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06	—	667	667	0.03	0.11	0.04	700
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.06	0.69	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	165	165	< 0.005	0.01	0.23	167

Vendor	0.01	< 0.005	0.18	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	157	157	0.01	0.02	0.18	164
Hauling	0.03	0.01	0.54	0.20	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	429	429	0.02	0.07	0.39	451
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.2	27.2	< 0.005	< 0.005	0.04	27.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.1	26.1	< 0.005	< 0.005	0.03	27.2
Hauling	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	71.0	71.0	< 0.005	0.01	0.07	74.6

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum er Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	2/1/2026	3/30/2026	6.00	49.0	—
Grading/Excavation	Grading	4/1/2026	8/31/2026	6.00	131	—
Retaining Wall/Outfall	Building Construction	9/1/2026	10/1/2027	6.00	340	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading/Excavation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading/Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading/Excavation	Off-Highway Trucks	Diesel	Average	2.00	8.00	376	0.38
Grading/Excavation	Tractors/Loaders/Backh oes	Diesel	Average	1.00	8.00	84.0	0.37

Retaining Wall/Outfall	Cranes	Diesel	Average	1.00	8.00	367	0.29
Retaining Wall/Outfall	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Retaining Wall/Outfall	Graders	Diesel	Average	1.00	8.00	148	0.41
Retaining Wall/Outfall	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Retaining Wall/Outfall	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Retaining Wall/Outfall	Bore/Drill Rigs	Diesel	Average	2.00	8.00	83.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	0.00	10.2	HHDT,MHDT
Demolition	Hauling	2.00	20.0	HHDT
Demolition	Onsite truck	0.00	—	HHDT
Grading/Excavation	—	—	—	—
Grading/Excavation	Worker	16.0	18.5	LDA,LDT1,LDT2
Grading/Excavation	Vendor	0.00	10.2	HHDT,MHDT
Grading/Excavation	Hauling	8.00	20.0	HHDT
Grading/Excavation	Onsite truck	0.00	—	HHDT
Retaining Wall/Outfall	—	—	—	—
Retaining Wall/Outfall	Worker	20.0	18.5	LDA,LDT1,LDT2
Retaining Wall/Outfall	Vendor	8.00	10.2	HHDT,MHDT
Retaining Wall/Outfall	Hauling	10.0	20.0	HHDT
Retaining Wall/Outfall	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
------------	--	--	--	--	-----------------------------

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	38.0	—
Grading/Excavation	6,000	0.00	65.5	0.00	—
Retaining Wall/Outfall	113	19,000	170	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	3.21	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	8,390

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	22.9	annual days of extreme heat
Extreme Precipitation	5.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	13.6	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	45.1
AQ-DPM	24.4
Drinking Water	70.8
Lead Risk Housing	0.10
Pesticides	31.3
Toxic Releases	34.9
Traffic	88.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	70.3
Haz Waste Facilities/Generators	88.9
Impaired Water Bodies	66.7
Solid Waste	97.3
Sensitive Population	—
Asthma	4.31
Cardio-vascular	10.1
Low Birth Weights	61.9
Socioeconomic Factor Indicators	—
Education	9.29
Housing	23.4
Linguistic	37.7
Poverty	5.09

Unemployment	21.1
--------------	------

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	93.67380983
Employed	76.78686
Median HI	92.96804825
Education	—
Bachelor's or higher	84.97369434
High school enrollment	21.05735917
Preschool enrollment	58.19325035
Transportation	—
Auto Access	98.98626973
Active commuting	34.73630181
Social	—
2-parent households	74.38727063
Voting	67.39381496
Neighborhood	—
Alcohol availability	92.46759913
Park access	36.76376235
Retail density	47.77364301
Supermarket access	23.22597203
Tree canopy	62.74862056
Housing	—
Homeownership	68.57436161

Housing habitability	81.30373412
Low-inc homeowner severe housing cost burden	60.46451944
Low-inc renter severe housing cost burden	67.75311177
Uncrowded housing	74.48992686
Health Outcomes	—
Insured adults	86.30822533
Arthritis	0.0
Asthma ER Admissions	98.4
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	71.8
Cognitively Disabled	87.2
Physically Disabled	81.6
Heart Attack ER Admissions	83.3
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0

No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	88.1
SLR Inundation Area	0.0
Children	92.2
Elderly	92.1
English Speaking	69.3
Foreign-born	49.0
Outdoor Workers	66.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	89.1
Traffic Density	75.3
Traffic Access	23.0
Other Indices	—
Hardship	14.5
Other Decision Support	—
2016 Voting	38.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	87.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Specific Information
Construction: Construction Phases	Project Specific Construction Schedule
Construction: Off-Road Equipment	Project Specific Equipment
Construction: Dust From Material Movement	Project Specific Information
Construction: Trips and VMT	Project Specific Information

Appendix C

Biological Technical Reports

BIOLOGICAL CONSTRAINTS ANALYSIS

**Valencia Water Reclamation Plant Retaining Wall Mid-
Section Project
Los Angeles County, California
APN 2826-005-902**

Prepared for
Mandy Huffman
Los Angeles County Sanitation Districts
1955 Workman Mill Road
Whittier, California 90601

June 2022



BIOLOGICAL CONSTRAINTS ANALYSIS

**Valencia Water Reclamation Plant Retaining Wall Mid-
Section Project
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June 2022

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BIOLOGICAL CONSTRAINTS ANALYSIS

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

1. Introduction

This report documents the findings of a biological constraints analysis and focused rare plant survey conducted at 28185 The Old Road, Valencia, California (APN 2826 005 902), partially within the Santa Clara River Significant Ecological Area (SEA), to support the processing of a discretionary Conditional Use Permit (CUP) application for the Valencia Water Reclamation Plant (VWRP) Retaining Wall Mid-Section Project (project).

The portion of the project situated within the SEA falls under the regulation of the SEA Ordinance 2019-0072, Title 22 – Planning and Zoning of the Los Angeles County Code (Section 22.102.010 to 150) (SEA Ordinance), effective on January 16, 2020 (Los Angeles County 2020), and is subject to review by the Significant Ecological Areas Technical Advisory Committee (SEATAC).

This report provides an overview of the biological resources observed or that have the potential to occur within the property (project site) and a surrounding 200-foot buffer (collectively referred to as the survey area), and any constraints these biological resources may pose to the project. These constraints will be considered during the SEATAC review and CUP entitlement process. In addition to the identification of potential constraints, this report also includes recommendations for preventing/reducing impacts to sensitive resources during implementation of the proposed project. In accordance with the County procedures, a Biological Constraints Analysis Checklist is provided at the end of the report verifying that all necessary information has been included (**Appendix A, SEA Biological Constraints Analysis Checklist**).

1.1 Statement of Qualifications

ESA has extensive experience providing biological services throughout Los Angeles County; qualified ESA biologists conducted the site visit and prepared this report and their resumes are provided in **Appendix B, Resumes**. Their levels of experience are summarized below:

- **Daryl Koutnik – Principal Biologist:** Daryl has over 25 years of experience as a professional biologist. Daryl earned a BS in mathematics and biology from California State University, Northridge and an MS and PhD in botany from University of California, Davis. Daryl has extensive experience conducting biological assessments in Southern California. Daryl provided senior oversight during the preparation of the document.

- **Robert Sweet – Senior Biologist/Botanist:** Robert (Robbie) Sweet has over 14 years of professional experience conducting various habitat assessments, wildlife surveys, and focused botanical surveys in Southern California. Robbie earned a BS in environmental science from California State University, Channel Islands. Robbie led the field effort and is the primary author of this document.
- **Amanda French – Associate Biologist:** Amanda is a wildlife biologist with 4 years of experience in biological and environmental compliance, conducting reconnaissance and focused-level wildlife and plant surveys, and participating in various forms of scientific data collection. In her role as a wetland scientist, Amanda has also supported a wide range of interdisciplinary projects with a focus on the identification, delineation, and functional assessment of wetlands. Amanda assisted in the field effort.

1.2 Project and Survey Description

1.2.1 Project Description

The requested CUP will permit the proposed construction of the project. The project generally involves the replacement of the mid-section of the existing retaining wall that spans the southwest boundary of the VWRP, adjacent to the Santa Clara River. Replacement of the proposed section of the retaining wall will require the staging of material/equipment and access within and immediately adjacent to the VWRP, which may result in an impact to biological resources within the SEA.

- Applicant: Mandy Huffman
Los Angeles County Sanitation Districts
1955 Workman Mill Road
Whittier, California 90601
mandyhuffman@lacsds.org
- Project Name: Valencia Water Reclamation Plant Retaining Wall Mid-Section Project
- Type of Report: Biological Constraints Analysis
- SEA: Santa Clara River
- APN: 2826-005-902
- Project Site Area: 6.77 acres
- Development: Replacement of existing retaining wall

1.2.2 Methods

Literature Review

Prior to conducting the field assessment, ESA conducted a query of the following available resource inventory databases to analyze the potential for sensitive resources to occur within the survey area:

- California Department of Fish and Wildlife (CDFW). 2022a. California Natural Diversity Data Base (CNDDB). The database was queried for special-status species records in the Newhall U.S. Geological Survey (USGS) 7.5-minute quadrangle and eight surrounding quadrangles, including Whitaker Peak, Warm Springs Mountain, Green Valley, Mint Canyon,

San Fernando, Oat Mountain, Santa Susana, and Val Verde.

<https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>: Accessed April 26, 2022.

- CDFW. 2022b. Sensitive Natural Communities. Sacramento, CA: CDFW, Natural Heritage Division, 2021. Accessed at: <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities> on April 26, 2022.
- California Department of Forestry and Fire Protection (CDFFP). 2022. Fire Resource and Assessment Program. Accessed at: <http://frap.fire.ca.gov/data/frapgisdata-subset> on May 13, 2022.
- California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Vascular Plants of California. Database was queried for special-status species records in the Newhall U.S. Geological Survey (USGS) 7.5-minute quadrangle and eight surrounding quadrangles, including Whitaker Peak, Warm Springs Mountain, Green Valley, Mint Canyon, San Fernando, Oat Mountain, Santa Susana, and Val Verde. <http://rareplants.cnps.org/>: Accessed April 26, 2022.
- Natural Resource Conservation Service (NRCS). 2022. Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>: Accessed April 26, 2022.
- U.S. Fish and Wildlife Service (USFWS). 2022. Critical Habitat Portal. <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>: Accessed May 13, 2022.
- U.S. Fish and Wildlife Service (USFWS). 2022. Information for Planning and Consultation. IPaC: Home (fws.gov): Accessed May 13, 2022.

Biological Constraints Analysis and Focused Rare Plant Survey

A biological constraints analysis and focused rare plant survey were conducted by Amanda French and Robert Sweet on March 4, 2022. The survey was completed by walking the approximately 27.75-acre survey area to characterize and map vegetation, and to determine the potential for special-status plants and wildlife to occur. The vegetation mapping and focused rare plant survey efforts were conducted pursuant to *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, with the exception of mapping CDFW sensitive communities; a Combined Rapid Assessment and Relevé form was not completed when determining the presence of and/or boundaries of sensitive communities. However, a visual inspection of species composition was deemed sufficient by the surveying biologists to accurately describe each community (CDFW 2018).

All incidental, visual observations of flora and fauna, including sign (e.g., presence of scat) as well as any audible detections, were noted during the assessment and are described further below in this report. All native and non-native plant communities and land uses were characterized and delineated on aerial photographs during the field survey, and then digitized on aerial maps using a Geographic Information System software (ArcGIS). Most descriptions of vegetation were characterized in the field in accordance with *A Manual of California Vegetation Online* (Sawyer et al. 2009); however, others were based on dominant species or notable features, when a vegetation alliance listed in the Manual was not appropriate. A detailed description of each natural community and land cover type is provided in Section 2.4 of this report.

An assessment of the potentially jurisdictional aquatic resources present within the survey area was conducted during the site visit, as well. The assessment included the mapping of each feature and any boundaries that may be applicable for each relevant regulatory agency.

2. Characteristics of the Project Site

2.1 Location and Legal Description of the Project Site

The project site is located within the Santa Clarita Valley area of Los Angeles County (**Figure 1, Regional Location**) in the Newhall USGS 7.5-minute topographic quadrangle and is situated within the community of Valencia, at an elevation of ranging roughly between 1,025 feet and 1,060 feet above mean sea level.

The city of Santa Clarita is located to the east, within approximately 300 feet of the survey area and east of Interstate 5, the community of Castaic is located approximately 1.5 miles to the north, and the community of Sylmar within the city of Los Angeles is located approximately 9 miles to the southeast. The Ventura County boundary is about 6 miles to the west. State Route 126 is located approximately 0.80 miles to the northwest (**Figure 2, Project Location**).

2.2 Soils and Topography

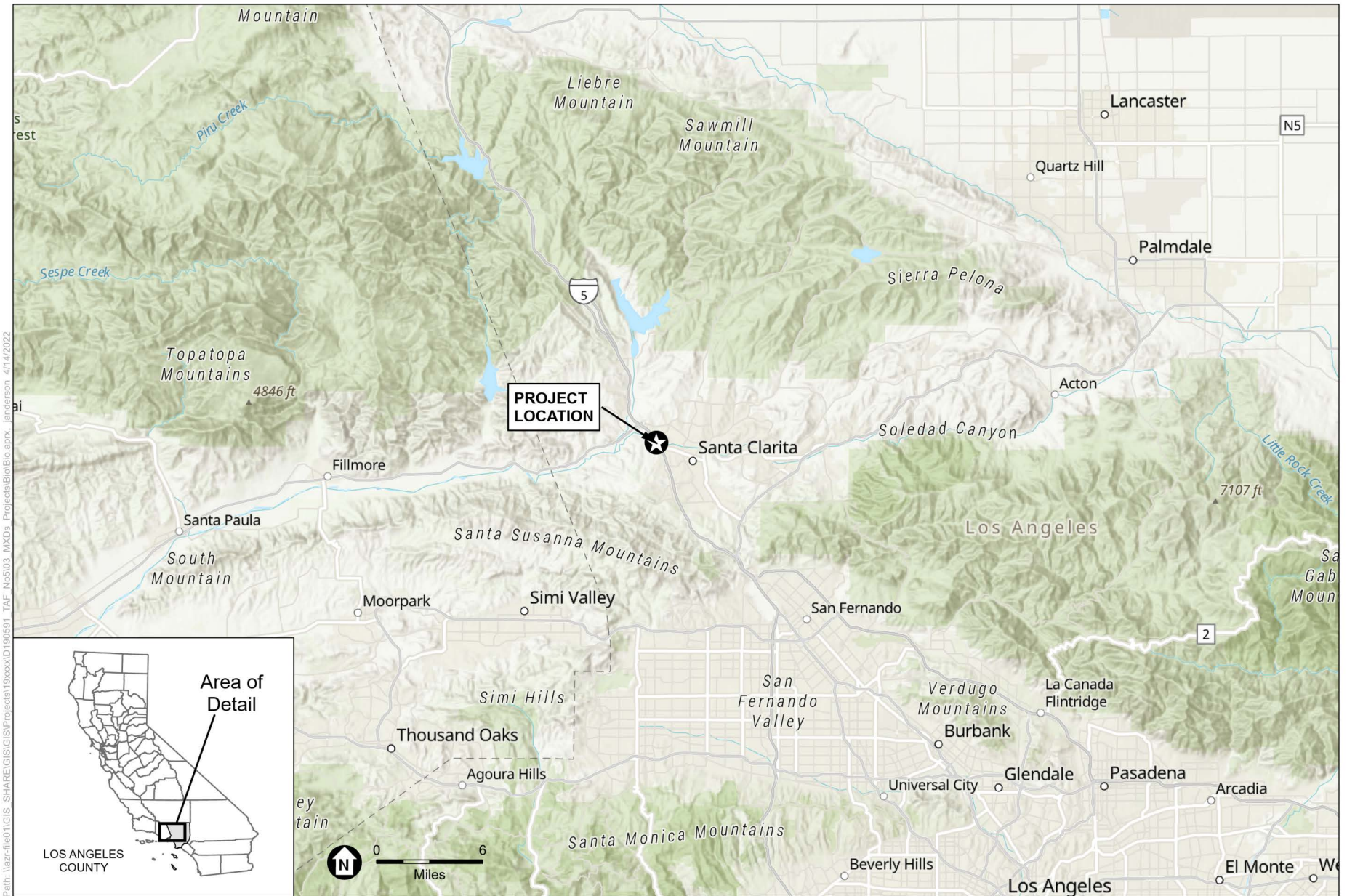
The project site is situated just east of the Santa Clara River and the survey area includes portions of its bed, banks, floodplain and adjacent upland areas. Topography slopes down to the west, from these adjacent upland areas, toward the Santa Clara River, at a slope of 10 percent. Once reaching the floodplain and bed and banks of the river, the survey area slopes very gradually downstream, to the northwest, at approximately 0.5 percent. As shown in **Figure 3, Soils**, three soil types occur within the survey area: Riverwash, sandy alluvial land, and mocho loam, 0 to 2 percent slopes (NRCS 2022).

2.2.1 Riverwash

This soil is considered excessively drained and is typically composed of alluvium from various parent sources. Its profile consists of sand from 0 to 6 inches and stratified coarse sand to sandy loam from 6 to 60 inches. Riverwash accounts for 85 percent of the total soil composition; however, various other minor components such as sandy alluvial land and unnamed soils constitute the remaining 15 percent. The Riverwash soil component is listed as hydric (NRCS 2022).

2.2.2 Sandy Alluvial Land

This soil is considered excessively drained and is typically composed of alluvium derived from various parent sources. Its profile consists of sand from 0 to 10 inches, 10 to 30 inches stratified sand to loam and 30 to 60 inches stratified gravelly sand to gravelly loam. Sandy alluvial land accounts for 85 percent of the total soil composition; however, various other minor components, such as Riverwash and unnamed soils make up the remaining 15 percent. The Riverwash soil component is considered hydric (NRCS 2022).



SOURCE: ESRI

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 1
Regional Location



Path: \\azr-fle01\GIS_SHARE\GIS\GIS\Projects\19xxxx\190591_TAF_Nc5\03_MXD\Projects\Bio\Bio.aprx Fig2 Project Location_janderson 4/14/2022

SOURCE: Nearmap, 2021; ESA, 2022

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 2
Project Location

2.2.3 Mocho Loam, 0 to 2 percent slopes

This soil is considered well drained and is typically composed of alluvium derived from sedimentary rock. Its profile consists of loam from 0 to 60 inches. Mocho loam and similar components account for 85 percent of the total soil composition; however, various other minor components, such as Sorrento, Metz, Yolo and an unnamed soil make up the remaining 15 percent. The unnamed soil component is considered hydric (NRCS 2022).

2.3 Microclimate and Wildfire

Average annual precipitation in the area is 15.03 inches and mean annual air temperature is approximately 62.0°F (USA.com 2022). According to the Statewide Historical Fire Perimeter Map (CDFFP 2022), two fires have burned within the survey area. The Rye fire burned approximately 4.8 acres within the northern portion of the survey area in 2017 and the Sky fire burned approximately 0.6 acres within the very southern tip of the survey area in 2019.

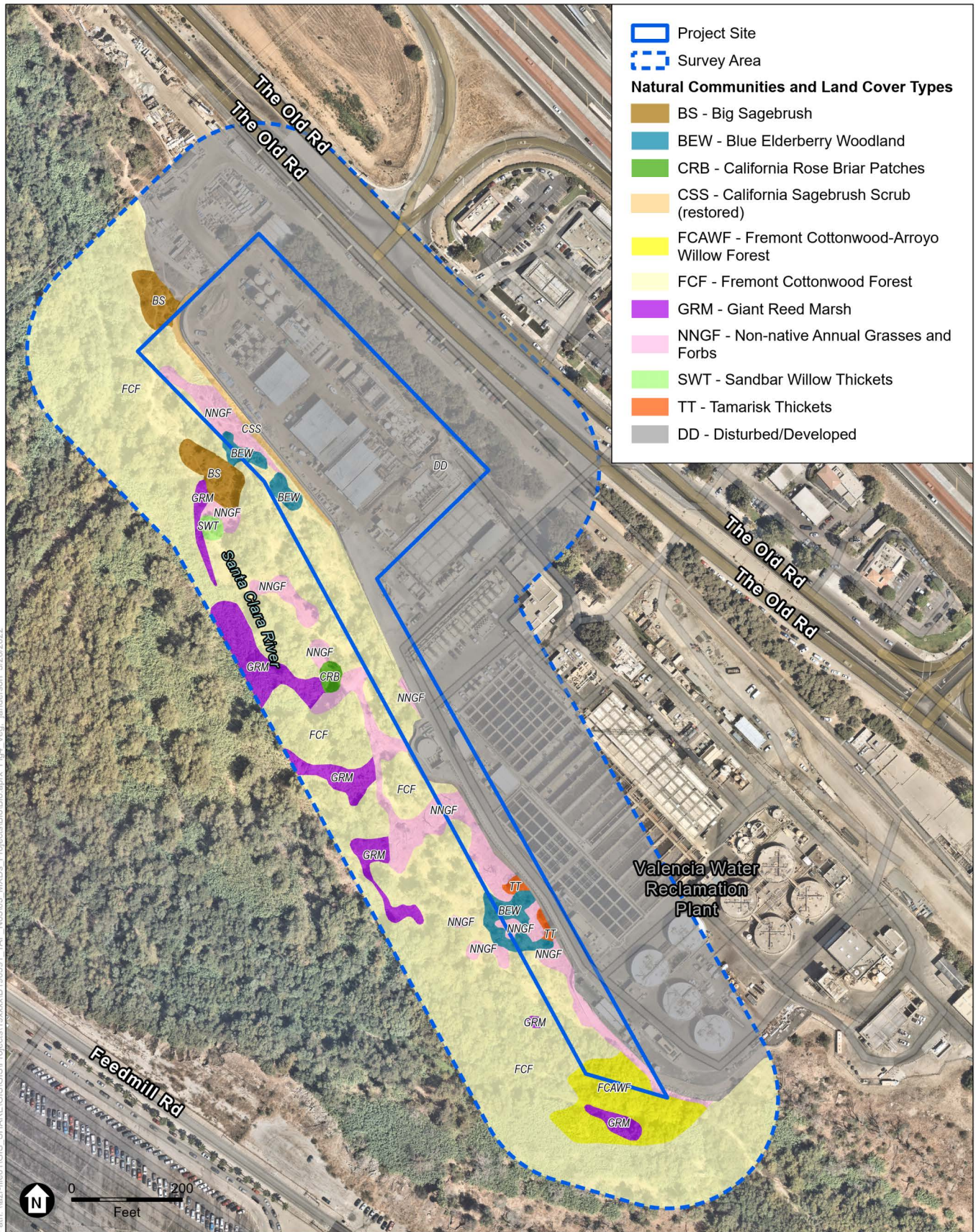
2.4 Natural Communities and Land Cover Types

The natural communities and land cover types located within the survey area were characterized and mapped during the site visit and are depicted in **Figure 4, Natural Communities and Land Cover Types**; each natural community and land cover type is described in detail below. **Table 1, Natural Communities and Land Cover Types**, lists each of the natural communities observed, as well as the acreage within the project site and within the surrounding 200-foot survey buffer. A complete list of plant species observed during the site visit was generated and is provided in **Appendix C, Floral and Faunal Compendia**. Photographs taken during the site visit depict the communities and land use within the survey area and are provided in **Appendix D, Photographic Log**.

It should be noted that restored areas occur within the northern portion of the survey area, immediately adjacent to the VWRP. These restored areas consist of the California sagebrush scrub (restored) described below and 18 planted Fremont cottonwood trees (*Populus fremontii*), situated within the blue elderberry woodland, Fremont cottonwood forest and non-native grasses and forbs. The restoration was implemented in accordance with CDFW Streambed Alteration Agreement (SAA) No. 1600-2016-0004-R5, issued for the previous VWRP project as compensation for impacts to CDFW jurisdiction associated with the replacement of a portion of the VWRP retaining wall to the north of the proposed project site, which took place between September 2016 and December 2017 (ESA 2018).

2.4.1 Big Sagebrush (*Artemisia tridentata* shrubland)

Big sagebrush occurs in two locations, within the northern portion of the survey area, immediately adjacent to the project site. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a dense shrub layer with big sagebrush (*Artemisia tridentata*) as the dominant species, interspersed periodically with California sagebrush (*A. californica*). Little to no understory was noted; however, a few grasses and forbs were observed along its margins, including wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and short-podded mustard (*Hirschfeldia incana*).



SOURCE: Nearmap, 2021; ESA, 2022

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 4
 Natural Communities and Land Cover Types

2.4.2 Blue Elderberry Woodland (*Sambucus nigra* ssp. *caerulea* Woodland)

Blue elderberry woodland occurs in two locations, within the northern and central portions of the project site, immediately adjacent to the existing VRWP retaining wall. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a dense tree layer blue elderberry (*Sambucus nigra* ssp. *caerulea*) as the dominant species, interspersed with few other tree or shrub species such as mulefat (*Baccharis salicifolia*) and Fremont cottonwood. Little to no understory was noted; however, a few grasses and forbs were observed along its margins, including redstem filaree (*Erodium cicutarium*), ripgut brome, short-podded mustard, and wild oats.

2.4.3 California Rose Briar Patches (*Rosa californica* Shrubland)

California rose briar patches occur in one location, within the central portion of the survey area, immediately adjacent to the project site. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a dense shrub layer consisting entirely of California rose (*Rosa californica*).

2.4.4 California Sagebrush Scrub (Restored) (*Artemisia californica* Shrubland)

California sagebrush (restored) occurs in two locations in the northern portion of the project site, immediately adjacent to the existing VWRP retaining wall. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a shrub layer of California sagebrush as the dominant species, interspersed with big sagebrush, mulefat and black sage (*Salvia mellifera*). A sparse understory is present, as well, which supports various grasses and forbs, such as jimsonweed (*Datura wrightii*) and saltgrass (*Distichlis spicata*). As stated above in Section 2.4, *Natural Communities and Land Cover Types*, the vegetation within this community was established as part of restoration implemented as compensation for impacts associated with previous construction (ESA 2018).

2.4.5 Fremont Cottonwood-Arroyo Willow Forest (*Populus fremontii*-*Salix lasiolepis* Forest)

Fremont cottonwood-arroyo willow forest occurs in one location in the southern portion of the project site and survey area. This community is situated within the bed, banks and floodplain of the Santa Clara River is characterized as supporting a tree layer of Fremont cottonwood and arroyo willow (*Salix lasiolepis*) as the co-dominant species, interspersed with giant reed (*Arundo donax*), blue elderberry, mulefat and red willow (*S. laevigata*). This community supports a dense understory of grasses and forbs, as well, such as poison hemlock (*Conium maculatum*), ripgut brome, stinging nettle (*Urtica dioica*), dwarf nettle (*U. urens*), and wild oats.

2.4.6 Fremont Cottonwood Forest (*Populus fremontii* Forest)

Fremont cottonwood forest occurs throughout much of the western half of the project site and survey area and abuts portions of the existing VWRP retaining wall. This community is situated within the bed, banks and floodplain of the Santa Clara River is characterized as supporting a

tree/large grass layer of Fremont cottonwood as the dominant species, interspersed with blue elderberry, giant reed, mulefat and red willow. This community also supports a dense understory of grasses, forbs and shrubs such as dwarf nettle, chaparral mallow (*Malacothamnus fasciculatus*), tree tobacco (*Nicotiana glauca*), poison hemlock, ripgut brome, stinging nettle, and wild oats.

2.4.7 Giant Reed Marsh (*Arundo donax* Marsh)

Giant reed marsh occurs in large patches throughout the western half of the project site and survey area, within the Fremont cottonwood forest. This community is situated within the bed, banks and floodplain of the Santa Clara River and is characterized as supporting a tree/large grass layer almost exclusively of giant reed, interspersed periodically with arroyo willow, Fremont cottonwood, mulefat, red willow, and sandbar willow (*S. exigua*).

2.4.8 Non-Native Annual Grasses and Forbs

Non-native grasses and forbs occur throughout much of the western half of the project site and survey area and abut portions of the existing VWRP retaining wall. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a dense herbaceous layer of grasses and forbs, including lamb's quarters (*Chenopodium album*), barley (*Hordeum murinum*), jimsonweed, horehound (*Marrubium vulgare*), ripgut brome, London rocket (*Sisymbrium irio*), and wild oats.

2.4.9 Tamarisk Thickets (*Tamarix ramossisima* Thickets)

Tamarisk thickets occur in two small patches within the southern portion of the project site, immediately adjacent to the existing VWRP retaining wall. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a tree layer composed entirely of tamarisk (*Tamarix ramossisima*).

2.4.10 Sandbar Willow Thickets (*Salix exigua* Thickets)

Sandbar willow occurs in one small patch within the northern portion of the survey area, west of the project site. This community is characterized as supporting a tree/large grass layer almost exclusively of sandbar willow, interspersed periodically with arroyo willow, Fremont cottonwood, giant reed, mulefat and red willow.

2.4.11 Disturbed/Developed

Disturbed/developed land use occurs throughout most of the project site and survey area, within the existing VWRP property and to the northeast, along the Old Road. Land use within the VWRP property includes various buildings, parking lots and other infrastructure associated with the treatment of reclaimed water. Vegetation observed within these areas, aside from sparse weedy cover (i.e., horehound, lamb's quarters and short-podded mustard), includes landscaped and ornamentally planted trees such as European olive (*Olea europea*) and Peruvian pepper (*Schinus molle*).

TABLE 1
NATURAL COMMUNITIES AND LAND COVER TYPES

Natural Communities and Land Cover Types	Project Site (Acres)	200-Foot Buffer (Acres)
Big Sagebrush	0.00	0.30
Blue Elderberry Woodland	0.19	0.08
California Rose Briars	0.00	0.04
California Sagebrush Scrub (restored)	0.11	0.01
Fremont Cottonwood-Arroyo Willow Forest	0.11	0.48
Fremont Cottonwood Forest	1.10	8.09
Giant Reed Marsh	0.00	0.70
Sandbar Willow Thickets	0.00	0.04
Tamarisk Thickets	0.04	0.00
Non-Native Annual Grasses and Forbs	0.58	0.63
Disturbed/Developed	4.63	10.60
TOTAL	6.77	20.97

Source: ESA 2022

2.5 California Department of Fish and Wildlife Sensitive Natural Communities and Habitats

Sensitive natural communities and habitats are defined by the CDFW as those natural communities that have a reduced range and/or are imperiled as a result of residential and commercial development, agriculture, energy production and mining, or an influx of invasive and other problematic species. Vegetation communities are evaluated using NatureServe’s Heritage Methodology (NatureServe 2022), which is based on the knowledge of range and distribution of a specific vegetation type and the proportion of occurrences that are of good ecological integrity. Evaluation is done at both global (natural range within and outside of California [G]) and subnational (state level for California [S]) status ranks, each ranked from 1 (“critically imperiled” or very rare and threatened) to 5 (demonstrably secure). Natural communities and habitats with state ranks of S1–S3 are considered sensitive natural communities and may require review when environmental impacts are evaluated. When a community is given a rank of NR, this indicates that it has not yet been ranked under NatureServe (CDFW 2022b).

The blue elderberry woodland, California rose briar patches, Fremont cottonwood forest and Fremont cottonwood-Arroyo willow forest present within the survey area have a NatureServe rank of G4S3, G3S3, G4S3, and G4S3, respectively; therefore, they meet the criteria as CDFW sensitive communities (see **Figure 5, Sensitive Biological Resources**).

2.6 Wildlife

2.6.1 Common Wildlife

Common avian species observed during the field assessment include the California scrub-jay (*Aphelocoma californica*), red-shouldered hawk (*Buteo lineatus*), wrentit (*Chamaea fasciata*), American crow (*Corvus brachyrhynchos*), common raven (*C. corax*), Nuttall's woodpecker (*Dryobates nuttallii*), brewer's blackbird (*Euphagus cyanocephalus*), common yellowthroat (*Geothlypis trichas*), house finch (*Haemorhous mexicanus*), song sparrow (*Melospiza melodia*), bushtit (*Psaltiriparus minimus*), yellow-rumped warbler (*Setophaga coronata*), European starling (*Sturnus vulgaris*), California thrasher (*Toxostoma redivivum*), and white-crowned sparrow (*Zonotrichia leucophrys*).

One small mammal species, the desert cottontail (*Sylvilagus audubonii*); one amphibian species, the California tree frog (*Pseudacris cadaverina*); and one reptile species, the western fence lizard (*Sceloporus occidentalis*), were observed, as well. A complete list of wildlife observed during the site visit is included in Appendix C.

2.6.2 Special-Status Wildlife

Special-status wildlife is defined as those animals that, because of their recognized rarity or vulnerability to various forms of habitat loss or population decline, are considered by federal, state, or other agencies to be under threat from human-associated developments.

Some of these species receive specific protection that is defined by federal or state endangered species legislation and others have been designated as special-status on the basis of adopted local policies (e.g., city and county) or the educated opinion of various resource interest groups (e.g., Western Bat Working Group [WBWG]). Special-status wildlife is defined as any of the following:

- Wildlife that are listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA).
- Wildlife that meet the definitions of rare or endangered under California Environmental Quality Act (CEQA) Guidelines Section 15380.
- Wildlife designated by CDFW as species of special concern (SSC), included on the Watch List or considered "Special Animals."
- Wildlife fully protected in California (Fish and Game Code Sections 3511, 4700, and 5050).
- Birds designated as sensitive by the Los Angeles Audubon Society (LAAS) or are included in the Bird Watchlist (Allen L.W. et al. 2009).
- Bird species protected by the Migratory Bird Treaty Act (MBTA).
- Bat species considered priority by the WBWG.

A review of the most recent CNDDDB (CDFW 2022a) records for the project site revealed that numerous special-status wildlife species have previously been recorded within the USGS nine-quadrangle search area; a complete list of the species generated in the CNDDDB query are provided in **Appendix E, CNDDDB and CNPS Database Search Results**. Wildlife species generated in the query that are not expected to occur within the survey area (based on an absence of suitable habitat, known geographic distributions, and/or range restrictions) were omitted and are not discussed further in this report.

The special-status wildlife listed below in **Table 2, Potentially Occurring Special-Status Wildlife Species in the Survey Area** were determined to have varying levels of potential to occur based on the following criteria:

- **Low Potential:** The project site supports little to no habitat for a particular species.
- **Moderate Potential:** The survey area provides marginal habitat for a particular species. For example, the habitat may be heavily disturbed or just outside the known geographical or elevation range; however, it still provides suitable foraging and breeding habitat.
- **High Potential:** The survey area provides suitable habitat conditions for a particular species and/or known populations to occur in the immediate area.
- **Present:** The species was observed within the survey area during the site visit.

Based on the presence of suitable habitat within and adjacent to the Santa Clara River, the following 22 species have a moderate to high potential to occur within the survey area. Cooper's hawk (*Accipiter cooperii*), San Diegan legless lizard (*Anniella stebbinsi*), coastal whiptail (*Aspidoscelis tigris* ssp. *stejnegeri*), Santa Ana Sucker (*Catostomus santaanae*), yellow-billed cuckoo (*Coccyzus americanus*), Townsend's big-eared bat (*Corynorhinus townsendii*), southwestern willow flycatcher (*Empidonax traillii* ssp. *extimus*), western pond turtle (*Emys marmorata*), Unarmored threespine stickleback (*Gasterosteus aculeatus* ssp. *williamsoni*), arroyo chub (*Gila orcuttii*), yellow-breasted chat (*Icteria virens*), Silver-haired bat (*Lasionycteris noctivagans*), western red bat (*Lasiurus blossevillei*), California towhee (*Melospiza crissalis*), belted kingfisher (*Megasceryle alcyon*), coast horned lizard (*Phrynosoma blainvillii*), mountain lion (*Puma concolor*), Santa Ana sucker (*Rhinichthys osculus* ssp. 8), yellow warbler (*Setophaga petechia*), American badger (*Taxidea taxus*), two-striped garter snake (*Thamnophis hammondi*), and least Bell's vireo (*Vireo bellii* ssp. *pusillus*).

Two LAAS species, the oak titmouse (*Baeolophus inornatus*), and the ruby-crowned kinglet (*Regulus calendula*) were observed foraging within the survey area during the site visit. Due to the presence of suitable breeding habitat, the oak titmouse is expected to utilize the survey area to breed. However, the ruby-crowned kinglet is not known to breed along the coast of Southern California and is not expected to breed within the survey area.

TABLE 2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES WITHIN THE SURVEY AREA

Common and Scientific Name	Status	Habitat	Potential to Occur within Survey Area
Reptiles			
Arroyo toad (<i>Anaxyrus californicus</i>)	FE, SSC, SA	Chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon & juniper woodlands, riparian scrub, riparian woodland and valley & foothill grassland. Frequents a wide variety of habitats.	Low. Flowing, open water is present along the Santa Clara River, within the western extent of the survey area, and this species has previously been reported approximately 0.5 mile to the southeast of the project site in 1994. However, shallow, meandering low-flow channels with sandy substrate and minimal shade, necessary to support breeding and the deposition of eggs strands, was not observed.
San Diegan legless lizard (<i>Anniella stebbinsi</i>)	SSC, SA	Chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon & juniper woodlands, riparian scrub, riparian woodland and valley & foothill grassland. Frequents a wide variety of habitats.	High. Suitable habitat is present throughout the grass/forb, shrubland and riparian forest habitats, within the western portion of the project site and survey area.
Glossy snake (<i>Arizona elegans</i> ssp. <i>occidentalis</i>)	SSC, SA	Arid scrub, rocky washes, grasslands and chaparral.	Low. This species was reported within the general vicinity (1-mile accuracy) of the project site in 1946 (CDFW 2022a). However, limited xeric conditions occur within the project site and survey area.
Coastal whiptail (<i>Aspidoscelis tigris</i> ssp. <i>stejnegeri</i>)	SSC, SA	Deserts & semiarid scrub/chaparral communities with sparse vegetation.	High. Suitable habitat is present throughout the grass/forb, shrubland and riparian forest within the western portion of the project site and survey area. In addition, this species was reported within the general vicinity (1-mile accuracy) of the project site in 2015 (CDFW 2022a).
Western pond turtle (<i>Emys marmorata</i>)	SSC, SA	Open water, within riparian woodland, Riparian scrub, marsh and swamp and wetland habitats.	High. Suitable habitat is present within the open water and adjacent riparian forest along the Santa Clara River, within the western portion of the project site and survey area. In addition, this species was reported immediately to the north of the survey area in 2015 (CDFW 2022a).
Coast horned lizard (<i>Phrynosoma blainvillii</i>)	SSC, SA	Found within chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon & juniper woodlands, riparian scrub, riparian woodland and valley & foothill grassland.	High. Suitable habitat is present throughout the grass/forb, shrubland and riparian forest within the western portion of the project site and survey area. In addition, this species was reported within the general vicinity (1-mile accuracy) of the project site in 2015 (CDFW 2022a).
Two-striped garter snake (<i>Thamnophis hammondi</i>)	SCC, SA	Open water within riparian woodland, Riparian scrub, marsh and swamp, wetland.	High. Suitable habitat is present within the open water and adjacent riparian vegetation along the Santa Clara River, within the western portion of the project site and survey area. In addition, this species was reported immediately to the north of the survey area in 2015 (CDFW 2022a).

Common and Scientific Name	Status	Habitat	Potential to Occur within Survey Area
Birds			
Cooper's hawk (<i>Accipiter cooperii</i>)	WL, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area.
Sharp-shinned hawk (<i>Accipiter striatus</i>)	WL, SA	Riparian forest and woodland.	Low (Nesting). Suitable foraging habitat occurs throughout the riparian forest within the western portion of the project site and survey area. However, this species is not known to nest within southern California (Cornell 2019).
Oak Titmouse (<i>Baeolophus inornatus</i>)	SA, LAA	Dense, mature chaparral, forests and woodlands.	Present. This species was observed foraging during the site visit and may breed within the project site and survey area.
Turkey Vulture (<i>Cathartes aura</i>)	LAA	Various habitat types including chaparral, forest, scrub and woodland communities.	Low. This species may soar over and potentially forage within the project site and survey area; however, it is not expected to breed within the survey area.
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	FT, SE, LAA, SA	Riparian forest and woodland. Species generally prefers contiguous assemblages greater than 20 hectares in size (NPS 2022).	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area.
Southwestern willow flycatcher (<i>Empidonax traillii</i> ssp. <i>extimus</i>)	FT, SE, LAA, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area.
Yellow-breasted chat (<i>Icteria virens</i>)	SSC, LAA, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area.
California towhee (<i>Melospiza crissalis</i>)	LAA	Various habitats, including scrub, chaparral, and riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area.
Belted kingfisher (<i>Megasceryle alcyon</i>)	LAA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area.
Ruby-crowned kinglet (<i>Regulus calendula</i>)	LAA	Various forest and woodland communities.	Present (Foraging). This species was observed foraging during the site visit; however, it is not known to breed along the coast of Southern California and is not expected to breed onsite (Cornell 2019).
Bank swallow (<i>Riparia riparia</i>)	ST, LAA, SA	Riparian forest and woodland.	Low. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area; however, vertical banks and or bluffs, required for nest placement, are not present.

Common and Scientific Name	Status	Habitat	Potential to Occur within Survey Area
Yellow warbler (<i>Setophaga petechia</i>)	SSC, LAA, SA	Riparian forest and woodland	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area.
Least Bell's vireo (<i>Vireo bellii</i> ssp. <i>pusillus</i>)	FT, SE, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and survey area. In addition, this species was observed approximately 0.5-mile to the northwest of the survey area in 2010 (CDFW 2022) and within the northern portion of the survey area during previous construction in 2018 (ESA 2018).
Mammals			
Pallid bat (<i>Antrozous pallidus</i>)	SSC, SA, WBWG - H	Grasslands, shrublands, woodlands, and coniferous forests; most common in open, dry habitat with rocky areas for roosting, as well as abandon buildings and medal clad structures (WBWG 2022).	Low. Suitable roosting habitat is not present within the survey area, as this species is generally associated with rocky cliff habitat and manmade structures.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	SSC, SA, WBWG - H	Broadleaved upland forest, chaparral, chenopod scrub, great basin grassland, great basin scrub and Joshua tree woodland, among many other communities. Species most commonly roosts in caves and mines (WBWG 2022).	High. Suitable foraging/roosting habitat is present throughout the riparian forest within the western portion of the project site and survey area.
Greater mastiff bat (<i>Eumops perotis</i>)	SSC, SA, WBWG - H	Chaparral, cismontane woodland, coastal scrub and valley and foothill woodland. Species is generally considered to be a cliff-dwelling species, most commonly found under exfoliating rock slabs (WBWG 2022).	Low. Suitable roosting habitat for this species is not present within the survey area, as it is generally associated with rocky cliff habitat.
Silver-haired bat (<i>Lasionycteris noctivagans</i>)	SSC, SA, WBWG - M	Lower montane coniferous forest, riparian forest. Maternity roosts are almost exclusively found in trees (WBWG 2022).	High. Suitable foraging/roosting habitat is present throughout the riparian forest within the western portion of the project site and survey area.
Western red bat (<i>Lasiurus blossevillii</i>)	SSC, SA, WBWG - H	Cismontane woodland, lower montane coniferous forest, and riparian forest and woodland (WBWG 2022).	High. Suitable foraging/roosting habitat is present throughout the riparian forest within the western portion of the project site and survey area.
San Diego desert woodrat (<i>Neotoma</i> ssp. <i>lepida intermedia</i>)	SSC, SA	Occurs in forest, woodland and scrub communities and are generally associated with rock outcrops (Bleich et al. 1975).	Low. Marginally suitable vegetation is present throughout the shrubland and riparian forest within the western portion of the project site and survey area; however, suitable nest-building sites with rocky habitat (boulders), preferred by the species, is not present.

Common and Scientific Name	Status	Habitat	Potential to Occur within Survey Area
Mountain lion (<i>Puma concolor</i>)	SCT	Inhabits a wide range of ecosystems, making its home anywhere there is shelter and prey, including mountains, forests, deserts, and wetlands. They are territorial and have naturally low population densities, which means the species requires large swaths of habitat to thrive.	Moderate. This species may inhabit the Santa Clara River watershed and utilize the western portion of the project site and survey area for local and regional movement, as well as, to hunt for prey.
American badger (<i>Taxidea taxus</i>)	SSC, SA	Various habitats, including grassland, scrub, forest, woodland, etc.	High. Suitable habitat is present throughout much of the western portion of the project site and survey area, within the grass/forb, shrubland and riparian forest. In addition, this species was reported within the general vicinity (1-mile accuracy) of the project site in 2015 (CDFW 2022a).
Fish			
Santa Ana Sucker (<i>Catostomus santaanae</i>)	FT, SA	South coast flowing waters.	High. Suitable habitat for the species occurs within the open water present along the Santa Clara River, which occurs within the western portion of the survey area. This species has been reported within the Santa Clara River as recently as 2007 (CDFW 2022a).
Unarmored threespine stickleback (<i>Gasterosteus aculeatus</i> ssp. <i>williamsoni</i>)	FE, SE, FP, SA	South coast flowing waters.	High. Suitable habitat for the species occurs within the open water present along the Santa Clara River, which occurs within the western portion of the survey area. This species has been reported within the Santa Clara River as recently as 2007 (CDFW 2022a).
Arroyo chub (<i>Gila orcuttii</i>)	SSC, SA	South coast flowing waters.	High. Suitable habitat for the species occurs within the open water present along the Santa Clara River, which occurs within the western portion of the survey area. This species has been reported within the Santa Clara River as recently as 2011 (CDFW 2022a).
Santa Ana Speckled Dace (<i>Rhinichthys osculus</i> ssp. 8)	SA	South coast flowing waters.	High. Suitable habitat for the species occurs within the open water present along the Santa Clara River, which occurs within the western portion of the survey area.
Federal/State/Other Status:			
FE – Federally Endangered, FT – Federally Threatened; SE – State Endangered, ST – State Threatened, SCT – State Candidate Threatened, FP – State Fully Protected, SSC – State Species of Special Concern, SA – State Special Animal, WL – State Watch List; LAA – Los Angeles County’s Sensitive Bird Species; WBWG – Western Bat Working Group (Medium - M, High - H).			

2.7 Plants

The eastern half of the project site and survey area includes the existing VWRP operations and the Old Road, which consist of disturbed/developed land use that primarily supports weedy vegetation (i.e., London rocket and short-podded mustard) and miscellaneous ornamental and/or landscaped vegetation, such as European olive and Peruvian pepper. The western half of the project site and survey area, however, include the Santa Clara River and adjacent floodplain and upland areas that support various riparian forest, shrubland and herbaceous communities.

All plants observed during the site visit were recorded; those that were unidentified in the field were keyed to the species level using the 2012 Jepson Manual (Baldwin et al. 2012). A comprehensive list of plant species observed during the site visit is provided in Appendix C, Floral and Faunal Compendia.

2.7.1 Special-Status Plants

Special-status plants are defined as those plants that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as county or city agencies and special districts to meet local conservation objectives. Special-status plants are defined as any of the following:

- Plants that are listed or proposed for listing as threatened, endangered or rare or are candidates for possible future listing as threatened, endangered, or rare under FESA or CESA.
- Plants that meet the definitions of rare or endangered under State CEQA Guidelines Section 15380.
- Plants considered by the CNPS to be rare, threatened, or endangered (California Rare Plant Rank (CRPR) 1A, 1B, 2A, and 2B plants) in California.
- Plants listed by the CNPS as plants for which more information is needed to determine their status and plants of limited distribution (CRPR 3 and 4 plants).
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code 1900 et seq.).

A review of the CNDDB (CDFW 2022a) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2022) revealed numerous special-status plant species recorded within the USGS nine-quadrangle search. The potential for special-status plant species to occur is based on vegetation, habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, and geographic ranges. Based on the presence of suitable habitat, known geographic distributions, and/or range restrictions, it was determined that many of the plant species do not have the potential to occur within the project site, and those species are therefore omitted from further discussion in this report. Those species listed in **Table 3 – Potentially Occurring**

Special-Status Plant Species within the Survey Area were determined to have varying levels of potential to occur based on the following criteria:

- **Not Expected:** The species was either not observed during an appropriately timed focused survey and/or was not observed at a time when it would have been identifiable outside of the blooming period (i.e., fruiting or in a vegetative state).
- **Low Potential:** The project site supports little to no habitat for a particular species.
- **Moderate Potential:** The survey area provides marginal habitat for a particular species. For example, the habitat may be heavily disturbed or fragmented/isolated or the survey area may be located just outside the known geographical or elevation range; however, it still provides suitable foraging and breeding habitat.
- **High Potential:** The survey area provides suitable habitat conditions for a particular species and/or known populations occur in the immediate area.
- **Present:** The species was observed within the survey area during the site visit.

Suitable/marginally suitable habitat for 14 special-status plant species was observed within the project site and survey area; these include the Nevin's barberry (*Berberis nevinii*), Catalina mariposa lily (*Calochortus catalinae*), club haired mariposa lily (*C. clavatus* ssp. *clavatus*), slender mariposa lily (*C. clavatus* ssp. *gracilis*), Plummer's mariposa lily (*C. plummerae*), Peirson's morning glory (*Calystegia peirsonii*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), Parry's spineflower (*C. parryi* var. *parryi*), Palmer's grappling hook (*Harpagonella palmeri*), southern California black walnut (*Juglans californica*), Nuttall's scrub oak (*Quercus dumosa*), orcutt grass (*Orcuttia californica*), Hubby's phacelia (*Phacelia hubbyi*), and chaparral ragwort (*Senecio aphanactis*). However, these species were either not observed during an appropriately timed focused survey and/or were not observed at a time when they would have been identifiable outside of the blooming period (i.e., fruiting or in a vegetative state).

TABLE 3
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES WITHIN THE SURVEY AREA

Common Name	Scientific Name	Status (Federal/State/Other)	Habitat	Potential to Occur
Nevin's barberry	<i>Berberis nevinii</i>	FE/SE/1B.1	Chaparral, coastal scrub and woodland	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities and this species has been reported within the general vicinity of the survey area in 1987 (2/5-mile accuracy). However, this occurrence is believed to have since been extirpated (CDFW 2022a) and was not observed during the appropriately timed, focused survey.

Common Name	Scientific Name	Status (Federal/State/Other)	Habitat	Potential to Occur
Catalina mariposa lily	<i>Calochortus catalinae</i>	None/None/4.2	Chaparral, cismontane woodland, coastal scrub and valley and foothill grassland.	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and survey area; however, it was not observed during the appropriately-timed, focused survey.
Club haired mariposa lily	<i>Calochortus clavatus</i> var. <i>clavatus</i>	None/None/4.3	Serpentine soils within chaparral, coastal scrub, and valley and foothill grassland	Not Expected. Suitable vegetation for this species is present throughout the grass/forb and shrubland communities; however, serpentine soils do not occur within the project site or survey area.
Slender mariposa lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	None/None/1B.2	Chaparral, coastal scrub, and valley and foothill grassland	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and survey area. Additionally, it was reported approximately 1 mile to the northwest of the project site in 2018 (CDFW 2022a). However, this species was not observed during the appropriately-timed, focused survey.
Plummer's mariposa lily	<i>Calochortus plummerae</i>	None/None/4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest and valley, and foothill grasslands	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and survey area. Additionally, it was reported approximately 800 feet to the southwest of the project site in 2007 (CDFW 2022a). However, this species was not observed during the focused survey, at a time when it would have been identifiable/distinguishable in a vegetative state.
Peirson's morning glory	<i>Calystegia peirsonii</i>	None/None/4.2	chaparral, coastal sage scrub, shadescale scrub, yellow pine forest, and foothill woodland	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and survey area; however, this species was not observed during the focused survey, at a time when it would have been identifiable/distinguishable in a vegetative state.

Common Name	Scientific Name	Status (Federal/State/Other)	Habitat	Potential to Occur
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	None/SE/1B.1	Sandy soils within coastal scrub and valley and foothill grassland	Not Expected. Suitable vegetation for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and survey area. Additionally, it was reported less than 1 mile to the west of the project site in 2011 (CDFW 2022a). However, sandy soils are not present in sufficient quantities within the survey area, and the species was not observed during the focused survey, at a time when it would have been identifiable/distinguishable in a vegetative state.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	None/None/1B.1	Sandy or rocky, openings within chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland	Not Expected. Suitable vegetation for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and survey area; however, sandy soils are not present in sufficient quantities, and the species was not observed during the focused survey, at a time when it would have been identifiable/distinguishable in a vegetative state.
Palmer's grappling hook	<i>Harpagonella palmeri</i>	None/None/4.2	Chaparral, coastal sage scrub and valley and foothill grassland.	Not Expected. suitable habitat for this species is present throughout the shrubland and grass/forb communities within the western portion of the project site and survey area. Additionally, it was previously reported within the vicinity of the project site (5-mile accuracy; date not specified) (CDFW 2022a). However, this species was not observed during the appropriately timed, focused survey.
southern California black walnut	<i>Juglans californica</i>	None/None/4.2	Woodland/forest communities	Not Expected. Suitable habitat does occur throughout the grass/forb, shrubland and riparian forest communities within the western portion of the project site and survey area; however, this perennial species was not observed during the focused survey, at a time when it would have been identifiable/distinguishable in a vegetative state.
California orcutt grass	<i>Orcuttia californica</i>	FE/SE/1B.1	Vernal pools	Not Expected. This species was reported within the Newhall quadrangle (date not specified) (CDFW 2022a); however, suitable vernal pool habitat is not present within the survey area.

Common Name	Scientific Name	Status (Federal/State/Other)	Habitat	Potential to Occur
Hubby's phacelia	<i>Phacelia hubbyi</i>	None/None/4.2	Gravelly or rocky soils within chaparral. Coastal scrub, and valley and foothill grassland	Not Expected. Suitable habitat does occur throughout the grass/forb, shrubland and riparian forest communities within the western portion of the project site and survey area; however, this perennial species was not observed during the focused survey, at a time when it would have been identifiable/distinguishable in a vegetative state.
Nuttall's scrub oak	<i>Quercus dumosa</i>	None/None/1B.1	Generally found in sandy soils, near coast, within foothill woodland, northern coastal scrub and coastal sage scrub.	Not Expected. Suitable habitat does occur throughout the grass/forb, shrubland and riparian forest communities within the western portion of the project site and survey area; however, this species was not observed during the focused survey, at a time when it would have been identifiable/distinguishable in a vegetative state.
Chaparral ragwort	<i>Senecio aphanactis</i>	None/None/2B.2	Foothill woodland, northern coastal scrub and coastal sage scrub.	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and survey area; however, it was not observed during the appropriately-timed, focused survey.
Federal/State/Other Status: FE – Federally endangered; SE – State endangered; CNPS CRPR 1B – Plants rare, threatened, or endangered in California and elsewhere, 2B – Plants rare, threatened or endangered in California, but more common elsewhere, and 4 – Plants of limited distribution; 0.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat) and 0.2 Fairly threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat).				

2.8 Protected Trees

2.8.1 Los Angeles County Protected Oak Trees

Pursuant to Sections 22.174.010–22.174.110 of the Los Angeles County Zoning Code, “a person shall not cut, destroy, remove, relocate, inflict damage or encroach into a protected zone of any tree of the oak genus which is (a) 25 inches or more in circumference (eight inches in diameter) as measured four and one-half feet above mean natural grade, on any lot or parcel of land within the unincorporated area of Los Angeles County, or (b) any tree that has been provided as a replacement tree, pursuant to Section 22.174.070, on any lot or parcel of land within the unincorporated area of Los Angeles County, unless an oak tree permit is first obtained....” Oak trees were not observed within the project site and survey area.

2.8.2 SEA Protected Trees

Pursuant to the SEA Ordinance, all new development shall be sited and designed to preserve native trees included in the SEA Protected Tree List that are of a particular size (Los Angeles County 2020). A total of 25 Fremont cottonwood trees and 13 blue elderberry trees that may meet criteria for protected trees, were identified within the project site and survey area along the

existing VWRP retaining wall. SEA protected trees are discussed further in Section 2.11, *SEA Categories*, below.

2.9 Critical Habitat

Under FESA, to the extent feasible, the USFWS and National Marine Fisheries Service are required to designate critical habitat for endangered and threatened species. Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

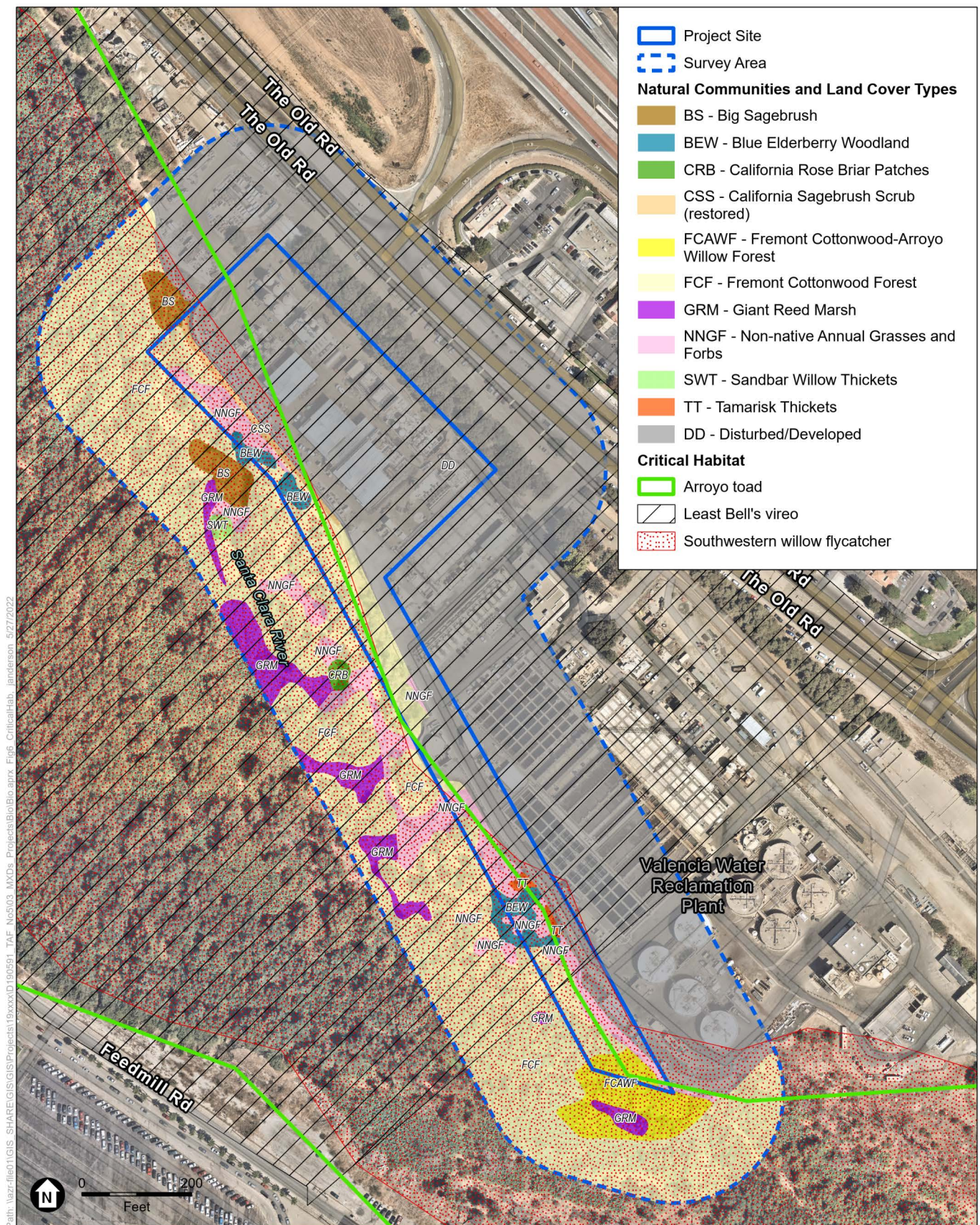
Critical habitat, as designated by the USFWS, for the arroyo toad, least Bell's vireo, southwestern willow flycatcher has been mapped within the survey area and extends into the project site. Suitable habitat for the arroyo toad was not observed within the survey area during the site visit; however, suitable habitat for the least Bell's vireo and southwestern willow flycatcher occurs throughout the survey area and project site, within the Fremont cottonwood forest, Fremont cottonwood-arroyo willow forest and sandbar willow thickets (**Figure 6, Critical Habitat**).

2.10 Aquatic Resources

A formal jurisdictional determination was not performed within the survey area; however, presence/absence of drainage features was examined during the site assessment. One aquatic resource, the Santa Clara River, traverses the western portion of the survey area in a southwest-northeast direction (**Figure 7, Aquatic Resources**). Riparian vegetation associated with this aquatic resource extends into the project site, and immediately abuts portions of the VWRP. Based on findings made during the site assessment, it is expected that the Santa Clara River is jurisdictional with the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW.

2.11 SEA Categories

SEA resources are those biological and physical resources that contribute to and support the biodiversity of the various SEAs and the ecosystem services they provide. Five resource categories have been developed, generally ranked based on rarity, sensitivity, and level of protection as it relates to the SEAs and their resources; these have been identified as SEA Resource Categories 1 through 5 (Los Angeles County 2020). The five SEA Resources categories are each afforded protection consistent with its sensitivity to disturbance. Categories 1 through 3 are identified as Priority Biological Resources. The SEA Ordinance includes specific Development Standards for SEA Resource Categories 1 through 4, with the lower category number afforded with the highest protection standards. These resources are constraints to on-site development and are depicted in a biological constraints map. The SEA resources mapped within the survey area are depicted in **Figure 8, Biological Constraints Map**.



SOURCE: Nearmap, 2021; ESA, 2022

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

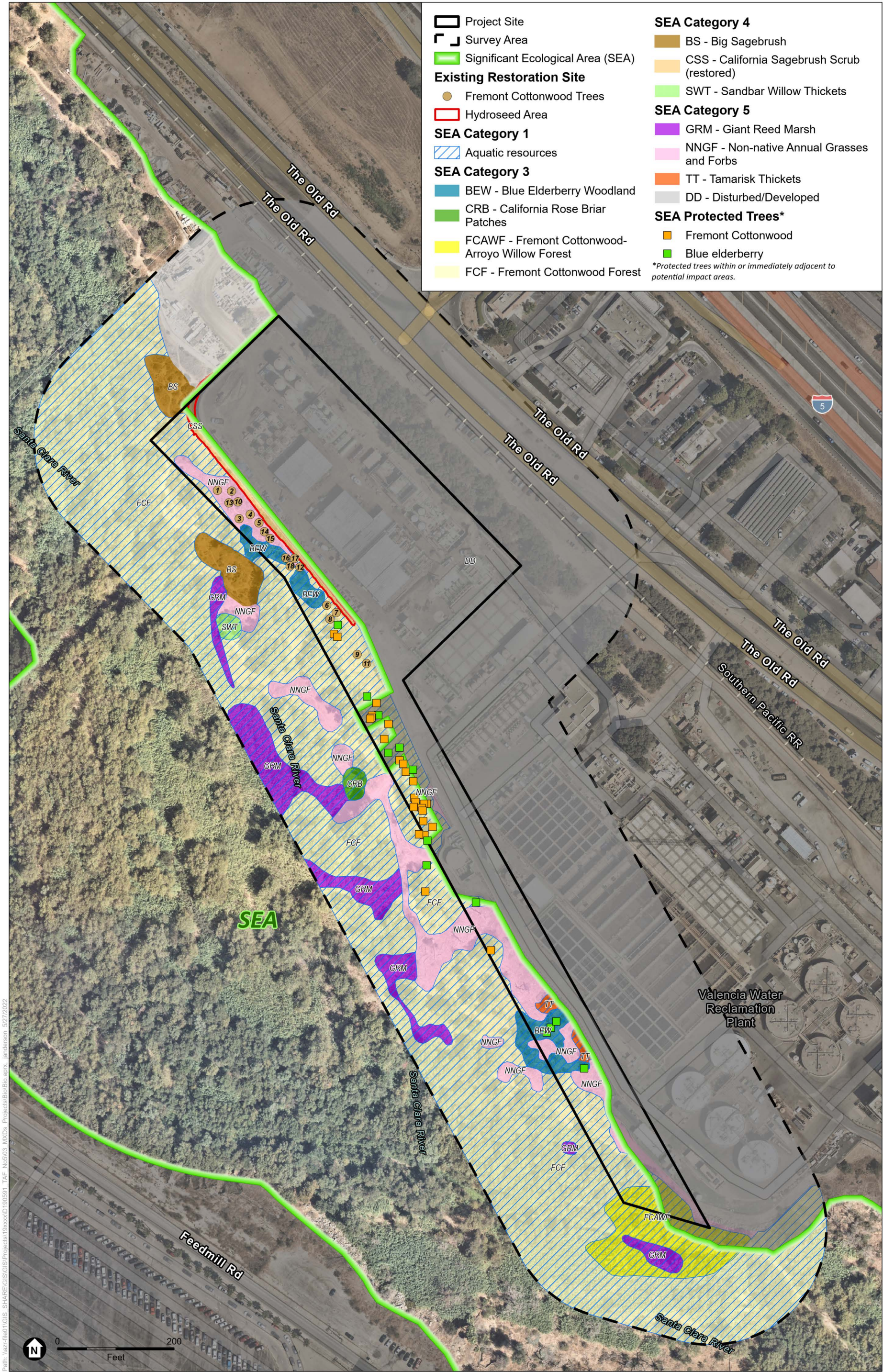
Figure 6
Critical Habitat



SOURCE: Nearmap, 2021; ESA, 2022

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 7
Aquatic Resources



SOURCE: Nearmap, 2021; ESA, 2022.



Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 8
Biological Constraints Map

2.11.1 SEA Resource Category 1

SEA Resource Category 1 includes natural communities recognized by the CDFW as sensitive, with a NatureServe rank of G1 or S1; plant species categorized by the CNPS as CRPR 1A, 1B, 2A, 2B, or 3; plant and animal species formally or proposed for listing under CESA or FESA; and water resources typically regulated by CDFW, RWQCB OR USACE (Los Angeles County 2020). Disturbance to resources in this category are generally prohibited.

The potential jurisdictional (i.e., CDFW, RWQCB, and USACE) boundaries identified along the Santa Clara River (i.e., bed, bank and riparian vegetation) meet the criteria for SEA Resource Category 1.

2.11.2 SEA Resource Category 2

SEA Resource Category 2 includes natural communities recognized by the CDFW as sensitive, with a NatureServe rank of G2 or S2, rare or highly important to maintaining the biodiversity and ecosystem services within SEAs; or animals designated by the CDFW as a Species of Special Concern (Los Angeles County 2020). Only minimal amounts of disturbance are generally permitted to resources in this category.

Resources that meet SEA Resource Category 2 were not observed within the survey area.

2.11.3 SEA Resource Category 3

SEA Resource Category 3 includes natural communities recognized by the CDFW as sensitive, with a NatureServe rank of G3 or S3, native resources that are rare or significant within the County or specific SEAs, and oak woodlands as defined by the Los Angeles County Oak Woodland Conservation Management Plan (Los Angeles County 2020).

Impacts to SEA Resource Category 3 are separated into two tiers, development less than or equal to 500 square feet and development that exceeds 500 square feet. Development that does not exceed 500 square feet requires the preservation of in-kind habitat elsewhere onsite at a 1:1 ratio. Development that exceeds 500 square feet requires the preservation of in-kind habitat onsite, at a 2:1 ratio. All development must meet Development Standards outlined in the Implementation Guide (Los Angeles County 2020). The blue elderberry woodland, California rose briar patches, Fremont cottonwood-arroyo willow forest and Fremont cottonwood forest meet the criteria for SEA Resource Category 3.

2.11.4 SEA Resource Category 4

SEA Resource Category 4 includes more common natural communities with a NatureServe rank of G4, S4, G5, or S5, which are considered to be “apparently secure” or “secure” within their range. Plant species categorized by the CNPS as CRPR 4 also qualify as SEA Resource Category 4 (Los Angeles County 2020).

Impacts up to 500 square feet of resources in Resource Category 4 are permitted without preservation; however, impacts that exceed 500 square feet will require onsite preservation and must meet Development Standards outlined in the Implementation Guide (Los Angeles

County 2020). The big sagebrush, California sagebrush scrub (restored), and the sandbar willow thickets meet the criteria for SEA Resource Category 4.

2.11.5 SEA Resource Category 5

SEA Resource Category 5 includes disturbed, early successional or isolated resource elements, such as plant communities dominated by non-native species, agricultural fields, hedges, non-native trees, etc., that continue to provide habitat and movement opportunities to wildlife (Los Angeles County 2020). Category 5 resources are not considered to be sensitive; therefore, a disturbance threshold or preservation ratio has not been identified for impacts to them. The non-native annual grasses and forbs, giant reed marsh, tamarisk thickets and disturbed/developed land cover types meet the criteria for Resource Category 5.

3. Characteristics of the Surrounding Area

This section discusses the characteristics of existing habitat and land use surrounding the project site based on review of aerial imagery and review of available publications, and other available resources regarding the characteristics of the region. The survey area is located within the Santa Clara River SEA, which traverses the northern portion of Los Angeles County and encompasses much of the Santa Clara River Watershed. The eastern portion of the SEA begins at Soledad Canyon near the community of Acton, and the Kentucky Springs and Aliso Canyons basins and continues to the west along the Santa Clara River, converging various unnamed tributaries, as well as Arrastre Creek, Hughes and Agua Dulce Canyons, among others. The SEA follows along the northern foothills of the San Gabriel Mountains, before crossing State Route 14 within the city of Santa Clarita and continues through the Santa Clarita Valley, where it receives the San Francisquito and Castaic Creeks and continues into Ventura County and ultimately downstream to the Pacific Ocean. The western SEA boundary ends at the Los Angeles-Ventura County border.

This SEA is located at least partially within the nine USGS 7.5-minute quadrangles, which include Acton, Agua Dulce, Mint Canyon, Newhall, Oat Mountain, Pacifico Mountain, San Fernando, Sunland and Val Verde (Los Angeles County 2021).

3.1 Existing Land Uses and Open Space

The survey area is situated within a developed portion of the Santa Clarita Valley, at the point of intersection between the San Gabriel Mountains and the Southern Coast Ranges. Land use to the south and west of the survey area includes generally intact portion of the Santa Clara River that is bound along its western banks by residential and commercial development. Land use to the north and east of the survey area consists of the VWRP, as well as various commercial developments and paved roadways (i.e., The Old Road and Interstate 5).

3.2 Plant Communities and Habitats

Vegetation along the Santa Clara River, within the vicinity of the survey area, is generally described as riparian or cismontane forest/woodland that support an overstory either dominated or mixed with various native tree species, such as arroyo willow, blue elderberry, Fremont

cottonwood, red willow, southern California black walnut, and western sycamore. Adjacent upland, shrub-dominated communities tend to be dominated by a mixture of coastal scrub and chaparral species, including chamise (*Adenostema fasciculatum*), big sagebrush and chaparral mallow.

Annual and perennial herbaceous species occur throughout both the forest/woodland and shrub communities; however, may also form their own assemblages. These herbaceous communities are commonly first to succeed in unvegetated areas, as many are quick to sprout, flower, and seed; therefore, they may become very dense and dominate areas of historic disturbance. The density and diversity of these herbaceous communities throughout the Santa Clara River SEA are generally dependent on the degree to which natural and/or human disturbances, such as wildfires, private and public development, off-road vehicular traffic, etc. have impacted each area. Both native and non-native species expected to occur in these community types and may include, but are not limited to, any combination of the following genera: fiddleneck (*Amsinckia* spp.), wild oats (*Avena* sp.), phacelia (*Phacelia* spp.), needle grass (*Stipa* spp.), lamb's quarters (*Chenopodium album*), barley (*Hordeum murinum*), horehound, jimsonweed, London rocket, ripgut brome, and wild oats.

Wildlife species expected to occur within surrounding areas are consistent with those noted within the survey area (Appendix C, Floral and Faunal Compendia) but also may include, for example, such common and special-status avian species as the Anna's hummingbird (*Calypte anna*), Wilson's warbler (*Cardellina pusilla*), yellow-breasted chat (*Icteria virens*), and mourning dove (*Zenaida macroura*); reptile species such as the glossy snake (*Arizona elegans*), southern Pacific rattlesnake (*Crotalus oreganus* ssp. *helleri*), San Diego gopher snake (*Pituophis catenifer* ssp. *annectens*); and mammal species such as the coyote (*Canis latrans*), raccoon (*Procyon lotor*), and desert cottontail (*Sylvilagus audubonii*).

3.3 Wildlife Movement and Habitat Linkages

The Santa Clara River is the backbone of the Santa Clara River Watershed and provides a critical pathway for wildlife when travelling between the Coast Ranges to the north and the Transverse Ranges to the south and east, as well as providing downstream connectivity to the Pacific Ocean. The various bird, mammal, reptile, and fish species, that forage and breed along the Santa Clara River within the survey area and beyond, are also expected to depend heavily on it for local and regional movement.

4. Regulatory Setting

4.1 Federal and State Endangered Species Acts

FESA provides guidance for conserving federally listed species and the ecosystems upon which they depend. Section 9 of FESA and its implementing regulations prohibit the "take" of any federally listed endangered or threatened plant or animal species, unless otherwise authorized by federal regulations. Take includes the destruction of a listed species' habitat. Section 9 also prohibits several specified activities with respect to endangered and threatened plants.

CESA mandates that state agencies do not approve a project that would jeopardize the continued existence of species if reasonable and prudent alternatives are available that would avoid a jeopardy finding. CESA also prohibits the take of any fish, wildlife, or plant species listed as endangered or threatened, or designated as candidates for listing, under CESA. Similar to the FESA, CESA contains a procedure for the CDFW to issue an incidental take permit authorizing the take of listed and candidate species incidental to an otherwise lawful activity, subject to specified conditions.

4.2 Migratory Bird Treaty Act

The federal MBTA prohibits the take of native birds “by any means or manner to pursue, hunt, take, capture (or) kill” any migratory birds except as permitted by regulations issued by the USFWS. The term “take” is defined by USFWS regulation to mean to “pursue, hunt, shoot, wound, kill, trap, capture or collect” any migratory bird or any part, nest, or egg of any migratory bird covered by the conventions, or to attempt those activities.

4.3 Clean Water Act

In accordance with Section 404 of the Clean Water Act (CWA), the USACE regulates discharge of dredged or fill material into waters of the United States. Waters of the United States and their lateral limits are defined in 33 CFR 328.3(a) and include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Waters of the United States are often categorized as “jurisdictional wetlands” (i.e., wetlands over which the USACE exercises jurisdiction under Section 404) and “other waters of the United States” when habitat values and characteristics are being described. “Fill” is defined as any material that replaces any portion of a water of the United States with dry land or that changes the bottom elevation of any portion of a water of the United States. Any activity resulting in the placement of dredged or fill material within waters of the United States requires a permit from USACE. In accordance with Section 401 of the CWA, projects that apply for a Section 404 permit for discharge of dredged or fill material must obtain water quality certification from the appropriate RWQCB indicating that the proposed project would uphold State of California water quality standards.

4.4 Native Plant Protection Act

The Native Plant Protection Act includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection by the Native Plant Protection Act includes those listed as rare and endangered under CESA. The Native Plant Protection Act provides limitations on take as follows: “No person will import into this state, or take, possess, or sell within this state” any rare or endangered native plant, except in compliance with provisions of the act. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

4.5 Section 15380 of the California Environmental Quality Act Guidelines

Although threatened and endangered species are protected by specific federal and state statutes, State CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the State CEQA Guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed in the CNDDB as sensitive are considered by CDFW to be significant resources and fall under the State CEQA Guidelines for addressing impacts. Local planning documents such as General Plans often identify these resources as well.

4.6 Sections 3503 and 3513 of the California Fish and Game Code

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Birds of prey are protected under Section 3503.5 of the California Fish and Game Code, which provides that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Section 3513 of the California Fish and Game Code prohibits any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA. Migratory birds include all native birds in the United States, except those non-migratory game species, such as quail and turkey, which are managed by individual states.

4.7 Section 1602 of the California Fish and Game Code

Section 1602 of the California Fish and Game Code requires a SAA for any activity that may alter the bed and/or bank of a lake, stream, river, or channel. Typical activities that require a SAA include, but are not limited to, excavation or fill placed within a channel, vegetation clearing, installation of culverts and bridge supports, and bank reinforcement. As part of the notification process, the CDFW requires documentation of any trees to be removed as part of the project. Trees that have a trunk DBH of greater than 2 inches are subject to regulation by the CDFW via the SAA.

4.8 County of Los Angeles Oak Tree Protection Ordinance

Oak trees (*Quercus* sp.) are protected under the County Oak Tree Ordinance, Sections 22.174.010–22.174.110, of the Los Angeles County Municipal Code. The Ordinance stipulates that “unless otherwise provided in Section 22.174.030 Subsection B, a person shall not cut, destroy, remove, relocate, inflict damage or encroach into a protected zone of any tree of the oak genus which is (a) 25 inches or more in circumference (8 inches in diameter) as measured four and one-half feet above mean natural grade, on any lot or parcel of land within the unincorporated area of Los Angeles County, or (b) any tree that has been provided as a replacement tree, pursuant to Section 22.174.070, on any lot or parcel of land within the unincorporated area of Los Angeles County, unless an oak tree permit is first obtained.....” (Section 22.174.030).

4.9 SEA Program (Los Angeles County Code Section 22.14.190 and Chapter 22.102; Ordinance 2019-0072)

On December 17, 2019, the County amended Section 22.14.190 and Chapter 22.102 through the implementation of Ordinance 2019-0072, to update regulations for SEAs and associated provisions. The definition of SEA was amended to read: “Land that is identified to hold important biological resources representing the wide-ranging biodiversity of the County, based on the criteria for SEA designation established by the General Plan and as mapped in the adopted SEA Policy Map.”

In addition to changes made in the definition of SEA, as described above, various other changes were made, as well, including the refinement of the guidelines established to determine which projects are considered exempt from the permitting process; changes to the procedures for SEA Counseling and Ministerial SEA Review; and changes to the process for the acquisition of Protected Tree Permits and SEA CUPs.

5. Conclusions

5.1 California Sagebrush Scrub (restored) and Fremont Cottonwood Trees

California sagebrush scrub and 18 Fremont cottonwood trees were established within the northern portion of the survey area as part of a restoration effort that was intended to serve as compensation for impacts to CDFW jurisdiction associated with the replacement of a portion of the VWRP retaining wall to the north of the proposed project.

5.2 CDFW Sensitive Communities and Habitats

The blue elderberry, California rose briar patches, Fremont cottonwood forest and Fremont cottonwood forest-arroyo willow forest present within the survey area have a NatureServe rank of G4S3, G3S3, G4S3, and G4S3, respectively; therefore, they meet the criteria as CDFW sensitive communities.

5.3 Special-Status Plants and Wildlife

5.3.1 Nesting Birds and Raptors

Various migratory and resident passerine/raptor species may utilize various habitat present within the project site and survey area for foraging and breeding purposes.

5.3.2 Special-Status Wildlife

There is a moderate to high potential for 22 special-status wildlife species to occur within the survey area, some of which may occur within the project site—these include American badger, arroyo chub, belted kingfisher, California towhee, coastal whiptail, coast horned lizard, Cooper's hawk, least-Bell's vireo, mountain lion, San Diegan legless lizard, Santa Ana speckled dace, Santa Ana sucker, silver-haired bat, southwestern willow flycatcher, Townsend's big-eared bat, two-striped garter snake, unarmored threespine stickleback, western pond turtle, western red bat, yellow-billed cuckoo, yellow-breasted chat and yellow warbler.

Two LAAS species, the oak titmouse and ruby-crowned kinglet, were observed foraging within the survey area during the site visit. Due to the presence of suitable breeding habitat, the oak titmouse is expected to utilize the survey area to breed. However, the ruby-crowned kinglet is not known to breed along the coast of Southern California and is not expected to breed within the project site or survey area.

5.3.3 Special-Status Plants

Suitable habitat for 14 special-status plant species is present within the project site and/or survey area; however, these species were not observed during a focused rare plant survey and are not expected to occur.

5.4 Protected Trees

5.4.1 Los Angeles County Protected Trees

Oak trees were not observed within the project site or survey area; therefore, an oak tree survey and report is not required.

5.4.2 SEA Protected Trees

A total of 25 Fremont cottonwood trees and 13 blue elderberry trees that may meet criteria for protected trees, were identified within the project site and survey area along the existing VWRP retaining wall.

5.5 Critical Habitat

Suitable habitat for the arroyo toad was not observed; however, suitable habitat for the least Bell's vireo and southwestern willow flycatcher occurs throughout the survey area and project site, within the Fremont cottonwood forest, Fremont cottonwood-arroyo willow forest and sandbar willow thickets.

5.6 Aquatic Resources

One aquatic resource, the Santa Clara River, traverses the western portion of the survey area in a southwest-northeast direction. Riparian vegetation associated with this aquatic resource extends into the project site, and immediately abuts portions of the VWRP. Based on findings made during the site assessment, it is expected that the Santa Clara River, within the survey area, is jurisdictional with the United States Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB). Similarly, the riparian vegetation (e.g., Fremont cottonwood forest and blue elderberry woodland) that extends into the project site and abuts portion of the existing VWRP retaining wall, is likely jurisdictional with the CDFW.

5.7 Wildlife Movement and Habitat Linkages

The Santa Clara is critical in providing a pathway for wildlife when travelling between the Coast Ranges to the north and the Transverse Ranges to the south and east, as well as providing downstream connectivity to the Pacific Ocean.

5.8 SEA Resource Categories

5.8.1 SEA Resource Category 1

The potential jurisdictional (i.e., CDFW, RWQCB, and USACE) boundaries identified along the Santa Clara River (i.e., bed, bank and riparian vegetation), within the project site and survey area, meet the criteria for SEA Resource Category 1.

5.8.2 SEA Resource Category 2

Resources that meet SEA Resource Category 2 were not observed within the survey area.

5.8.3 SEA Resource Category 3

The sensitive natural communities of blue elderberry woodland, California rose briar patches, Fremont cottonwood-arroyo willow forest and Fremont cottonwood forest mapped within the project site and survey area meet the criteria for SEA Resource Category 3.

5.8.4 SEA Resource Category 4

The big sagebrush, California sagebrush scrub (restored) and the sandbar willow thickets mapped within the survey area meet the criteria for SEA Resource Category 4.

5.8.5 SEA Resource Category 5

The non-native annual grasses and forbs, giant reed marsh, tamarisk thickets and disturbed/developed land cover types mapped within the project site and survey area meet the criteria for Resource Category 5.

6. Recommendations

As stated above, in Section 1.2.1, *Project Description*, the proposed project involves the approval of a CUP for the replacement of the mid-section of the existing retaining wall that spans the southwest boundary of the VWRP. Construction associated with the proposed project may have an impact on biological resources; therefore, the following recommendations are provided to reduce impacts prior to and during project implementation:

6.1 California Sagebrush Scrub and Fremont Cottonwood Trees

Proposed construction should avoid impact to the restored California sagebrush scrub and 18 planted Fremont cottonwood trees, if feasible. However, if impacts must occur, consultation with the CDFW is recommended to ensure continued compliance with SAA No. 1600-2016-0004-R5, issued for the previous VWRP project (ESA 2018).

6.2 Nesting Birds and Raptors

If construction is scheduled to take place within the bird nesting season (generally defined as January 15 through September 15), a qualified biologist should conduct a nesting bird study within 30 days of the anticipated start date, and no less than 3 days prior to ground disturbance, to identify any active nests within 500 feet of the proposed construction activities. If an active nest is found, the nest shall be avoided, and a suitable avoidance buffer shall be delineated in the field where no impacts may occur until the chicks have fledged the nest as determined by a qualified biologist. Construction buffers shall be 300 feet for passerines or up to 500 feet for raptors. Avoidance buffers may be reduced at the discretion of the biologist, depending on the location of the nest, species tolerance to human presence, and the type of construction-related noises and vibrations that would occur.

6.3 Special-Status Wildlife

6.3.1 Least Bell's Vireo, Southwestern Willow Flycatcher and Yellow-Billed Cuckoo

Focused surveys for the least Bell's vireo (USFWS 2001), southwestern flycatcher (Sogge et al. 2010) and yellow-billed cuckoo (Haltermann et al. 2016) should be conducted prior to the commencement of construction activities, to establish presence/absence of each species within 500 feet of the project site. If any of the aforementioned species are identified within 500 feet of the proposed project site and/or it is determined that project activities may result in the disturbance of an active nest, construction should be postponed until the young have fledged, or the nest is otherwise deemed inactive by a qualified biologist. If this is not feasible, avoidance and minimization measures, such as noise monitoring and/or noise control/suppression should be implemented to prevent disturbance to an active nest during construction.

If it is determined that the project activities will result in an impact to or the removal of occupied habitat, consultation with the CDFW and USFWS should be initiated prior to project

commencement to determine the need for applicable permits and the potential for compensatory mitigation.

6.3.2 Other Special-Status Birds

To avoid impacts to the belted kingfisher, California towhee, Cooper's hawk, oak titmouse, yellow-breasted chat, yellow warbler, a qualified biologist shall perform preconstruction nesting bird surveys and propose avoidance measures, if active nests are detected, as described above in Section 6.2, *Nesting Birds and Raptors*.

6.3.3 Arroyo Chub, Santa Ana Speckled Dace, Santa Ana Sucker, and Unarmored Threespine Stickleback

To avoid impact to the arroyo chub, Santa Ana Speckled Dace, Santa Ana Sucker and unarmored threespine stickleback construction should remain outside of the bed and banks of the Santa Clara River. In addition, appropriate best management practices (BMPs) should be implemented to prevent sedimentation of flowing or ponded water within the bed of the Santa Clara River. If it is determined that the project activities will result in disturbance to the bed and/or bank of the Santa Clara River and/or occupied habitat, consultation with the CDFW and/or USFWS should be initiated prior to project commencement to determine the need for applicable permits and the potential for compensatory mitigation. Unarmored threespine stickleback is a Fully Protected species and impact to the species or habitat is not authorized.

6.3.4 Coastal Whiptail, Coast Horned Lizard, San Diegan Legless Lizard, Two-striped Garter Snake, and Western Pond Turtle

A qualified biologist shall conduct a preconstruction presence survey of suitable habitat within 300 feet of proposed construction, for the coastal whiptail, coast horned lizard, San Diegan legless lizard, two-striped garter snake and western pond turtle. If any of these species are observed within or near the construction areas, a qualified biologist should determine if relocation is necessary to protect the species. If relocation is required, it should be completed by a qualified and permitted biologist and the individual should be relocated outside of the project site to ensure that construction-related impacts are avoided. Relocation areas and survey methods should be approved by the County biologist prior to implementation.

If an active nest of any of the aforementioned species is identified during the preconstruction clearance survey or during construction activities, it should be left undisturbed until the eggs have hatched (i.e., coastal western whiptail and western pond turtle) and/or young have matured enough for the biologist to deem the nest inactive and relocate any individuals outside of disturbance areas.

6.3.5 Silver-Haired Bat, Townsend's Big-Eared Bat, and Western Red Bat

Construction should take place outside the general bat maternity roosting season of March through August, if feasible, to reduce the potential to impact breeding bats. Prior to commencement of construction activities, within or outside of the maternity roosting season, a

qualified biologist should conduct a preconstruction clearance survey in areas with suitable roosting habitat, within 500 feet of proposed construction activities. If bats are determined to be using trees to roost, the biologist will determine whether day (non-breeding) or maternity roosts (lactating females and dependent young) are present.

- If a day roost is determined to be present, the biologist should ensure that direct mortality to roosting individuals will not occur. In general, disturbances to day roosts as a result of noise or other indirect impact is not considered significant, as it would not cause direct mortality of individuals and would not be expected to reduce populations to below self-sustaining levels. If removal of any trees supporting a day roost would occur, the biologist will ensure that all roosting individuals disperse from the location prior to removal of the vegetation to prevent direct mortality.
- If a maternity roost is observed, the biologist will determine whether construction activities are likely to disturb breeding activities. If it is determined that the vegetation supporting the roost must be removed or activities are expected to disturb the breeding activities, a Bat Exclusion Plan should be prepared. At a minimum, the plan should include avoidance and minimization measures to reduce potential impacts to breeding bats during construction activities and prescribed methods to evict bats safely and humanely from the roost to minimize any potential impacts.

6.3.6 Mountain Lion

To avoid the disruption of mountain lion foraging and movement within the Santa Clara River, construction activities should be restricted to daylight hours. If nighttime construction and associated lighting is necessary and/or the installation of permanent nighttime lighting is proposed as part of the project, noise monitoring and/or noise control/suppression should be implemented, and any lighting should be directed away from the Santa Clara River to reduce impacts to wildlife movement.

6.4 Critical Habitat

If it is determined that the project activities will result in an impact to or the removal of Fremont cottonwood forest, Fremont cottonwood-arroyo willow forest and/or sandbar willow thickets, that also overlaps with areas mapped as critical habitat for the least Bell's vireo and/or southwestern willow flycatcher, consultation with the CDFW and/or USFWS should be initiated prior to project commencement to determine the need for applicable permits and the potential for compensatory mitigation.

6.5 Aquatic Resources

An aquatic resources delineation should be completed to determine the proximity of the proposed project to CDFW, RWQCB, and USACE jurisdiction and quantify any proposed impacts. If it is determined that impacts may occur, permits should be obtained prior to the commencement of construction. In addition, the following measures should be implemented to prevent contamination of aquatic resources during construction activities:

- Erosion control measures (e.g., silt fencing, straw wattles) should be implemented within the work area to prevent sediment from leaving the work area.

- All equipment and material associated with the project should be equipped with secondary containment to prevent hazardous materials from leaving the work area.

6.6 Wildlife Movement Corridors and Habitat Linkages

To avoid disrupting wildlife movement within the Santa Clara River, construction activities should be restricted to daylight hours. If nighttime construction and associated lighting is necessary and/or the installation of permanent nighttime lighting is proposed as part of the project, noise monitoring and/or noise control/suppression should be implemented, and any lighting should be directed away from the Santa Clara River to reduce impacts to wildlife movement.

6.7 SEA Protected Trees and Resource Categories, and CDFW Sensitive Natural Communities

6.7.1 SEA Protected Trees

A qualified biologist/botanist should conduct a survey for SEA protected trees within and immediately adjacent to proposed project impact areas, to identify individuals that may be removed, encroached and/or avoided because of the proposed construction, and whether a protected tree permit, in accordance with the SEA Ordinance, will be required.

6.7.2 SEA Resource Categories and CDFW Sensitive Natural Communities

Potential impacts to SEA resources categories 1 and 3 as a result of project activities will be assessed and quantified through the preparation of a Biota Report and reviewed by SEATAC, in accordance with the SEA Ordinance. Potential impacts to CDFW sensitive communities should be assessed and quantified through coordination with the CDFW.

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Appendix A
**SEA Biological Constraints
Analysis Checklist**

APPENDIX A

Biological Constraints Analysis (BCA) Checklist Complete

I. COVER / SPINE / TITLE PAGE	
A. Project name, type of report (Biological Constraints Analysis)	Title; TOC; Pg.1
B. County identification numbers (Project number, CUP number, APNs).	Pg. 1 and 2
C. Applicant name and contact information	Title; Pg. 2
D. SEA name(s)	Pg. 1 and 2
E. Name of head biologist and consulting company directive information	Pg. 1 and 2
F. Date of report	Title
II. INTRODUCTION	
A. Project Description	
1. Project name, type of report, address of project	Title; Pg. 1 and 2
2. County application identification numbers including APNs	Title; Pg. 2
3. Applicant name and contact information	Title; Pg. 2
4. SEA name(s)	Pg. 2
5. Supervising biologist, company, directive information	Pg. 1 and 2
6. Parcel and Acreage Table (for more than one parcel)	NA
7. Location	Pg. 1 and 2
a) Map of regional features in vicinity showing project location, and including all drainages and wetlands	Figure 1
b) Color USGS topographic map with outline of project parcels, SEA, open space resource areas, etc.; scale about 1:24000	Not Provided
c) Color orthogonal aerial showing project parcels, SEA, open space, etc.	Figure 2
B. Description of Natural Geographic Features	
1. Summary of known biological resources including relation to: a) Landforms and geomorphology b) Drainage and wetland features c) Soils; include soil map d) Vegetation communities e) SEA criteria and resources	Pg. 4-13, and 27-30
2. Color site photography with keys	Appendix D
3. Summary of biological resources and pertinent literature review	Pg. 1-31
C. Methodology of Biological Survey	
1. Table of surveys (surveys approximately 1 year old or more recent)	NA
2. Text description of survey methods	Pg. 3
3. Table of information on biologist(s) and other contributors for BCA; appendix of contributors' experience	Pg. 1 and 2, Appendix B
4. Proof of permits or Memoranda of Understanding for trapping shall be in the appendix.	NA
III. BIOLOGICAL CHARACTERISTICS OF THE SITE	
A. Vegetation Data and Descriptions	Pg. 8-12

1. Vegetation map of Sawyer, Keeler-Wolf, Evens (2009) alliances and associations of vegetation types, relevé locations	Pg. 9
2. Vegetation cover table	Pg. 12
3. Map of trees (for jurisdictional oaks, State and County, an oak tree report will be needed. Oak tree reports will be in an appendix.)	No oak trees; survey not conducted
4. Summary of vegetation site habitats in relation to soil, sensitivity, rainfall, potential for impact (Only necessary if there is a possibility of rare plant occurrences that would be made possible by the presence of some important soil type or geological formation)	Pg. 8-12
5. CD/DVD of georeferenced files for vegetation data as ESRI .shp including metadata (may be combined with other project data on CD/DVD)	Not Provided
B. Fauna and Flora Sensitive Species Tables and Discussion	
1. Table of sensitive species known from the region, sensitivity rankings, habitat requirements, and likelihood of occurrence on site—with rationale for likelihood determination.	Pg. 14-24
2. Table of break points on rough estimate of population size (appendix)	NA
3. Paragraphs for each sensitive species on characteristics that might lead to project impact. Listed species paragraphs in separate section.	Species paragraphs not provided.
C. Maps of occurrence for sensitive species	Oak titmouse and ruby-crowned kinglet; points not taken
D. Wildlife movement/habitat linkage analysis with map of site and movement areas	Pg. 31
E. Floral and faunal compendia (all plant and animal species observed directly or indirectly on site, and for animals, in adjacent areas of similar habitat), updated for latest observation if multiple versions of the BCA are submitted, version date	Appendix C
F. All voucher collections shall be deposited in an appropriate, recognized public institution, and shall be tabulated in the floristic and faunal lists.	NA
IV. CHARACTERISTICS OF THE SURROUNDING AREA	
A. Description of Existing Land Uses in the Project Area	Pg. 30
B. Table of development projects in the vicinity and summary discussion (acreage, units, etc.)	Not provided
C. Map of land uses	Not provided
D. Description of open space reserves in the area and depiction of wildlife movement/habitat linkage relationships to open space. Include known conservation and open space easements in perpetuity. Refer to maps II.A.7	Not Provided
E. Reference to and relationship to any conservation plans in the vicinity	NA
F. Description of Habitats, alliances, associations and vegetative communities in the vicinity with respect to those on site	Pg. 30
G. Rough estimates of the overall population sizes of species of flora and fauna on site and in vicinity fauna on site and in vicinity	NA
H. Description of overall biological value of the area: fit to the biotic mosaic; contribution to surrounding area and SEA ecological functions	Pg. 30
V. CONCLUSION	
A. Regulatory framework	Pg. 31-34
B. Summarized biological data with respect to regulatory framework	Pg. 34-36
C. Biological Constraints Map	Pg. 28
D. Explicit statement of SEA/SERA/ESHA acreages total and in project parcels; explicit statement of length of watersheds on project parcels and total; potential affected area of watercourses	No impact acreages provided.
E. Recommendations for further studies needed to prepare Biota Report	Pg. 36-39

VI. BIBLIOGRAPHY	
A. Bibliography of references cited in text	Pg. 40
B. Bibliography of general references used to prepare document but not cited	NA
VII. APPENDICES [as appropriate]	
A. Table of biologists and other contributors; Preparer and other contributor qualifications; permits, MOUs	Appendix B
B. Vegetation alliance relevé data	NA
C. Oak Tree Report for sites with jurisdictional native oak trees (5" DBH and larger)	NA
D. Focused and floristic survey reports.	NA
E. Floral and faunal compendia	Appendix C
F. Copies of meeting minutes from previous SEATAC/ERB reviews of project	NA
G. Correspondence with State and Federal trustee agencies	NA
H. Completed BCA Checklist (this table)	Appendix A
I. SEA Counseling Checklist with BCM and Conceptual Project Design	NA
J. Digital Copies of BCA as .pdf for final version; georeferenced files of vegetative data and sensitive species occurrences.	Provided

Appendix B

Resumes



Daryl Koutnik, Ph.D.

Principal, Biological and Environmental Compliance

EDUCATION

Ph.D., Botany, University of California, Davis, California

M.S., Botany, University of California, Davis, California

B.A., Mathematics and Biology, California State University, Northridge, California

25 YEARS EXPERIENCE

Daryl Koutnik has over 25 years of experience managing and conducting biological resources field studies for environmental compliance and planning. Fourteen years of which he worked in and managed the environmental review section of the Los Angeles County Department of Regional Planning.

Dr. Koutnik has directed, managed, and performed biological resources inventories, special-status species surveys and identification, environmental impact assessments, biological constraints analyses, plant and wildlife studies, habitat restoration plans, and mitigation and monitoring plans for a wide variety of private and public sector clients. These analyses have been related to residential, commercial, industrial, infrastructure, and educational developments.

He is an expert in the application of federal and State Endangered Species Acts, the California Environmental Quality Act (CEQA), and other regulations relevant to biological resources, as well as processing and acquisition of Coastal Development Permits within the California Coastal Zone.

Dr. Koutnik is a contributor to The Jepson Manual: Vascular Plants of California, Second Edition and The Jepson Desert Manual, a co-author of the 2004 book Cotyledon and Tylecodon, and is a recognized expert on members of the spurge family (Euphorbiaceae). He currently teaches courses on plant identification and desert wildflowers for the University of California, Riverside Extension program.

Experience Themes

Los Angeles County: As Supervising Regional Planner and Senior Biologist for the Department of Regional Planning, Dr. Koutnik managed the preparation of more than 30 EIRs for a wide variety of project types. In addition to EIRs, he managed and prepared a report on the biological resources of the Los Angeles County Santa Monica Mountains Local Coastal Program with the inclusion of resource protection provisions and criteria for the designation of Coastal Zone environmentally sensitive habitat areas (ESHA). As a result, he has unparalleled insight into the County's procedures and preferences relative to processing environmental documents.

In the private sector, Dr. Koutnik has managed numerous projects within the County's jurisdiction. These projects include the EIRs regarding the 13,000-acre approved Newhall Ranch Specific Plan in Valencia; Aidlin Hills Residential project in Stevenson Ranch; Neptune Marina Apartments/Woodfin Suites Hotel and Wetlands Park Project; the 216-unit Millennium-Playa del Rey Apartments Project in Playa Vista; and the Fairmont Butte Motorsports Park project which included a

water supply assessment consistent with the Antelope Valley groundwater pumping adjudication process.

Selected Biology Projects Dr. Koutnik has managed, reviewed, or prepared hundreds of biological reports. These have been prepared in compliance and/or coordination with CEQA, NEPA, USACE, USFWS, CDFW, RWQCB, and the California Coastal Commission. These projects include the Jurisdictional Delineation for the 28,000-acre Tejon Mountain Village Project to address 800 acres of waters and drainages; the biological assessment for the 5,130-acre Travertine Point Specific Plan in Riverside and Imperial counties; the biological assessment for the 1,285 acres for the Dragonfly Mine project in Kern County; the biological resources section of the Hidden Creeks Estates EIR in the City of Los Angeles; the 500-acre East Area 1 Specific Plan EIR in the City of Santa Paula; the 485-acre Santa Barbara Ranch including vegetation identification, classification, and restoration; and the 478-acre proposed Desert Dunes Specific Plan in the Coachella Valley, Section 7 consultation regarding the Coachella Valley milk-vetch.

Selected EIR Projects: Dr. Koutnik is experienced in leading the preparation of EIRs throughout Southern California. In addition to those previously listed, his projects include the 544-unit Shores Apartment residential development in Marina del Rey, the 500-acre Transit Mix Surface Mining project in Soledad Canyon, and the 3,600-unit Northlake Residential development in Castaic. Dr. Koutnik oversaw the preparation of the Biological Resources section for the County of Los Angeles' 2015 General Plan Update EIR.

Policy Documents and Advisory: Dr. Koutnik has initiated and advised different jurisdictions regarding environmental stewardship. While with Los Angeles County, he managed and coordinated Significant Ecological Areas (SEA) study as a part of the County's General Plan Update adopted in 2015 as well as the Significant Ecological Area Technical Advisory Committee (SEATAC) established to implement designated SEA guidelines. He also initiated and managed the Los Angeles County Environmental Review Board (ERB) for development proposed within the Coastal Zone of the Santa Monica Mountains. Dr. Koutnik also advised and participated in the development of the West Mojave Plan, the Bureau of Land Management's program focused on multi-species habitat conservation. Dr. Koutnik is currently assisting the City of Los Angeles in the designation and implementation of zoning provisions to conserve biodiversity within the City.

Education Projects: Dr. Koutnik has managed or prepared the biological assessments to support EIRs for the Mount Saint Mary's in Los Angeles, Loyola Marymount Master Plan, Master's College Master Plan in Santa Clarita, UC Merced, UC Davis Long Range Development Plan, the Graduate Campus at Pepperdine University in Malibu, and the MUSE School near Calabasas in the Santa Monica Mountains. His environmental review experience includes the EIR for the 750-student Heschel School in Agoura Hills, and the 132-student dormitory for Mesivta School near Hidden Hills.

Waste Management: Dr. Koutnik's waste management experience includes the Sunshine Landfill EIR in Los Angeles, Athens Services Materials Recovery Facility and Transfer Station EIR near the City of Industry, and the Lancaster Landfill.



Marina del Rey Experience: Dr. Koutnik is the Contract Manager for ESA's on-call biological services contract with Los Angeles County Department of Beaches and Harbors, primarily responsible for projects in and around Marina del Rey. In addition to biological work, Dr. Koutnik managed the preparation and certification of the EIR for the multi-component Neptune Marina Apartment and Anchorage/Woodfin Suite Hotel and Timeshare Resort residential and hotel project. The proposed project included the restoration of a public wetland and upland park. In 2014, he served as the Project Director for the Addendum to the Certified EIR for the same project at a reduced scale known as The Marina del Rey Marriott Courtyard and Residence Inn Hotel.

Dr. Koutnik also served as project manager for the preparation and re-certification of the EIR for the 544-unit Shores Apartment residential project, and the preparation and certification of the EIR for the 216-unit Millennium-Playa Del Mar Apartments residential project in Playa Vista.

Northern Los Angeles and Ventura County Experience: Dr. Koutnik's project experience in northern Los Angeles or Ventura County include the Runkle Canyon Specific Plan in Simi Valley; the 364 single family residential project for the Lost Canyons (White Specific Plan) project in Simi Valley; the 600-unit residential project for the Hitch Ranch EIR in the City of Moorpark; 314 single family residences for the Deerlake Ranch in Los Angeles County; the 544-unit Shores Apartment residential development in Marina del Rey, the 216-unit Millennium-Playa Del Mar Apartments project in Playa Vista, the 500-acre Transit Mix Surface Mining project in Soledad Canyon, and the 3,600-unit Northlake Residential development in Castaic.

In addition to general real estate development projects, Dr. Koutnik has a notable portfolio of infrastructure and education projects. These include the Sunshine Landfill EIR in Los Angeles, Athens Services Materials Recovery Facility and Transfer Station EIR near the City of Industry, and the Lancaster Landfill. His education projects include the EIR for the 750-student Heschel School in Agoura Hills, and the 132-student dormitory for Mesivta School near Hidden Hills.

Coachella Valley: Dr. Koutnik managed the biological resource surveys and report for the 5,131-acre proposed master and land use plan on Travertine Point Specific Plan in Riverside and Imperial Counties located along the northwestern shore of the Salton Sea. Project was approved for up to 16,655 residential units, and includes residential, business park, mixed use commercial, regional commercial, resort/tourism, and open space land uses. Tasks included environmental review of potential impacts associated with development of prime agricultural land, cultural resources of tribal lands, water supply assessment, hydrologic and flooding studies, air quality and greenhouse gas studies, biological and jurisdictional surveys, and other studies related to development of a new town. This project involved working with several environmental groups (e.g., California Department of Parks and Recreation, Friends of the Desert Mountains) and the accommodation of the Coachella Valley Multiple Species Habitat Conservation Plan provisions. Dr. Koutnik worked closely with the project principal in addressing general environmental issues including Native American tribal representation, cultural resource protection, and greenhouse gas analyses.

In addition, Dr. Koutnik oversaw the biological resource assessment for the 478-acre proposed Desert Dunes Specific Plan in Riverside County located in the Coachella Valley south of the City of Desert Hot Springs. The Desert Dunes Specific Plan proposed a residential development of up to 1,850 single-family units and a 30,000±-square-foot private recreational facility. The biological resource assessment was prepared in conjunction with Section 7 consultation with the U.S. Fish & Wildlife Service for the Federally Endangered Coachella Valley milk-vetch.

He also served as the principal on the preparation of an Addendum to the certified Specific Plan EIR being processed through the County of Riverside for modification to the previously approved tentative tract map, reduction in size of the community water reservoir, and the relocation of an approved regional sewer lift station.

Leadership and Education: Dr. Daryl Koutnik is the former Supervising Regional Planner and Senior Biologist for the Los Angeles County Department of Regional Planning (DRP), and is highly experienced in protocols of environmental review and the coordination of interdepartmental review. During his tenure with DRP, Dr. Koutnik initiated the Environmental Review Committee, an interdepartmental body to coordinate the County's responses and reviews of CEQA documents, with the express goal of streamlining the department's environmental review process. As part of this, Dr. Koutnik developed a standard protocol for environmental review and initiated the Impact Analysis section's automation of the process through the use of GIS databases. He also managed in-house CEQA training sessions for DRP and other County departments, including the retention of outside CEQA expertise for staff training, including Ron Bass, an author of the Solano Press CEQA guidance books. Dr. Koutnik also led a review of the County's environmental review process, comparing it with other jurisdictions' processes and making recommendations to the Board of Supervisors for improvement the environmental review process. He also provided staff the opportunity to receive additional outside training, primarily through the UCLA Extension program. Finally, Dr. Koutnik ensured internal staff training when planners were transferred into the Impact Analysis section without prior CEQA background, emphasizing the standard protocol for environmental review, inclusive of GIS database resources. Dr. Koutnik has also taught courses related to biological resources within the UC Extension program at the University of Riverside; several of the students included Riverside County Environmental Programs Department staff.

Expert Testimony: Dr. Koutnik testified before the California Coastal Commission (CCC) on the determination of environmentally sensitive habitat areas within the Coastal Zone of the Santa Monica Mountains for unincorporated Los Angeles County. He also provided expert testimony before the CCC on the revegetation of streamside banks within the California Coastal Zone.

Relevant Fish/Fisheries Experience

Dr. Koutnik is experienced in the assessment and review of projects with potential impacts on local fish populations. Species with which he has experience include the tidewater goby in the Malibu Creek Watershed, steelhead trout in the Ventura River and Santa Ynez River; and unarmored three-spine stickleback, arroyo chub, and Santa Ana sucker in the Santa Clara Watershed.



Cachuma Project (Santa Ynez River): Dr. Koutnik oversaw the preparation of the biological resources analysis for the EIR for the consideration of modifications to the U.S. Bureau of Reclamation's Water Rights Permits 11308 and 11310 (Applications 11331 and 11332) to protect public trust resources and downstream water rights on the Santa Ynez River below Bradbury Dam (Cachuma Project) for the State Water Resources Control Board, including the impact on and benefit to the endangered steelhead.

Foster Park (Ventura River): Dr. Koutnik managed the initial environmental document preparation for the construction and operation of the embankment protection and restoration system (proposed project) of the western and eastern banks of the Ventura River, which is located northwest of the City of Ventura and south of the community of Casitas Springs, for water supply facilities for the City of San Buenaventura Department of Public Works and the Ojai Valley Sanitary District trunk sewage line. In addition, the project would protect and enhance steelhead and riparian habitat, as well as revegetate and restore areas temporarily disturbed by the proposed project area. The project was prepared in consultation with the U.S. Corps of Engineers and the U.S. National Marine Fisheries Service.

Mariposa Malibu Revegetation (Malibu Creek): Dr. Koutnik supervised the preparation of a vegetation restoration plan for the Mariposa Land Company property adjacent to Malibu Creek within the City of Malibu, involving the avoidance of impacts to the tidewater goby.

Cemex Surface Mine (Santa Clara River): Dr. Koutnik managed for the County of Los Angeles the preparation and certification of the EIR, including water resource impact on endangered unarmored three-spine stickleback from alluvial aquifer extraction, for the Transit Mix (later Cemex) Surface Mining project in Soledad Canyon, California.

Newhall Ranch (Santa Clara River): Dr. Koutnik managed the preparation and certification of the EIR for the 13,000-acre Newhall Ranch Specific Plan area located near Magic Mountain Entertainment Center in Valencia, California. Environmental factors analyzed included detailed water resource analysis, oak resource management per County of Los Angeles requirements, and Significant Ecological Area stewardship for both the Santa Clara River, including unarmored threespine stickleback and the Santa Susana Mountains in completing recertification of the EIR. He coordinated all subsequent environmental reports through 2006, including individual residential and wastewater treatment development located within the Specific Plan area.



Robert Sweet

Senior Biologist/Botanist

EDUCATION

B.S., Environmental Science and Resource Management, California State University, Channel Islands

14 YEARS EXPERIENCE

PERMITS AND CERTIFICATIONS

California Native Plant Society, Certified Field Botanist

The International Society of Arboriculture, Certified Arborist. WE – 13505A; Tree Risk Assessment Qualification (TRAQ).

SPECIALIZED TRAINING

California Native Plant Society Rare Plant Surveys Workshop, 2012

Blunt-Nosed Leopard Lizard Identification Workshop, 2009. Level 1 Surveyor (additional 22 survey days with a Level II surveyor)

Desert Tortoise Surveying, Monitoring, and Handling Workshop, 2009 and 2014

PROFESSIONAL AFFILIATIONS

California Native Plant Society Member

Western Section of the Wildlife Society Member

Robert (Robbie) has over 14 years of experience as a biological consultant and has conducted numerous protocol-level surveys, monitored various construction projects and conducted breeding population studies for various special status wildlife species throughout California. Species include, but are not limited to the arroyo toad, blunt-nosed leopard lizard, California least tern, least bell's vireo, southwestern willow flycatcher, southwestern pond turtle, western burrowing owl and the western snowy plover.

Robbie is one of our primary botanists, within the southern California region, and has conducted numerous biological resources assessments and focused rare plant surveys; and has overseen various restoration implementation/monitoring efforts requiring extensive knowledge of both plant taxonomy as well as agency accepted survey techniques. He has also assisted with/completed numerous tree inventories/impact assessments throughout various jurisdictions that include the Cities of Agoura Hills, Calabasas, Thousand Oaks, Los Angeles; and Counties of Los Angeles, Riverside and San Diego. He has also previously filled the role of assistant arborist for at the City of Calabasas and Agoura Hills and obtained extensive experience conducting review of arborist reports and healthy oak tree permit applications submitted by various applicants (i.e., City residents).

Robbie has acted as the sole or primary author on many technical documents such as focused rare plant and protocol-level survey reports, biological assessment reports, restoration monitoring reports, and MND/EIR sections in support of CEQA. He also currently serves as project manager on projects throughout Southern California, for various clients that range from private developers to public utility companies.

Relevant Experience

Utility

Department of Water Resources, Perris, CA. Biologist. Provided biological services, including pre-construction and protocol level surveys, biological/environmental compliance, and drafting of various technical documents (i.e., focused survey reports, biological resource assessments and CEQA analysis) prior to and during the remediation of the Lake Perris dam and proposed Emergency Release Facility.

Department of Water Resources, Ventura/Los Angeles County, CA. Biologist. Conducted population monitoring for the arroyo toad along Middle Piru Creek for 10 years. Monitoring of the population was prompted by a FERC order that required the regulation of upstream releases from Lake Pyramid such that flows

align with and support toad breeding. Surveys included the documentation of the arroyo toad, as well as, various other sensitive species that include the southwestern pond turtle and two-striped garter snake. Annual surveys were followed by the completion of an annual status report submitted to DWR and the USFWS.

Department of Water Resources, Kern County, CA. *Biologist.* Conducted focused surveys for the blunt-nosed leopard lizard (BNLL) and rare plant surveys in support of a liner raise and instrumentation construction project along the California Aqueduct. Drafted a follow-up MND section in support of CEQA permitting, for the BNLL and rare plant surveys, as well as, other survey efforts for the Nelson's antelope squirrel, American badger, San Joaquin kit fox, and small-mammal trapping.

Department of Water Resources, San Bernardino and Riverside Counties, CA. *Biologist.* Conducted biological clearance surveys (breeding bird surveys) and biological/environmental compliance during the construction of the EBX water storage reservoir and conveyance pipeline.

Santa Clarita Valley Sanitation District, Santa Clarita, CA. *Biologist/Botanist.* Conducts quarterly/annual monitoring at a restoration site created to mitigate for the removal of Fremont's cottonwoods and associated native habitat as a result of the construction of a retaining wall. Monitoring includes quantitative and qualitative assessments of the site regarding the survivorship of planted trees, the recruitment of native vegetation, the control of non-native invasive vegetation, and wildlife usage over time. Annual reports are prepared and submitted to the sanitation district and applicable agencies to document the status of the restoration.

Los Angeles Department of Public Works, Los Angeles County, CA. *Biologist.* Conducted a biological assessment, focused rare plant surveys, and least Bell's vireo/southwestern pond turtle surveys in suitable adjacent to and downstream of the Cogswell Dam (along the West Fork of the San Gabriel River), prior to proposed sediment removal activities. Also partook in snorkel surveys and net capture/release for special-status fish species downstream of the dam.

Drafted the biological resources assessment report and rare plant memorandum outlining the survey results, and providing conclusions and recommendations regarding the proposed project impacts.

Los Angeles County Sanitation District, Los Angeles County, CA. *Biologist.* Conducted focused surveys for the tri-colored blackbird and trapping for the southwestern pond turtle along the San Gabriel River, within the general vicinity of the Whittier Narrows.

Los Angeles Department of Water and Power, Barstow, CA. *Biologist.* Conducted a biological assessment and habitat mapping along an LADWP power line ROW, within the Mojave Desert. Sagging lines required intermittent grading of the underlying surface to prevent the lines from becoming too close to the ground and causing a safety concern. The proposed impact areas were surveyed to determine potential for special status species, including the desert kit fox, desert

tortoise (Agassiz's) and burrowing owl, to occur within the proposed project impact area.

Los Angeles Department of Water and Power, Kern County, CA. *Biologist.* Conducted avian point counts to determine the risk of avian collisions with existing and proposed wind turbines, within the Pine Canyon wind farm located in the Tehachapi Mountains. Assisted with the analysis of data and the drafting of a report.

Pacific Gas and Electric, Gridley, CA. *Biological Monitor and Environmental Inspector.* Conducted biological and environmental construction monitoring during the replacement of a 2-mile segment of natural gas pipeline to ensure that activities remained in compliance with project permits. The project took place within state and federally threatened giant garter snake habitat.

Pacific Gas and Electric, Sonoma County, CA. *Biologist.* Conducted rare plant surveys along over 15 miles of existing electrical transmission line. Surveys targeted and positively identified the western dog violet, which is the host plant for the federally listed Myrtle's silverspot butterfly. The survey results were compiled in a follow-up report submitted to the client.

Trans Canada, MN. *GPS Technician.* Mr. Sweet collected GPS data for wetland/water body delineations and breeding bird surveys along a proposed crude oil pipeline.

Metropolitan Water District, La Verne, CA. *Environmental Inspector and Biologist.* Conducted tree inventory surveys and routine biological/compliance monitoring during the upgrade of the Weymouth water treatment facility to ensure compliance with project permits.

Development

KB Homes, San Jacinto, CA. *Biologist/Botanist.* Conducts quarterly monitoring for a multi-year restoration project at a Native American resource site. The restoration was implemented to mitigate for impacts caused by the development of a housing development. Monitoring includes quantitative and qualitative assessments on the recruitment of native vegetation, control of non-native invasive vegetation and wildlife usage over time. Annual reports are prepared and submitted to the client and applicable agencies to document the status of the restoration.

Beresford Properties, Western Riverside County, CA. *Biologist.* Conducted protocol least Bell's vireo and southwestern willow flycatcher surveys within a proposed residential housing tract (surveys for the willow flycatcher were conducted under a permitted biologist). One migrant willow flycatcher and multiple vireo territories were detected during the surveys.

Los Angeles World Airports, Southern Tarplant Restoration Project, Los Angeles, CA. *Biologist/Botanist.* Completed the final 3 years of a 5-year monitoring effort for a southern tarplant restoration site within the LAX airport.

Annual monitoring of the restoration site and follow-up reports were submitted to LAWA in accordance with the Mitigation Monitoring Program drafted for the project. the Restoration was ultimately deemed a success.

Private Client(s), Los Angeles County, CA. *Biologist/Botanist.* Conducted numerous biological assessments and focused rare plant surveys in support of Coastal Development Permit applications within the Santa Monica Mountains Local Coastal Program jurisdiction. Following completion of each survey, a Biological Assessment report was prepared for submission to the Department of Regional Planning.

Private Client(s), Malibu, CA. *Biologist/Botanist.* Conducted numerous biological assessments to characterize a project sites located within the City of Malibu Local Coastal Program jurisdiction. Following completion of the surveys, a Biological Assessment report is prepared for submission to the City of Malibu.

First Solar, Clark County, NV. *Biologist.* Conduct protocol level surveys for the Agassiz's desert tortoise in support of a large proposed solar facility. Assisted in the capture and relocation of individuals and the completion of health assessments in support of the project.

Geokinetics, Colusa County, CA. *Lead Field Biologist.* Conducted pre-construction clearance surveys and construction monitoring for nesting birds, southwestern pond turtle and the federally and state listed giant garter snake.

First Solar, Luna County, NM. *Biologist.* Conducted protocol burrowing owl surveys and breeding bird surveys for a proposed photovoltaic solar site in Luna County, New Mexico. A report documenting the results of each survey and was prepared following completion of the surveys.

Confidential Client, Calexico, CA. *Biologist.* Conducted breeding burrowing surveys for a proposed solar facility in Calexico, CA.

Liberty Energy, Lost Hills, CA. *Biologist.* Mr. Sweet conducted a burrow survey to determine presence/absence of burrowing owl and San Joaquin kit fox prior to the proposed expansion of an active mulching facility. Surveys involved the recording of suitable burrows within and adjacent to the project impact area. Individuals, pellets, scat/whitewash, tracks and other sign was observed and recorded.

Private Client, 4062 Blackbird Way, Calabasas, CA. *Assistant Arborist.* Assisted the Lead City Arborist in conducting field verification and report review of an Annual Monitoring Report prepared by the applicant's arborist. The proposed project included the installation of a 24-inch sewer line, driveway widening and new deck, which that would encroach within the protective zone of four protected coast live oak trees, three of which were Heritage trees. A field visit and review of the document was conducted to verify the results of the report and recommendations to the project planner.

Private Client, Proposed Hotel, 24400 Calabasas Road, Calabasas, CA. *Assistant Arborist.* Assisted the Lead City Arborist in conducting field verification and report review of an oak tree report submitted to the city by the applicant's

arborist. The project requested the removal of 19 protected oak trees on private property and several others that would be encroached, for the proposed construction and operation of a full-service hotel. Identified numerous errors with the applicant's tree report that included missing trees and inaccurate assessment data and prepared a follow-up memo to the project planner that included recommendations for revising the report based on the field visit and assessment of the trees on the property.

Private Client, 29621 Agoura Road, Agoura Hills, CA. *Assistant Arborist.* Assisted the Lead City Arborist in conducting secondary review of an oak tree report submitted to the city by the applicant's arborist. The project requested the removal of 10 protected oak trees on private property and several others that would be encroached, for the proposed construction and operation of a full-service hotel. Prepared a memo to the project planner that included the results of the review and recommendations for revising the submitted report based on the assessment.

Private Client, 28458 Renee Drive, Agoura Hills, CA. *Assistant Arborist.* Assisted the Lead City Arborist in conducting secondary review of an oak tree report submitted to the city by the applicant's arborist. The project requested the removal of four protected oak trees on private property and several others that would be encroached, for the proposed construction of a single-family home. Prepared a memo to the project planner that included the results of the review and recommendations for revising the submitted report based on the assessment.

Private Client, 112 Lakeview Canyon Road, Thousand Oaks, CA. *Assistant Arborist.* Assisted a certified arborist in completing a protected tree assessment and associated maintenance and preservation plan for over 150 oak trees located on a private property. In addition, completed an impact assessment and subsequent report, for the placement of a proposed corporate hotel within the same property based on mapped oak tree canopies and available site plans.

Transportation

Kern County Roads, Kern County, CA. *Biologist.* Conducted protocol level surveys for the blunt-nosed leopard lizard with a Level II surveyor along Midway Road in Kern County, Ca. Participated in six of the 12 required adult surveys. A known reference population of BNLL within five miles of the project site was surveyed twice prior to conducting protocol surveys where two adult BNLL were observed.

Other

Naval Base Ventura County Point Mugu Naval Base, Ventura County, CA. *Biologist.* Conducted monitoring of the California least tern and western snowy plover during the 2007 breeding season. Monitoring included but was not limited to conducting over 33.5 hours of survey transects for active nests and over 150 hours of observing nesting pairs through observation blinds. In addition, routine point counts for other species of wildlife (e.g., avian, marine mammal, reptile and amphibian species) within the naval base were completed as well. For example,

routine southwestern pond turtle trapping surveys were conducted throughout many of the channels within the naval base property, as well.

Protocol Western Snowy Plover and California Least Tern Surveys, Ventura County, CA. Volunteer. Conducted protocol western snowy plover and California least tern surveys within suitable habitat at Ormond Beach. Logged approximately eight hours conducting transects throughout the survey area, under a permitted biologist.

Amanda French

Biologist



EDUCATION

B.S., Field Biology,
Ecology and Organismal
Biology, Southern Oregon
University

Certificate, Wetland
Science and Management,
University of Washington

4 YEARS' EXPERIENCE

PROFESSIONAL AFFILIATIONS

Society of Wetland
Scientists

The Wildlife Society

Women in Environment

Amanda is a biologist who has worked in biological and regulatory monitoring, aquatic resources delineations, biological resources assessments, and protocol-level surveys throughout California and the western United States. Amanda brings particular expertise in conducting nesting bird surveys and aquatic resources delineations in the Greater Los Angeles area and has supported a wide range of interdisciplinary projects with DWR. Amanda has experience working directly with construction contractors, providing biological Worker Environmental Awareness Program (WEAP) training, and is familiar with construction practices. She brings the expertise to solve biological resources issues in real time including avoidance of resources and is aware of the need to avoid delays in the construction setting. She is very comfortable with data collection and has the technology skills to ensure collection of pertinent field information.

Relevant Experience

Cawelo Water District, Cawelo Collection Basin and Pipeline Project, Kern County, CA. Wetland Scientist. ESA is assisting the Cawelo Water District prepare a joint NEPA and CEQA Environmental Assessment and Initial Study-Mitigated Negative Declaration (EA/ISMND). The project involves installation of approximately 2 miles of an 18-inch water transmission pipeline and construction of a 13- acre foot collection basin that would serve to store and transfer oil produced water. Amanda conducted an aquatic resources delineation and prepared the associated report for the project. [October 2021 – Present]

Private Client, 1461 Amalfi Drive Biological Assessment, Los Angeles, CA. Biologist. ESA is providing biological services for the 1461 Amalfi Drive project which will construct a new single-family residence on an existing parcel. Amanda conducted a literature review and biological field survey at the site, as well as prepared the biological resources assessment report to be submitted to the City of Los Angeles. [December 2021 - Present]

City of Covina, Covina Mixed Use Overlay District Project, Covina, CA. Biologist. ESA is providing environmental services for the addition of a new chapter of mixed-use overlay regulations to the City of Covina (City) Zoning Code, as well as amending the City's Official Zoning Map through the addition of a mixed-use overlay district (MUOD) to various sites within the City. Amanda prepared the biological evaluation section of the IS/MND. [October 2021 – December 2021]

Conejo Open Space Conservation Agency, COSCA Invasive Plant Management Plan, Ventura County, CA. Biologist. ESA prepared a long-term plan to remove invasive plants that have expanded into Conejo Open Space Conservation Agency (COSCA) burn areas from the 2018 Woolsey Fire. The plan will be the blueprint for a multi-year effort to restore native habitats through invasive plant management. Amanda assisted in invasive species mapping. [May 2021 – September 2021]

Amanda French (Continued)

Biologist

Private Client, 2210 Mar Vista Ridge Road Realignment Project, Malibu, CA. *Biologist.* ESA assisted the processing of a proposed road realignment for an existing road (Mar Vista Ridge) in preparing a biological inventory of the proposed road realignment area plus a buffer. The road leads to an approved residential project with a coastal development permit on Borna Road, east of the survey area. Amanda assisted in the biological assessment and lead the development of the report. [January 2021 – February 2021]

Michael K. Nunley & Associates, City of Tehachapi Groundwater Sustainability MND Project, Tehachapi, Kern County, CA. *Biologist.* ESA is assisting the City of Tehachapi in development of Indirect Potable Reuse (IPR) project to increase local water supply, maximize recycled water use, improve water quality to support higher levels of recycled water, and decrease reliance on imported water. We recently provided desktop analysis and reconnaissance surveys with an associated report to evaluate potential for project sites to support special-status plant and wildlife species, including tri-colored blackbird, Tehachapi pocket mouse, and blunt-nosed leopard lizard, and sensitive natural communities and to investigate the potential for aquatic resources to occur on the proposed project sites. Also provided was an analysis of the potential impacts to these biological resources that may result from implementing the proposed project. Amanda assisted in the field reconnaissance and lead the development of the report. [January 2021 – Present]

Fontana Union Water Company, Lytle Creek Diversion & Intake Facilities Maintainance Project, San Bernardino County, CA. *Lead Biological Monitor.* ESA has provided biological services in compliance with the requirements outlined in the Streambed Alteration Agreement obtained for the project. The Lytle Creek Diversion and Intake Facilities Routine Maintenance Project (project) includes two maintenance projects: 1) the removal of accumulated sediment from the settling pond, and 2) to the reconstruction of the earthen berm and soft plug. Amanda lead the biological monitoring for the project during construction, as well as assisted with invasive plant species mapping and fish surveys. [January 2021 – Present]

City of Covina, Wingate Regional Park Enhanced Watershed Management Plan Project, Covina, Los Angeles County, CA. *Wetland Scientist.* ESA has been providing environmental services for the Wingate Park Regional Enhanced Watershed Management Plan (EWMP) Project located in the City of Covina (City). In accordance with CEQA requirements, ESA has assisted in the preparation of an IS/MND which has included biological, cultural, noise, and various other studies. Amanda assisted in the aquatic resources delineation and associated reporting. [April 2021 – Present]

EDP Renewables North America, Driftwood Solar Project, Kern County, CA. *Wetland Scientist.* ESA has supported EDP Renewables with technical studies and CEQA service for the proposed Driftwood Solar Project. Amanda assisted with the aquatic resources delineation and associated report for the 2,200-acre site. [July 2021 – Present]

Inland Empire Utilities Agency (IEUA), Groundwater Recharge Basins Burrowing Owl Presence/Absence Surveys, Los Angeles and San Bernardino County, CA. *Biologist.* Amanda acted as a burrowing owl support for burrowing owl presence/absence surveys within groundwater recharge basins throughout the Inland Empire. [February – Present]

Ventura County Watershed Protection District, Arroyo Simi Habitat Mitigation Project, Simi Valley, CA. *Biologist.* ESA provides biological monitoring and reporting services to Ventura County Watershed Protection District for the Arroyo Simi Habitat Mitigation Project. Amanda assists in the monitoring of non-native plant removal and native habitat resoration at the 30 acre site. [March 2021 – Present]

City of Los Angeles Department of Recreation and Parks, Brush Clearance Projects for Various Park Sites, Los Angeles, CA. *Biologist.* Amanda served as a biologist for multiple brush clearance projects in various parks within the City of Los Angeles, including, White Point Preserve, Rancho Cienega Recreation Center, and Echo Park. Each park had

Amanda French (Continued)

Biologist

specific requirements and sensitive biological resources. Amanda conducted nesting bird surveys, environmental training for the workers, and biological monitoring and reporting to avoid impacts to riparian streams, mitigation areas, and special-status species, such as the coastal California gnatcatcher. [April 2021 – Present]

City of Carlsbad, Carlsbad Preserve Steward, Carlsbad, CA. *Preserve Steward.* ESA is responsible for overseeing and coordinating management and monitoring activities associated with implementation of the Habitat Management Plan (HMP) and Open Space Management Plan (OSMP) as part of the MHCP. ESA oversees the management of over 100 preserves (over 6K acres) within the City to ensure endowments are properly funded, and preserve managers are providing appropriate management and monitoring per the HMP, preserve-specific Preserve Management Plans, and Property Analysis Records. Other responsibilities include HMP compliance review and public outreach regarding the value of our natural lands, public rules within the preserves, and information on invasive species. Through this project, ESA has also provided a citywide assessment of wildlife movement within the HMP preserve and monitors high-priority pinch points via road kill studies, wildlife movement cameras, and dog waste studies, to offer adaptive management techniques for improving movement. Amanda assists with wildlife photo processing. [September 2021 – Present]

California Department of Water Resources (DWR), Castaic Dam High Intake Tower Access Bridge Seismic Retrofit Project, Los Angeles County, CA. *Biologist.* This project involves seismic retrofit of an existing outlet tower bridge at Castaic Lake. ESA prepared an Initial Study/MND, biological and cultural surveys and reports to support CEQA and permitting. Amanda assisted in vegetation assessment surveys conducted along the lake perimeter to monitor the reduced water level. In addition, Amanda has assisted with western pond turtle and two-striped gartersnake visual and habitat surveys. [January 2021 – Present]

California Department of Water Resources (DWR), Perris Dam Emergency Release Facility Project, Perris, Riverside County, CA. *Biologist.* The Perris Dam Emergency Release Facility Project would modify the existing emergency outlet facility for the Perris Dam and construct a water conveyance channel to connect with the Perris Valley Channel in the event of a need for an emergency drawdown. ESA prepared the EIR for the Perris Dam Remediation Program, conducted biological and cultural resources surveys, and prepared reports in support of permitting and compliance with the EIR's Mitigation Monitoring and Reporting Program (MMRP). Amanda assisted with Burrowing Owl surveys and associated reporting following the guidelines outlined in the California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation*. [May 2021 – Present]

California Department of Water Resources (DWR), Cedar Springs Spillway Construction, San Bernardino County, CA. *Biologist.* As part of an on-call environmental and biological services contract with DWR, conducted pre-construction surveys for special-status species, nesting bird surveys, Worker Environmental Awareness Program (WEAP) training, monitoring, and reporting to ensure the protection of biological resources found within the project area. [March 2021 – Present]

Los Angeles Unified School District (LAUSD), San Pedro High School Nesting Bird Surveys, Los Angeles, CA. *Project Manager/Lead Biologist.* ESA assisted LAUSD in conducting pre-construction nesting bird surveys at San Pedro High School prior to planned tree removal. Amanda conducted four rounds of nesting bird surveys and prepared the associated technical memorandum, as well as communicating with the client regularly and ensuring timely delivery of result documentation. [June 2021 – July 2021]

KB Home Coastal, The Cove Archaeological Restoration Monitoring, San Jacinto, CA. *Biologist.* Amanda assists in conducting quarterly monitoring for a multi-year restoration project at a Native American resource site. Monitoring

Amanda French (Continued)

Biologist

includes quantitative and qualitative assessments on the recruitment of native vegetation, control of non-native invasive vegetation and wildlife usage over time. Lists of wildlife, including avian species, observed within and adjacent to the site are recorded during each site visit and compiled into a compendium. [March 2021 – Present]

Recurrent Energy, Crimson Solar Project BESS Construction & Environmental Compliance Verification, Riverside County, CA. *Third-Party Compliance Monitor.* ESA provides construction and environmental compliance verification services for the Crimson Solar Project Battery Energy Storage System (BESS). As a third-party consultant, this work is performed on behalf of the Bureau of Land Management (BLM) Palm Springs-South Coast Field Office. Amanda conducts third-party compliance monitoring for the project. [October 2021 – Present]

Inland Empire Utilities Agency (IEUA), Magnolia Channel Detention Basin Maintenance Project, Chino, CA. *Biologist.* ESA assisted Inland Empire Utilities Agency (IEUA) in obtaining the original permit authorizations for maintenance work in 2016 for the Magnolia Channel Detention Basin Maintenance Project; however, these authorizations are set to expire in 2022. Therefore, ESA is assisting IEUA in obtaining USACE Section 404, RWQCB Section 401, and CDFW Section 1600 reverification and authorization to conduct maintenance activities within the basin. Amanda is assisting in the aquatic resources delineation, reporting, and permitting for the project. [October 2021 – Present]

Vadnais Trenchless Services Inc., Venice Dual Force Main & Pumping Plant Generator Replacement Project Environmental Resources Manager, Venice, CA. *Biological and Compliance Monitor.* ESA is implementing an environmental compliance program for the Venice Dual Force Main Project, a new two-mile-long sewer force main to be used as redundancy with an existing force main located in the communities of Marina del Rey, Playa del Rey, and Venice. Reporting to the City of Los Angeles, Bureau of Engineering, ESA developed an Environmental Monitoring Plan including a cloud base platform that allows internal and external users to access real time data including compliance status, relevant project documents to construction activities, and field data collected by Biologist. Amanda is the biological and compliance monitor for the project and prepares weekly, monthly, and annual compliance reports that demonstrate the project meets environmental requirements. [February 2021 – Present]

City of Covington, Covington Community Park Mitigation Monitoring, Covington, WA. *Project Manager/Wetland Scientist.* ESA is contracted with the City of Covington to provide monitoring of the wetland mitigation site for Phase 1 and 2 of Covington Community Park. ESA was responsible for the wetland delineation, mitigation design, and permitting for both phases of the park as a sub-consultant for the park designers. ESA biologists have monitored the mitigation site for the last 8 years and wrote results in monitoring reports for submittal to regulatory agencies. Monitoring included data collection for hydrology and vegetation development. Amanda manages the monitoring efforts, assists with vegetation monitoring, and assists with the monitoring reports. [September 2018 – Present]

Training

CEQA 101 for Biologists (California Association of Environmental Professionals)

Plant Identification for Southern California (Wetland Training Institute)

Western Washington Wetland Rating Training (Department of Ecology)

How to Determine the Ordinary High Water Mark (Department of Ecology)

Birding by Ear (Golden Gate Audubon Society)

Endangered Species Regulation and Protection (UC Davis Extension)

Appendix C

Floral and Faunal Compendia

APPENDIX C

Floral and Faunal Compendia

Floral Compendium

Family	Scientific Name	Common Name	Nativity	Status
ANGIOSPERMS				
DICOTS				
Adoxaceae – Moschatel Family				
	<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry	native	
Anacardiaceae – Sumac Family				
	<i>Schinus molle</i>	Peruvian pepper	Cal-IPC Limited	
Apiaceae – Carrot Family				
	<i>Conium maculatum</i>	Poison hemlock	Cal-IPC Moderate	
Asteraceae – Sunflower Family				
	<i>Baccharis pilularis</i>	Coyote brush	native	
	<i>Baccharis salicifolia</i>	Mulefat	native	
	<i>Isocoma menziesii</i>	Menzies' goldenbush	native	
	<i>Silybum marianum</i>	Milk thistle	Cal-IPC Limited	
Brassicaceae – Mustard Family				
	<i>Hirschfeldia incana</i>	short-podded mustard	Cal-IPC Moderate	
	<i>Sisymbrium irio</i>	London rocket	Cal-IPC Limited	
Cactaceae – Cactus Family				
	<i>Opuntia littoralis</i>	Coast prickly pear	native	
Chenopodiaceae – Goosefoot Family				
	<i>Chenopodium album</i>	Lamb's quarters	non-native	
Cucurbitaceae – Gourd Family				
	<i>Marah fabacea</i>	California man-root	native	
Geraniaceae – Geranium Family				
	<i>Erodium cicutarium</i>	redstem filaree	Cal-IPC Limited	
Lamiaceae – Mint Family				
	<i>Marrubium vulgare</i>	White horehound	Cal-IPC Limited	
Malvaceae – Mallow Family				
	<i>Malacothamnus fasciculatus</i>	Chaparral mallow	native	

Family	Scientific Name	Common Name	Nativity	Status
Oleaceae – Olive Family				
	<i>Olea europea</i>	European olive	Cal-IPC Limited	
Salicaceae – Willow Family				
	<i>Populus fremontii</i>	Fremont cottonwood	native	
	<i>Salix exigua</i>	Narrow leaved willow	native	
	<i>Salix lasiandra</i>	Pacific willow	native	
Solanaceae – Nightshade Family				
	<i>Datura wrightii</i>	Jimsonweed	native	
	<i>Nicotiana glauca</i>	Tree tobacco	Cal-IPC Moderate	
Urticaceae – Nettle Family				
	<i>Urtica dioica</i>	Stinging nettle	native	
	<i>Urtica urens</i>	Annual stinging nettle	on-native	
MONOCOTS				
Poaceae – Grass Family				
	<i>Arundo donax</i>	Giant reed	Cal-IPC High	
	<i>Avena fatua</i>	Wild oat	Cal-IPC Moderate	
	<i>Bromus diandrus</i>	Ripgut brome	Cal-IPC Moderate	
	<i>Hordeum murinum</i>	barley	Cal-IPC Moderate	

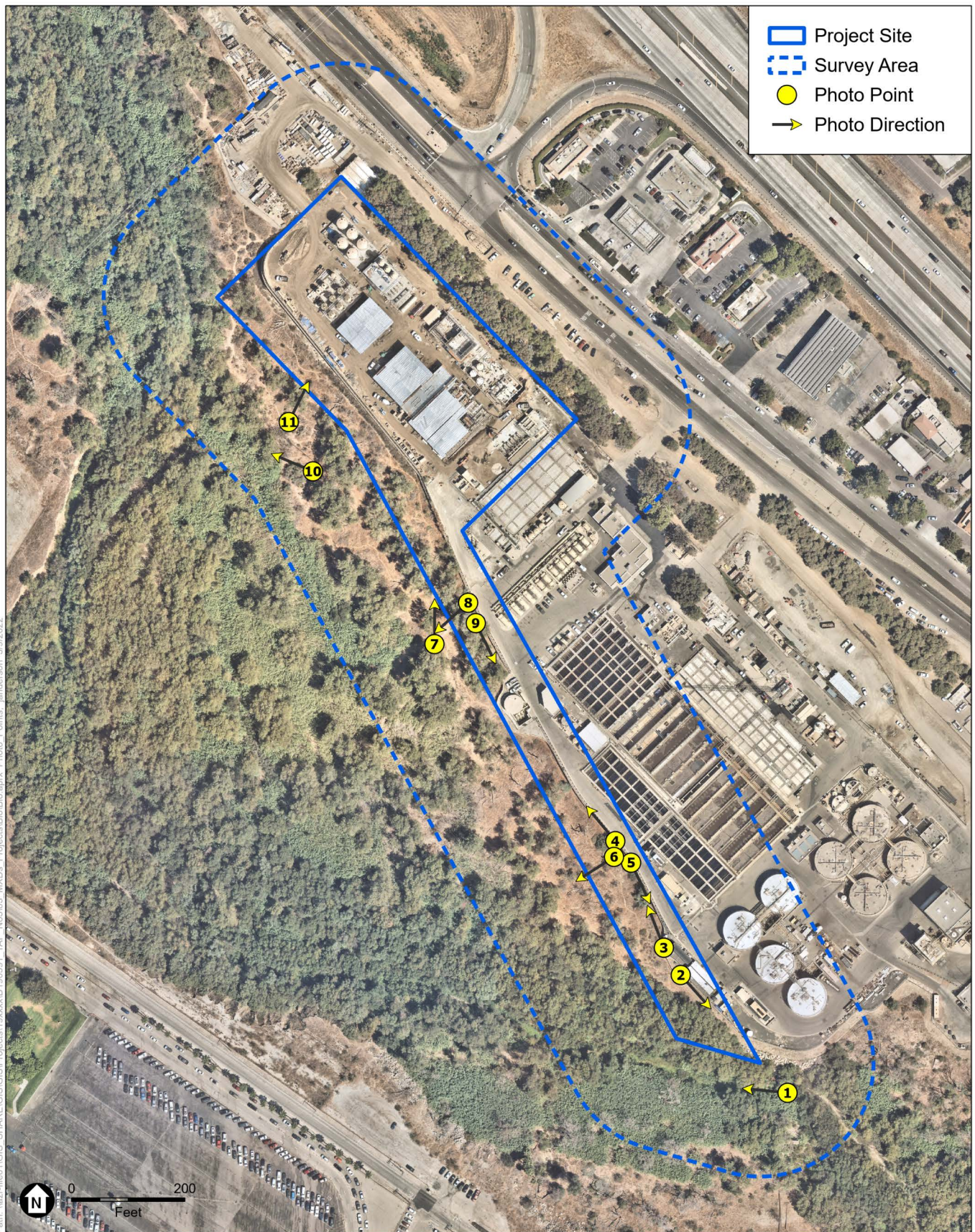
Faunal Compendium

Class	Family	Family Common Name	Scientific Name	Common Name	Special-status?
Amphibians					
	Hylidae	Treefrogs	<i>Pseudacris cadaverina</i>	California Treefrog	N
Reptiles					
	Phrynosomatidae	Zebra-tailed, Earless, Fringe-toed, Spiny, Tree, Side-blotched, and Horned Lizards	<i>Sceloporus occidentalis</i>	Western Fence Lizard	N
Birds					
	Accipitridae	Hawks, Eagles, and Kites	<i>Buteo lineatus</i>	Red-shouldered Hawk	N
	Aegithalidae	Long-tailed Tits	<i>Psaltiriparus minimus</i>	Bushtit	N
	Corvidae	Crows and Jays	<i>Corvus brachyrhynchos</i>	American Crow	N
	Corvidae	Crows and Jays	<i>Corvus corax</i>	Common Raven	N
	Corvidae	Crows and Jays	<i>Aphelocoma californica</i>	California Scrub-jay	N
	Mimidae	Mockingbirds and Thrashers	<i>Toxostoma redivivum</i>	California Thrasher	N

Class	Family	Family Common Name	Scientific Name	Common Name	Special-status?
	Paridae	Tits, Chickadees and Titmice	<i>Baeolophus inornatus</i>	Oak Titmouse	Y; LAAS
	Parulidae	New World Warblers	<i>Geothlypis trichas</i>	Common Yellowthroat	N
	Parulidae	New World Warblers	<i>Setophaga coronate</i>	Yellow-rumped Warbler	N
	Passerellidae	New World Sparrows	<i>Melospiza melodia</i>	Song Sparrow	N
	Picidae	Woodpeckers	<i>Dryobates nuttallii</i>	Nuttall's Woodpecker	N
	Regulidae	Kinglets	<i>Corthylio calendula</i>	Ruby-crowned Kinglet	Y; LAAS
	Sylviidae	Sylviid Warblers, Parrotbills, and Allies	<i>Chamaea fasciata</i>	Wrentit	N
Mammals					
	Leporidae	Rabbits and Hares	<i>Sylvilagus audubonii</i>	Desert cottontail	N

Appendix D

Photographic Log



SOURCE: Nearmap, 2021; ESA, 2022

Biological Constraints Analysis for Valencia Water Reclamation
Plant Retaining Wall Mid-Section Project

Photo Points

APPENDIX D

Site Photographs



Photo 1 (W). Photo depicts the bed of the Santa Clara River in the southern portion of the survey area. Fremont cottonwood-arroyo willow forest is visible along the northern banks of the river and giant reed marsh is visible along the southern banks of the river.



Photo 2 (SE). Photo depicts non-native annual grasses and forbs and Fremont cottonwood forest habitat in the southern portion of the survey area, adjacent to the existing retaining wall.



Photo 3 (NW). Photo depicts non-native annual grasses and forbs and Fremont cottonwood forest in the southern portion of the survey area, adjacent to the existing retaining wall. Proposed project staging is visible within the existing water reclamation plant.



Photo 4 (NW). Photo depicts non-native annual grasses and forbs and tamarisk thickets within the southern portion of the survey area, adjacent to the existing retaining wall.



Photo 5 (SE). Photo depicts non-native annual grasses and forbs and tamarisk thickets within the southern portion of the survey area, adjacent to the existing retaining wall.



Photo 6 (SW). Photo depicts the blue elderberry woodland and non-native annual grasses and forbs in the foreground and the Fremont cottonwood forest in the distance, within the southern portion of the survey area.



Photo 7 (N). Photo depicts the water reclamation plant outlet with giant reed marsh situated immediately adjacent and California rose briar patches visible in the distance, within the central portion of the survey area.



Photo 8 (SW). Photo depicts non-native annual grasses and forbs and Fremont cottonwood forest patches along the pedestrian pathway leading to the water reclamation plant outlet.



Photo 9 (SE). Photo depicts non-native annual grasses and forbs and Fremont cottonwood forest within the central portion of the survey area, adjacent to the existing retaining

wall. A proposed construction access point is visible in the foreground.



Photo 10 (W). Photo depicts the sandbar willow thickets within the northwest portion of the survey area.



Photo 11 (NE). Photo depicts the big sagebrush habitat within the northwestern portion of the survey area.

Appendix E

CNDDDB and CNPS Database Search Results

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE **RareFind**

Query Summary:

Quad **IS** (Newhall (3411845)) **OR** Warm Springs Mountain (3411855) **OR** Green Valley (3411854) **OR** San Fernando (3411834) **OR** Santa Susana (3411836) **OR** Oat Mountain (3411835) **OR** Val Verde (3411846) **OR** Mint Canyon (3411844) **OR** Whitaker Peak (3411856))

Print

Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Accipiter cooperii</i>	Cooper's hawk	Birds	ABNKC12040	118	2	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	Birds	ABPBX91091	235	5	None	None	G5T3	S3	null	CDFW_WL-Watch List	Chaparral, Coastal scrub
<i>Ammodramus savannarum</i>	grasshopper sparrow	Birds	ABPBXA0020	27	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Valley & foothill grassland
<i>Anaxyrus californicus</i>	arroyo toad	Amphibians	AAABB01230	139	2	Endangered	None	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered	Desert wash, Riparian scrub, Riparian woodland, South coast flowing waters, South coast standing waters
<i>Anniella</i> spp.	California legless lizard	Reptiles	ARACC01070	127	21	None	None	G3G4	S3S4	null	CDFW_SSC-Species of Special Concern	null
<i>Antrozous pallidus</i>	pallid bat	Mammals	AMACC10010	420	1	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
<i>Arizona elegans occidentalis</i>	California glossy snake	Reptiles	ARADB01017	260	7	None	None	G5T2	S2	null	CDFW_SSC-Species of Special Concern	null
<i>Artemisiospiza belli belli</i>	Bell's sage sparrow	Birds	ABPBX97021	61	4	None	None	G5T2T3	S3	null	CDFW_WL-Watch List, USFWS_BCC-Birds of Conservation Concern	Chaparral, Coastal scrub
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail	Reptiles	ARACJ02143	148	14	None	None	G5T5	S3	null	CDFW_SSC-Species of Special Concern	null
<i>Athene cunicularia</i>	burrowing owl	Birds	ABNSB10010	2011	6	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
<i>Berberis nevinii</i>	Nevin's barberry	Dicots	PDBER060A0	32	4	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub
<i>Bombus crotchii</i>	Crotch bumble bee	Insects	IIHYM24480	437	10	None	None	G2	S1S2	null	null	null
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Crustaceans	ICBRA03030	795	2	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
<i>Buteo swainsoni</i>	Swainson's hawk	Birds	ABNKC19070	2541	3	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
California Walnut Woodland	California Walnut Woodland	Woodland	CTT71210CA	76	16	None	None	G2	S2.1	null	null	Cismontane woodland
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa-lily	Monocots	PMLIL0D096	143	92	None	None	G4T2T3	S2S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
<i>Calochortus fimbriatus</i>	late-flowered mariposa-lily	Monocots	PMLIL0D1J2	93	3	None	None	G3	S3	1B.3	SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Riparian woodland, Ultramafic
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	Monocots	PMLIL0D122	111	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Lower montane coniferous forest, Meadow & seep
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	Monocots	PMLIL0D150	230	18	None	None	G4	S4	4.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley & foothill grassland
<i>Calystegia peirsonii</i>	Peirson's morning-glory	Dicots	PDCON040A0	26	13	None	None	G4	S4	4.2	null	Chaparral, Chenopod scrub, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley & foothill grassland

Catostomus santaanae	Santa Ana sucker	Fish	AFCJC02190	28	3	Threatened	None	G1	S1	null	AFS_TH- Threatened, IUCN_VU- Vulnerable	Aquatic, South coast flowing waters
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	Dicots	PDPGN040J1	21	15	None	Endangered	G2T1	S1	1B.1	SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden, USFS_S- Sensitive	Coastal scrub, Valley & foothill grassland
Chorizanthe parryi var. parryi	Parry's spineflower	Dicots	PDPGN040J2	150	2	None	None	G3T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden, USFS_S- Sensitive	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland
Cismontane Alkali Marsh	Cismontane Alkali Marsh	Marsh	CTT52310CA	4	1	None	None	G1	S1.1	null	null	Marsh & swamp, Wetland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	165	2	Threatened	Endangered	G5T2T3	S1	null	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Riparian forest
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	2	None	None	G4	S2	null	BLM_S-Sensitive, CDFW_SSC- Species of Special Concern, IUCN_LC- Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Danaus plexippus pop. 1	monarch - California overwintering population	Insects	IILEPP2012	383	1	Candidate	None	G4T2T3	S2S3	null	USFS_S-Sensitive	Closed-cone coniferous forest
Deinandra minthornii	Santa Susana tarplant	Dicots	PDAST4R0J0	35	11	None	Rare	G2	S2	1B.2	SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	Chaparral, Coastal scrub
Dodecahema leptoceras	slender- horned spineflower	Dicots	PDPGN0V010	42	3	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	184	1	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAA02030	1404	12	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC- Species of Special Concern, IUCN_VU- Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Eremophila alpestris actia	California horned lark	Birds	ABPAT02011	94	1	None	None	G5T4Q	S4	null	CDFW_WL-Watch List, IUCN_LC- Least Concern	Marine intertidal & splash zone communities, Meadow & seep
Euderma maculatum	spotted bat	Mammals	AMACC07010	68	1	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC- Species of Special Concern, IUCN_LC- Least Concern, WBWG_H-High Priority	null
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	296	4	None	None	G4G5T4	S3S4	null	BLM_S-Sensitive, CDFW_SSC- Species of Special Concern, WBWG_H-High Priority	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland
Euphydryas editha quino	quino checkerspot butterfly	Insects	IILEPK405L	172	1	Endangered	None	G5T1T2	S1S2	null	null	Chaparral, Coastal scrub
Falco mexicanus	prairie falcon	Birds	ABNKD06090	451	1	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC- Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	Fish	AFCPA03011	16	8	Endangered	Endangered	G5T1	S1	null	AFS_EN- Endangered, CDFW_FP-Fully Protected	Aquatic, South coast flowing waters
Gila orcuttii	arroyo chub	Fish	AFCJB13120	49	4	None	None	G2	S2	null	AFS_VU- Vulnerable, CDFW_SSC- Species of Special Concern, USFS_S- Sensitive	Aquatic, South coast flowing waters
Gymnogyps californianus	California condor	Birds	ABNKA03010	13	1	Endangered	Endangered	G1	S1	null	CDF_S-Sensitive, CDFW_FP-Fully Protected, IUCN_CR-Critically Endangered, NABCI_RWL-Red Watch List	Chaparral, Valley & foothill grassland
Harpagonella palmeri	Palmer's grapplinghook	Dicots	PDBOR0H010	57	1	None	None	G4	S3	4.2	SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden, SB_CRES- San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Coastal scrub, Valley & foothill grassland
Helianthus inexpectatus	Newhall sunflower	Dicots	PDAST4N250	1	1	None	None	G1	S1	1B.1	SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	Marsh & swamp, Meadow & seep, Wetland

Helminthoglypta fontiphila	Soledad shoulderband	Mollusks	IMGASC2250	12	1	None	None	G1	S1	null	null	null
Helminthoglypta traskii pacoimensis	Pacoima shoulderband	Mollusks	IMGASC2472	2	2	None	None	G1G2T1	S1	null	null	null
Helminthoglypta uvasana	Grapevine shoulderband	Mollusks	IMGASC2650	2	1	None	None	G1	S1	null	null	null
Horkelia cuneata var. puberula	mesa horkelia	Dicots	PDROS0W045	103	1	None	None	G4T1	S1	1B.1	USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub
Icteria virens	yellow-breasted chat	Birds	ABPBX24010	101	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland
Lanius ludovicianus	loggerhead shrike	Birds	ABPBR01030	110	5	None	None	G4	S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest, Desert wash, Joshua tree woodland, Mojavean desert scrub, Pinon & juniper woodlands, Riparian woodland, Sonoran desert scrub
Lasiurus cinereus	hoary bat	Mammals	AMACC05030	238	1	None	None	G3G4	S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest
Lepechinia rossii	Ross' pitcher sage	Dicots	PDLAM0V060	3	2	None	None	G1	S1	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	Dicots	PDBRA1M114	142	1	None	None	G5T3	S3	4.3	null	Chaparral, Coastal scrub
Lepus californicus bennettii	San Diego black-tailed jackrabbit	Mammals	AMAE03051	103	2	None	None	G5T3T4	S3S4	null	null	Coastal scrub
Lupinus paynei	Payne's bush lupine	Dicots	PDFAB2B580	7	4	None	None	G1Q	S1	1B.1	null	Coastal scrub, Riparian scrub, Valley & foothill grassland
Macrotus californicus	California leaf-nosed bat	Mammals	AMACB01010	46	1	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_H-High Priority	Riparian scrub, Sonoran desert scrub
Mainland Cherry Forest	Mainland Cherry Forest	Forest	CTT81820CA	3	3	None	None	G1	S1.1	null	null	Broadleaved upland forest
Malacothamnus davidsonii	Davidson's bush-mallow	Dicots	PDMAL0Q040	83	17	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland
Navarretia fossilis	spreading navarretia	Dicots	PDPLM0C080	82	3	Threatened	None	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Alkali playa, Chenopod scrub, Marsh & swamp, Vernal pool, Wetland
Navarretia ojaiensis	Ojai navarretia	Dicots	PDPLM0C130	22	5	None	None	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Navarretia setiloba	Piute Mountains navarretia	Dicots	PDPLM0C0S0	56	3	None	None	G2	S2	1B.1	BLM_S-Sensitive, USFS_S-Sensitive	Cismontane woodland, Pinon & juniper woodlands, Valley & foothill grassland
Neotamias speciosus speciosus	lodgpole chipmunk	Mammals	AMAFB02172	24	1	None	None	G4T3T4	S2S3	null	null	Chaparral, Upper montane coniferous forest
Neotoma lepida intermedia	San Diego desert woodrat	Mammals	AMAFF08041	132	5	None	None	G5T3T4	S3S4	null	CDFW_SSC-Species of Special Concern	Coastal scrub
Onychomys torridus ramona	southern grasshopper mouse	Mammals	AMAFF06022	28	1	None	None	G5T3	S3	null	CDFW_SSC-Species of Special Concern	Chenopod scrub
Opuntia basilaris var. brachyclada	short-joint beavertail	Dicots	PDCAC0D053	199	19	None	None	G5T3	S3	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Joshua tree woodland, Mojavean desert scrub, Pinon & juniper woodlands
Orcuttia californica	California Orcutt grass	Monocots	PMPOA4G010	39	3	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Vernal pool, Wetland
Phrynosoma blainvillii	coast horned lizard	Reptiles	ARACF12100	784	19	None	None	G3G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon & juniper woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland
Poliptila californica californica	coastal California gnatcatcher	Birds	ABPBXJ08081	1087	27	Threatened	None	G4G5T3Q	S2	null	CDFW_SSC-Species of Special Concern, NABCI_YWL-Yellow Watch List	Coastal bluff scrub, Coastal scrub
Pseudognaphalium leucocephalum	white rabbit-tobacco	Dicots	PDAST440C0	62	6	None	None	G4	S2	2B.2	null	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland
Rana boylei	foothill yellow-legged frog	Amphibians	AAABH01050	2478	2	None	Endangered	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rana draytonii	California red-legged frog	Amphibians	AAABH01022	1671	2	Threatened	None	G2G3	S2S3	null	CDFW_SSC-Species of Special	Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh & swamp, Riparian

											Concern, IUCN_VU-Vulnerable	forest, Riparian scrub, Riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Rana muscosa	southern mountain yellow-legged frog	Amphibians	AAABH01330	186	1	Endangered	Endangered	G1	S1	null	CDFW_WL-Watch List, IUCN_EN-Endangered, USFS_S-Sensitive	Aquatic
Rhinichthys osculus ssp. 8	Santa Ana speckled dace	Fish	AFCJB3705K	13	1	None	None	G5T1	S1	null	AFS_TH-Threatened, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Aquatic, South coast flowing waters
Riparia riparia	bank swallow	Birds	ABPAU08010	298	1	None	Threatened	G5	S2	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	Scrub	CTT32720CA	30	4	None	None	G1	S1.1	null	null	Coastal scrub
Senecio aphanactis	chaparral ragwort	Dicots	PDAST8H060	98	1	None	None	G3	S2	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Cismontane woodland, Coastal scrub
Setophaga petechia	yellow warbler	Birds	ABPBX03010	78	1	None	None	G5	S3S4	null	CDFW_SSC-Species of Special Concern, USFWS_BCC-Birds of Conservation Concern	Riparian forest, Riparian scrub, Riparian woodland
Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream	Inland Waters	CARE2320CA	5	2	None	None	GNR	SNR	null	null	null
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Riparian	CTT61310CA	246	55	None	None	G4	S4	null	null	Riparian forest
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	Riparian	CTT61330CA	111	19	None	None	G3	S3.2	null	null	Riparian forest
Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	Riparian	CTT61340CA	14	3	None	None	G2	S2.1	null	null	Riparian forest
Southern Riparian Scrub	Southern Riparian Scrub	Riparian	CTT63300CA	56	18	None	None	G3	S3.2	null	null	Riparian scrub
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	Riparian	CTT62400CA	230	16	None	None	G4	S4	null	null	Riparian woodland
Southern Willow Scrub	Southern Willow Scrub	Riparian	CTT63320CA	45	9	None	None	G3	S2.1	null	null	Riparian scrub
Spea hammondi	western spadefoot	Amphibians	AAABF02020	1422	49	None	None	G2G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Streptanthus campestris	southern jewelflower	Dicots	PDBRA2G0B0	73	1	None	None	G3	S3	1B.3	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Lower montane coniferous forest, Pinon & juniper woodlands
Symphyotrichum greatae	Greata's aster	Dicots	PDASTE80U0	56	3	None	None	G2	S2	1B.3	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland
Taricha torosa	Coast Range newt	Amphibians	AAAAF02032	88	2	None	None	G4	S4	null	CDFW_SSC-Species of Special Concern	null
Taxidea taxus	American badger	Mammals	AMAJF04010	594	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Thamnophis hammondi	two-striped gartersnake	Reptiles	ARADB36160	184	7	None	None	G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Marsh & swamp, Riparian scrub, Riparian woodland, Wetland
Valley Oak Woodland	Valley Oak Woodland	Woodland	CTT71130CA	91	8	None	None	G3	S2.1	null	null	Cismontane woodland
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	504	12	Endangered	Endangered	G5T2	S2	null	IUCN_NT-Near Threatened, NABCI_YWL-Yellow Watch List	Riparian forest, Riparian scrub, Riparian woodland




Search Results

40 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3411856:3411855:3411854:3411834:3411836:3411835:3411846:3411845:3411844]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)	PHOTO
<i>Berberis nevinii</i>	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	FE	CE	G1	S1	1B.1	230	2705	No Photo Available
<i>Calochortus catalinae</i>	Catalina mariposa lily	Liliaceae	perennial bulbiferous herb	(Feb)Mar-Jun	None	None	G3G4	S3S4	4.2	50	2295	No Photo Available
<i>Calochortus clavatus</i> var. <i>avicus</i>	Pleasant Valley mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	G4T2	S2	1B.2	1000	5905	No Photo Available
<i>Calochortus clavatus</i> var. <i>clavatus</i>	club-haired mariposa lily	Liliaceae	perennial bulbiferous herb	(Mar)May-Jun	None	None	G4T3	S3	4.3	100	4265	No Photo Available
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa-lily	Liliaceae	perennial bulbiferous herb	Mar-Jun(Nov)	None	None	G4T2T3	S2S3	1B.2	1050	3280	No Photo Available
<i>Calochortus fimbriatus</i>	late-flowered mariposa-lily	Liliaceae	perennial bulbiferous herb	Jun-Aug	None	None	G3	S3	1B.3	900	6250	No Photo Available
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	Liliaceae	perennial bulbiferous herb	Apr-Jul	None	None	G3T2	S2	1B.2	2330	7840	No Photo Available
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	G4	S4	4.2	330	5580	No Photo Available
<i>Calystegia peirsonii</i>	Peirson's morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	G4	S4	4.2	100	4920	No Photo Available
<i>Canbya candida</i>	white pygmy-poppy	Papaveraceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	4.2	1970	4790	No Photo Available
<i>Cercocarpus betuloides</i> var. <i>blancheae</i>	island mountain-mahogany	Rosaceae	perennial evergreen shrub	Feb-May	None	None	G5T4	S4	4.3	100	1970	No Photo Available
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	Polygonaceae	annual herb	Apr-Jul	None	CE	G2T1	S1	1B.1	490	4005	No Photo Available
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	None	None	G3T2	S2	1B.1	900	4005	No Photo Available

<u><i>Deinandra minthornii</i></u>	Santa Susana tarplant	Asteraceae	perennial deciduous shrub	Jul-Nov	None	CR	G2	S2	1B.2	920	2495	No Photo Available
<u><i>Deinandra paniculata</i></u>	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov	None	None	G4	S4	4.2	80	3085	No Photo Available
<u><i>Delphinium parryi</i> ssp. <i>purpureum</i></u>	Mt. Pinos larkspur	Ranunculaceae	perennial herb	May-Jun	None	None	G4T4	S4	4.3	3280	8530	No Photo Available
<u><i>Dodecahema leptoceras</i></u>	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1	655	2495	No Photo Available
<u><i>Dudleya densiflora</i></u>	San Gabriel Mountains dudleya	Crassulaceae	perennial herb	Mar-Jul	None	None	G2	S2	1B.1	800	2000	No Photo Available
<u><i>Harpagonella palmeri</i></u>	Palmer's grapplinghook	Boraginaceae	annual herb	Mar-May	None	None	G4	S3	4.2	65	3135	 © 2015 Keir Morse
<u><i>Helianthus inexpectatus</i></u>	Newhall sunflower	Asteraceae	perennial rhizomatous herb	Aug-Oct	None	None	G1	S1	1B.1	1000	1000	 © 2012 Anuja Parikh and Nathan Gale
<u><i>Hordeum intercedens</i></u>	vernal barley	Poaceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	3.2	15	3280	No Photo Available
<u><i>Horkelia cuneata</i> var. <i>puberula</i></u>	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	None	None	G4T1	S1	1B.1	230	2660	 © 2008 Tony Morosco
<u><i>Juglans californica</i></u>	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	None	None	G4	S4	4.2	165	2955	 © 2020 Zoya Akulova
<u><i>Juncus acutus</i> ssp. <i>leopoldii</i></u>	southwestern spiny rush	Juncaceae	perennial rhizomatous herb	(Mar)May-Jun	None	None	G5T5	S4	4.2	10	2955	 © 2019 Belinda Lo
<u><i>Lepechinia fragrans</i></u>	fragrant pitcher sage	Lamiaceae	perennial shrub	Mar-Oct	None	None	G3	S3	4.2	65	4300	 © 2014 Debra L. Cook
<u><i>Lepechinia rossii</i></u>	Ross' pitcher sage	Lamiaceae	perennial shrub	May-Sep	None	None	G1	S1	1B.2	1000	2590	No Photo Available

<u><i>Lepidium virginicum</i> var. <i>robinsonii</i></u>	Robinson's pepper-grass	Brassicaceae	annual herb	Jan-Jul	None	None	G5T3	S3	4.3	5	2905	 © 2015 Keir Morse
<u><i>Lilium humboldtii</i> ssp. <i>ocellatum</i></u>	ocellated Humboldt lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	None	None	G4T4?	S4?	4.2	100	5905	 © 2008 Thomas Stoughton
<u><i>Lupinus paynei</i></u>	Payne's bush lupine	Fabaceae	perennial shrub	Mar-Apr(May-Jul)	None	None	G1Q	S1	1B.1	720	1380	No Photo Available
<u><i>Malacothamnus davidsonii</i></u>	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	Jun-Jan	None	None	G2	S2	1B.2	605	3740	 © 2016 Keir Morse
<u><i>Navarretia fossalis</i></u>	spreading navarretia	Polemoniaceae	annual herb	Apr-Jun	FT	None	G2	S2	1B.1	100	2150	No Photo Available
<u><i>Navarretia ojaiensis</i></u>	Ojai navarretia	Polemoniaceae	annual herb	May-Jul	None	None	G2	S2	1B.1	900	2035	No Photo Available
<u><i>Navarretia setiloba</i></u>	Piute Mountains navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.1	935	6890	No Photo Available
<u><i>Opuntia basilaris</i> var. <i>brachyclada</i></u>	short-joint beavertail	Cactaceae	perennial stem	Apr-Jun(Aug)	None	None	G5T3	S3	1B.2	1395	5905	No Photo Available
<u><i>Orcuttia californica</i></u>	California Orcutt grass	Poaceae	annual herb	Apr-Aug	FE	CE	G1	S1	1B.1	50	2165	No Photo Available
<u><i>Phacelia mohavensis</i></u>	Mojave phacelia	Hydrophyllaceae	annual herb	Apr-Aug	None	None	G4Q	S4	4.3	4595	8205	No Photo Available
<u><i>Pseudognaphalium leucocephalum</i></u>	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	None	None	G4	S2	2B.2	0	6890	No Photo Available
<u><i>Senecio aphanactis</i></u>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2	50	2625	No Photo Available
<u><i>Streptanthus campestris</i></u>	southern jewelflower	Brassicaceae	perennial herb	(Apr)May-Jul	None	None	G3	S3	1B.3	2955	7545	No Photo Available
<u><i>Symphyotrichum greatae</i></u>	Greata's aster	Asteraceae	perennial rhizomatous herb	Jun-Oct	None	None	G2	S2	1B.3	985	6595	No Photo Available

Showing 1 to 40 of 40 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website <https://www.rareplants.cnps.org> [accessed 26 April 2022].

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IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Los Angeles County, California



Local office

Ventura Fish And Wildlife Office

☎ (805) 644-1766

📅 (805) 644-3958

2493 Portola Road, Suite B
Ventura, CA 93003-7726

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
<p>California Condor <i>Gymnogyps californianus</i></p> <p>There is final critical habitat for this species. The location of the critical habitat is not available.</p> <p>https://ecos.fws.gov/ecp/species/8193</p>	Endangered
<p>Coastal California Gnatcatcher <i>Polioptila californica californica</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. The location of the critical habitat is not available.</p> <p>https://ecos.fws.gov/ecp/species/8178</p>	Threatened
<p>Least Bell's Vireo <i>Vireo bellii pusillus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location overlaps the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/5945</p>	Endangered
<p>Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location overlaps the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/6749</p>	Endangered

Amphibians

NAME	STATUS
<p>Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location overlaps the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/3762</p>	Endangered

Fishes

NAME

STATUS

Unarmored Threespine Stickleback *Gasterosteus aculeatus*
williamsoni

Endangered

Wherever found

There is **proposed** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/7002>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Crustaceans

NAME

STATUS

Riverside Fairy Shrimp *Streptocephalus woottoni*

Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/8148>

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/498>

Flowering Plants

NAME

STATUS

California Orcutt Grass *Orcuttia californica*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4923>

Gambel's Watercress *Rorippa gambellii* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4201>

Marsh Sandwort *Arenaria paludicola* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2229>

Nevin's Barberry *Berberis nevinii* Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/8025>

Slender-horned Spineflower *Dodecahema leptoceras* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4007>

Spreading Navarretia *Navarretia fossalis* Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/1334>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i> https://ecos.fws.gov/ecp/species/3762#crithab	Final
Least Bell's Vireo <i>Vireo bellii pusillus</i> https://ecos.fws.gov/ecp/species/5945#crithab	Final

Southwestern Willow Flycatcher *Empidonax traillii extimus* Final
<https://ecos.fws.gov/ecp/species/6749#crithab>

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird *Selasphorus sasin*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9637>

Breeds Feb 1 to Jul 15

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Jan 1 to Aug 31

Black-chinned Sparrow *Spizella atrogularis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9447>

Breeds Apr 15 to Jul 31

California Thrasher *Toxostoma redivivum*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Jul 31

Clark's Grebe *Aechmophorus clarkii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jun 1 to Aug 31

Common Yellowthroat *Geothlypis trichas sinuosa*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Golden Eagle *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Lawrence's Goldfinch *Carduelis lawrencei*

Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9464>

Marbled Godwit *Limosa fedoa*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9481>

Nuttall's Woodpecker *Picoides nuttallii*

Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Oak Titmouse *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Olive-sided Flycatcher *Contopus cooperi*

Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3914>

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (I)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

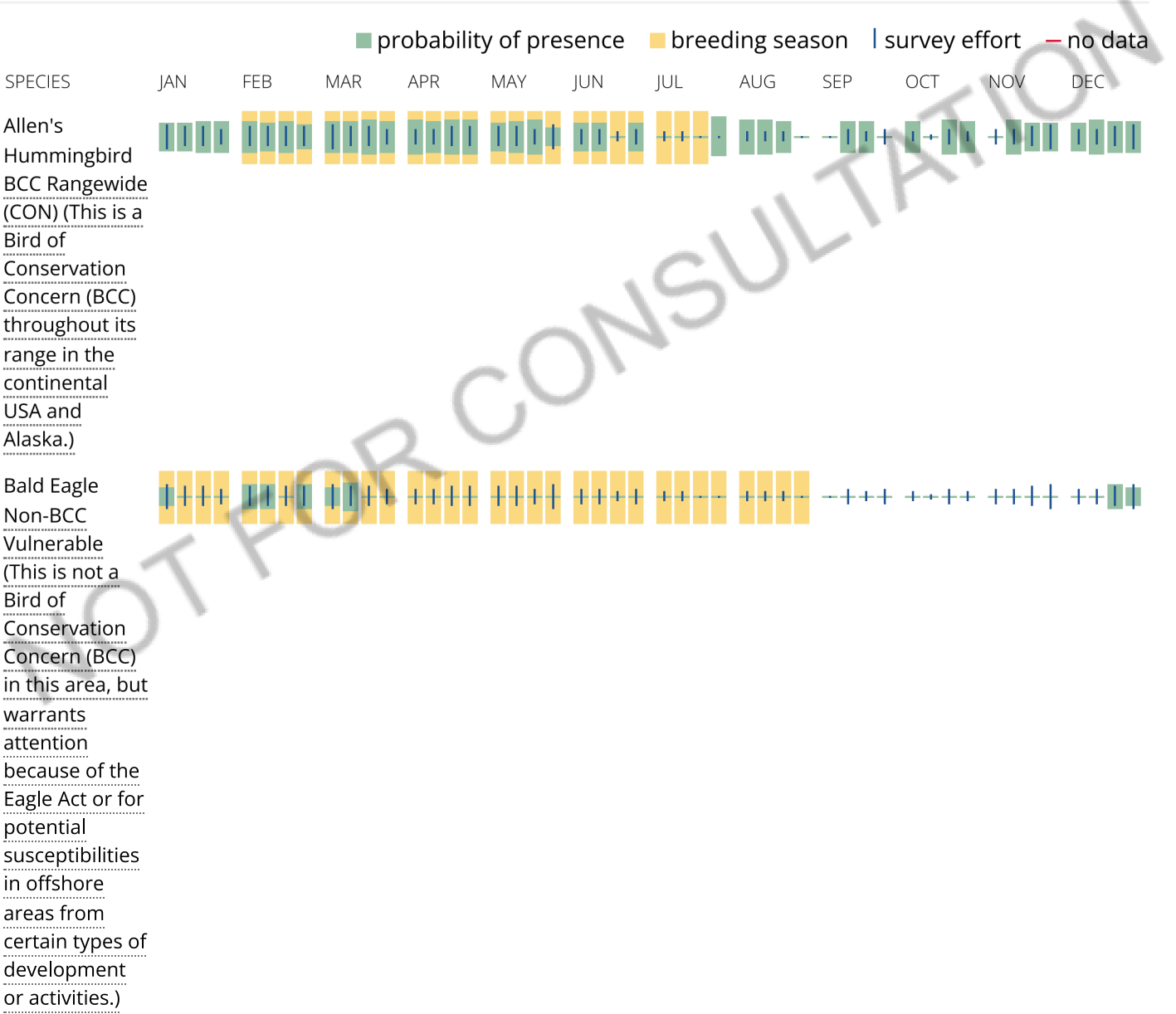
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

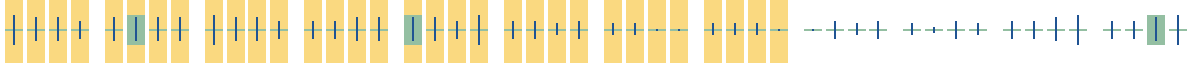
Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



[illegible]

Golden Eagle
Non-BCC
Vulnerable
(This is not a
Bird of
Conservation
Concern (BCC)
in this area, but
warrants
attention
because of the
Eagle Act or for
potential
susceptibilities
in offshore
areas from
certain types of
development
or activities.)



Lawrence's
Goldfinch
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Marbled
Godwit
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)





Wrentit
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

THERE ARE NO KNOWN COASTAL BARRIERS AT THIS LOCATION.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be

subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C.2

Floral and Faunal Compendia

Floral Compendium

Family	Scientific Name	Common Name	Nativity	Status
ANGIOSPERMS				
DICOTS				
Adoxaceae – Moschatel Family				
	<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry	native	
Anacardiaceae – Sumac Family				
	<i>Schinus molle</i>	Peruvian pepper	Cal-IPC Limited	
Apiaceae – Carrot Family				
	<i>Conium maculatum</i>	Poison hemlock	Cal-IPC Moderate	
Asteraceae – Sunflower Family				
	<i>Baccharis pilularis</i>	Coyote brush	native	
	<i>Baccharis salicifolia</i>	Mulefat	native	
	<i>Isocoma menziesii</i>	Menzies' goldenbush	native	
	<i>Silybum marianum</i>	Milk thistle	Cal-IPC Limited	
Brassicaceae – Mustard Family				
	<i>Hirschfeldia incana</i>	short-podded mustard	Cal-IPC Moderate	
	<i>Sisymbrium irio</i>	London rocket	Cal-IPC Limited	
Cactaceae – Cactus Family				
	<i>Opuntia littoralis</i>	Coast prickly pear	native	
Chenopodiaceae – Goosefoot Family				
	<i>Chenopodium album</i>	Lamb's quarters	non-native	
Cucurbitaceae – Gourd Family				
	<i>Marah fabacea</i>	California man-root	native	
Geraniaceae – Geranium Family				
	<i>Erodium cicutarium</i>	redstem filaree	Cal-IPC Limited	
Lamiaceae – Mint Family				
	<i>Marrubium vulgare</i>	White horehound	Cal-IPC Limited	
Malvaceae – Mallow Family				
	<i>Malacothamnus fasciculatus</i>	Chaparral mallow	native	

Family	Scientific Name	Common Name	Nativity	Status
Oleaceae – Olive Family				
	<i>Olea europea</i>	European olive	Cal-IPC Limited	
Salicaceae – Willow Family				
	<i>Populus fremontii</i>	Fremont cottonwood	native	
	<i>Salix exigua</i>	Narrow leaved willow	native	
	<i>Salix lasiandra</i>	Pacific willow	native	
Solanaceae – Nightshade Family				
	<i>Datura wrightii</i>	Jimsonweed	native	
	<i>Nicotiana glauca</i>	Tree tobacco	Cal-IPC Moderate	
Urticaceae – Nettle Family				
	<i>Urtica dioica</i>	Stinging nettle	native	
	<i>Urtica urens</i>	Annual stinging nettle	on-native	
MONOCOTS				
Poaceae – Grass Family				
	<i>Arundo donax</i>	Giant reed	Cal-IPC High	
	<i>Avena fatua</i>	Wild oat	Cal-IPC Moderate	
	<i>Bromus diandrus</i>	Ripgut brome	Cal-IPC Moderate	
	<i>Hordeum murinum</i>	barley	Cal-IPC Moderate	

Faunal Compendium

Class	Family	Family Common Name	Scientific Name	Common Name	Special-status?
Amphibians					
	Hylidae	Treefrogs	<i>Pseudacris cadaverina</i>	California Treefrog	N
Reptiles					
	Phrynosomatidae	Zebra-tailed, Earless, Fringe-toed, Spiny, Tree, Side-blotched, and Horned Lizards	<i>Sceloporus occidentalis</i>	Western Fence Lizard	N
Birds					
	Accipitridae	Hawks, Eagles, and Kites	<i>Buteo lineatus</i>	Red-shouldered Hawk	N
	Aegithalidae	Long-tailed Tits	<i>Psaltirparus minimus</i>	Bushtit	N
	Corvidae	Crows and Jays	<i>Corvus brachyrhynchos</i>	American Crow	N
	Corvidae	Crows and Jays	<i>Corvus corax</i>	Common Raven	N
	Corvidae	Crows and Jays	<i>Aphelocoma californica</i>	California Scrub-jay	N
	Mimidae	Mockingbirds and Thrashers	<i>Toxostoma redivivum</i>	California Thrasher	N
	Paridae	Tits, Chickadees and Titmice	<i>Baeolophus inornatus</i>	Oak Titmouse	Y; LAAS
	Parulidae	New World Warblers	<i>Geothlypis trichas</i>	Common Yellowthroat	N
	Parulidae	New World Warblers	<i>Setophaga coronate</i>	Yellow-rumped Warbler	N
	Passerellidae	New World Sparrows	<i>Melospiza melodia</i>	Song Sparrow	N
	Picidae	Woodpeckers	<i>Dryobates nuttallii</i>	Nuttall's Woodpecker	N
	Regulidae	Kinglets	<i>Corthylio calendula</i>	Ruby-crowned Kinglet	Y; LAAS
	Sylviidae	Sylviid Warblers, Parrotbills, and Allies	<i>Chamaea fasciata</i>	Wrentit	N
Mammals					
	Leporidae	Rabbits and Hares	<i>Sylvilagus audubonii</i>	Desert cottontail	N



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS (Newhall (3411845) OR Whitaker Peak (3411856) OR Warm Springs Mountain (3411855) OR Green Valley (3411854) OR Mint Canyon (3411844) OR San Fernando (3411834) OR Oat Mountain (3411835) OR Santa Susana (3411836) OR Val Verde (3411846))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S4	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Anaxyrus californicus</i> arroyo toad	AAABB01230	Endangered	None	G2G3	S2	SSC
<i>Anniella spp.</i> California legless lizard	ARACC01070	None	None	G3G4	S3S4	SSC
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Artemisiospiza belli belli</i> Bell's sparrow	ABPBX97021	None	None	G5T2T3	S3	WL
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S2	SSC
<i>Berberis nevinii</i> Nevin's barberry	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
<i>Bombus pensylvanicus</i> American bumble bee	IIHYM24260	None	None	G3G4	S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
<i>California Walnut Woodland</i> California Walnut Woodland	CTT71210CA	None	None	G2	S2.1	
<i>Calochortus clavatus var. gracilis</i> slender mariposa-lily	PMLIL0D096	None	None	G4T2T3	S2S3	1B.2
<i>Calochortus fimbriatus</i> late-flowered mariposa-lily	PMLIL0D1J2	None	None	G3	S3	1B.3



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa-lily	PMLIL0D122	None	None	G3T2	S2	1B.2
<i>Calochortus plummerae</i> Plummer's mariposa-lily	PMLIL0D150	None	None	G4	S4	4.2
<i>Calystegia peirsonii</i> Peirson's morning-glory	PDCON040A0	None	None	G4	S4	4.2
<i>Catostomus santaanae</i> Santa Ana sucker	AFCJC02190	Threatened	None	G1	S1	
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	PDPGN040J1	None	Endangered	G2T1	S1	1B.1
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	PDPGN040J2	None	None	G3T2	S2	1B.1
<i>Cismontane Alkali Marsh</i> Cismontane Alkali Marsh	CTT52310CA	None	None	G1	S1.1	
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Danaus plexippus plexippus</i> pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2Q	S2	
<i>Deinandra minthornii</i> Santa Susana tarplant	PDAST4R0J0	None	Rare	G2	S2	1B.2
<i>Dodecahema leptoceras</i> slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	Proposed Threatened	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Euderma maculatum</i> spotted bat	AMACC07010	None	None	G4	S3	SSC
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
<i>Euphydryas editha quino</i> quino checkerspot butterfly	IILEPK405L	Endangered	None	G4G5T1T2	S1S2	
<i>Falco mexicanus</i> prairie falcon	ABNKD06090	None	None	G5	S4	WL
<i>Gasterosteus aculeatus williamsoni</i> unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	G5T1	S1	FP
<i>Gila orcuttii</i> arroyo chub	AFCJB13120	None	None	G2	S2	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Gymnogyps californianus</i> California condor	ABNKA03010	Endangered	Endangered	G1	S2	FP
<i>Harpagonella palmeri</i> Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2
<i>Helianthus inexpectatus</i> Newhall sunflower	PDAST4N250	None	None	G1	S1	1B.1
<i>Helminthoglypta fontiphila</i> Soledad shoulderband	IMGASC2250	None	None	G1	S1	
<i>Helminthoglypta traskii pacoimensis</i> Pacoima shoulderband	IMGASC2472	None	None	G1G2T1	S1	
<i>Helminthoglypta uvasana</i> Grapevine shoulderband	IMGASC2650	None	None	G1	S1	
<i>Horkelia cuneata var. puberula</i> mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
<i>Icteria virens</i> yellow-breasted chat	ABPBX24010	None	None	G5	S4	SSC
<i>Lanius ludovicianus</i> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05032	None	None	G3G4	S4	
<i>Lepechinia rossii</i> Ross' pitcher sage	PDLAM0V060	None	None	G1	S1	1B.2
<i>Lepidium virginicum var. robinsonii</i> Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	AMAEB03051	None	None	G5T3T4	S3S4	
<i>Lupinus paynei</i> Payne's bush lupine	PDFAB2B580	None	None	G1Q	S1	1B.1
<i>Macrotus californicus</i> California leaf-nosed bat	AMACB01010	None	None	G3G4	S3	SSC
<i>Mainland Cherry Forest</i> Mainland Cherry Forest	CTT81820CA	None	None	G1	S1.1	
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	PDMAL0Q040	None	None	G2	S2	1B.2
<i>Navarretia fossalis</i> spreading navarretia	PDPLM0C080	Threatened	None	G2	S2	1B.1
<i>Navarretia ojaiensis</i> Ojai navarretia	PDPLM0C130	None	None	G2	S2	1B.1
<i>Navarretia setiloba</i> Piute Mountains navarretia	PDPLM0C0S0	None	None	G2	S2	1B.1
<i>Neotamias speciosus speciosus</i> lodgepole chipmunk	AMAFB02172	None	None	G4T3T4	S2	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<i>Onychomys torridus ramona</i> southern grasshopper mouse	AMAFF06022	None	None	G5T3	S3	SSC
<i>Opuntia basilaris</i> var. <i>brachyclada</i> short-joint beavertail	PDCAC0D053	None	None	G5T3	S3	1B.2
<i>Orcuttia californica</i> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G4	S4	SSC
<i>Poliophtila californica californica</i> coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T3Q	S2	SSC
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	PDAST440C0	None	None	G4	S2	2B.2
<i>Rana boylei</i> pop. 6 foothill yellow-legged frog - south coast DPS	AAABH01056	Endangered	Endangered	G3T1	S1	
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Rana muscosa</i> southern mountain yellow-legged frog	AAABH01330	Endangered	Endangered	G1	S2	WL
<i>Rhinichthys osculus</i> ssp. 8 Santa Ana speckled dace	AFCJB3705K	None	None	G5T1	S1	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S3	
<i>Riversidian Alluvial Fan Sage Scrub</i> Riversidian Alluvial Fan Sage Scrub	CTT32720CA	None	None	G1	S1.1	
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3	SSC
<i>Southern California Threespine Stickleback Stream</i> Southern California Threespine Stickleback Stream	CARE2320CA	None	None	GNR	SNR	
<i>Southern Coast Live Oak Riparian Forest</i> Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
<i>Southern Cottonwood Willow Riparian Forest</i> Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
<i>Southern Mixed Riparian Forest</i> Southern Mixed Riparian Forest	CTT61340CA	None	None	G2	S2.1	
<i>Southern Riparian Scrub</i> Southern Riparian Scrub	CTT63300CA	None	None	G3	S3.2	
<i>Southern Sycamore Alder Riparian Woodland</i> Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Southern Willow Scrub</i> Southern Willow Scrub	CTT63320CA	None	None	G3	S2.1	
<i>Spea hammondi</i> western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
<i>Streptanthus campestris</i> southern jewelflower	PDBRA2G0B0	None	None	G3	S3	1B.3
<i>Symphyotrichum greatae</i> Greata's aster	PDASTE80U0	None	None	G2	S2	1B.3
<i>Taricha torosa</i> Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis hammondi</i> two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
<i>Valley Oak Woodland</i> Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S3	

Record Count: 90



CNPS Rare Plant Inventory





Search Results


40 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3411856:3411855:3411854:3411834:3411836:3411835:3411846:3411845:3411844]

CA RARE												
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Berberis nevinii	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	FE	CE	G1	S1	1B.1	Yes	1980-01-01	No Photo Available
Calochortus catalinae	Catalina mariposa lily	Liliaceae	perennial bulbiferous herb	(Feb)Mar-Jun	None	None	G3G4	S3S4	4.2	Yes	1974-01-01	No Photo Available
Calochortus clavatus var. avius	Pleasant Valley mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	G4T2	S2	1B.2	Yes	1980-01-01	No Photo Available
Calochortus clavatus var. clavatus	club-haired mariposa lily	Liliaceae	perennial bulbiferous herb	(Mar)May-Jun	None	None	G4T3	S3	4.3	Yes	1974-01-01	No Photo Available
Calochortus clavatus var. gracilis	slender mariposa-lily	Liliaceae	perennial bulbiferous herb	Mar-Jun(Nov)	None	None	G4T2T3	S2S3	1B.2	Yes	1994-01-01	No Photo Available
Calochortus fimbriatus	late-flowered mariposa-lily	Liliaceae	perennial bulbiferous herb	Jun-Aug	None	None	G3	S3	1B.3	Yes	1994-01-01	No Photo Available
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	Liliaceae	perennial bulbiferous herb	Apr-Jul	None	None	G3T2	S2	1B.2	Yes	1994-01-01	No Photo Available
Calochortus plummerae	Plummer's mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	G4	S4	4.2	Yes	1994-01-01	No Photo Available
Calystegia peirsonii	Peirson's morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	G4	S4	4.2	Yes	1974-01-01	No Photo Available
Canbya candida	white pygmy-poppy	Papaveraceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	4.2	Yes	1974-01-01	No Photo Available
Cercocarpus betuloides var. blancheae	island mountain-mahogany	Rosaceae	perennial evergreen shrub	Feb-May	None	None	G5T4	S4	4.3	Yes	1974-01-01	No Photo Available

<u>Chorizanthe parryi</u> <u>var. fernandina</u>	San Fernando Valley spineflower	Polygonaceae	annual herb	Apr-Jul	None	CE	G2T1	S1	1B.1	Yes	1974-01-01	No Photo Available
<u>Chorizanthe parryi</u> <u>var. parryi</u>	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	None	None	G3T2	S2	1B.1	Yes	1994-01-01	 © 2012 Keir Morse
<u>Deinandra minthornii</u>	Santa Susana tarplant	Asteraceae	perennial deciduous shrub	Jul-Nov	None	CR	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
<u>Deinandra paniculata</u>	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov	None	None	G4	S4	4.2		2001-01-01	No Photo Available
<u>Delphinium parryi</u> <u>ssp. purpureum</u>	Mt. Pinos larkspur	Ranunculaceae	perennial herb	May-Jun	None	None	G4T4	S4	4.3	Yes	1974-01-01	No Photo Available
<u>Dodecahema leptoceras</u>	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1	Yes	1980-01-01	No Photo Available
<u>Dudleya densiflora</u>	San Gabriel Mountains dudleya	Crassulaceae	perennial herb	Mar-Jul	None	None	G2	S2	1B.1	Yes	1974-01-01	No Photo Available
<u>Harpagonella palmeri</u>	Palmer's grapplinghook	Boraginaceae	annual herb	Mar-May	None	None	G4	S3	4.2		1980-01-01	 © 2015 Keir Morse
<u>Helianthus inexpectatus</u>	Newhall sunflower	Asteraceae	perennial rhizomatous herb	Aug-Oct	None	None	G1	S1	1B.1	Yes	2010-08-16	 © 2012 Anuja Parikh and Nathan Gale
<u>Hordeum intercedens</u>	vernal barley	Poaceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	3.2		1994-01-01	No Photo Available
<u>Horkelia cuneata</u> <u>var. puberula</u>	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	None	None	G4T1	S1	1B.1	Yes	2001-01-01	 © 2008 Tony Morosco
<u>Juglans californica</u>	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	None	None	G4	S4	4.2	Yes	1994-01-01	 © 2020 Zoya Akulova
<u>Juncus acutus</u> <u>ssp. leopoldii</u>	southwestern spiny rush	Juncaceae	perennial rhizomatous herb	(Mar)May-Jun	None	None	G5T5	S4	4.2		1988-01-01	 © 2019 Belinda Lo

<u>Lepechinia fragrans</u>	fragrant pitcher sage	Lamiaceae	perennial shrub	Mar-Oct	None	None	G3	S3	4.2	Yes	1974-01-01	 © 2014 Debra L. Cook
<u>Lepechinia rossii</u>	Ross' pitcher sage	Lamiaceae	perennial shrub	May-Sep	None	None	G1	S1	1B.2	Yes	2006-10-26	No Photo Available
<u>Lepidium virginicum</u> var. <u>robinsonii</u>	Robinson's pepper-grass	Brassicaceae	annual herb	Jan-Jul	None	None	G5T3	S3	4.3		1994-01-01	 © 2015 Keir Morse
<u>Lilium humboldtii</u> ssp. <u>ocellatum</u>	ocellated Humboldt lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	None	None	G4T4?	S4?	4.2	Yes	1980-01-01	 © 2008 Thomas Stoughton
<u>Lupinus paynei</u>	Payne's bush lupine	Fabaceae	perennial shrub	Mar-Apr(May-Jul)	None	None	G1Q	S1	1B.1	Yes	2017-04-03	No Photo Available
<u>Malacothamnus davidsonii</u>	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	Jun-Jan	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2016 Keir Morse
<u>Navarretia fossalis</u>	spreading navarretia	Polemoniaceae	annual herb	Apr-Jun	FT	None	G2	S2	1B.1		1980-01-01	No Photo Available
<u>Navarretia ojaiensis</u>	Ojai navarretia	Polemoniaceae	annual herb	May-Jul	None	None	G2	S2	1B.1	Yes	2008-05-15	No Photo Available
<u>Navarretia setiloba</u>	Piute Mountains navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.1	Yes	1974-01-01	No Photo Available
<u>Opuntia basilaris</u> var. <u>brachyclada</u>	short-joint beavertail	Cactaceae	perennial stem	Apr-Jun(Aug)	None	None	G5T3	S3	1B.2	Yes	1980-01-01	No Photo Available
<u>Orcuttia californica</u>	California Orcutt grass	Poaceae	annual herb	Apr-Aug	FE	CE	G1	S1	1B.1		1974-01-01	No Photo Available
<u>Phacelia mohavensis</u>	Mojave phacelia	Hydrophyllaceae	annual herb	Apr-Aug	None	None	G4Q	S4	4.3	Yes	1994-01-01	No Photo Available
<u>Pseudognaphalium leucocephalum</u>	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	None	None	G4	S2	2B.2		2006-11-03	No Photo Available
<u>Senecio aphanactis</u>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2		1994-01-01	No Photo Available

<u>Streptanthus campestris</u>	southern jewelflower	Brassicaceae	perennial herb	(Apr)May-Jul	None	None	G3	S3	1B.3		1994-01-01	No Photo Available
<u>Symphyotrichum greatae</u>	Greata's aster	Asteraceae	perennial rhizomatous herb	Jun-Oct	None	None	G2	S2	1B.3	Yes	1974-01-01	 © 2006 Michael Charters

Showing 1 to 40 of 40 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 4 March 2024].

IPaC Information for Planning and Consultation U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Los Angeles County, California



Local office

Ventura Fish And Wildlife Office

☎ (805) 644-1766

📠 (805) 644-3958

✉ FW8VenturaSection7@FWS.Gov

2493 Portola Road, Suite B
Ventura, CA 93003-7726

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
<p>California Condor <i>Gymnogyps californianus</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/8193</p>	Endangered
<p>Coastal California Gnatcatcher <i>Poliophtila californica californica</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/8178</p>	Threatened
<p>Least Bell's Vireo <i>Vireo bellii pusillus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location overlaps the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/5945</p>	Endangered
<p>Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location overlaps the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/6749</p>	Endangered

Yellow-billed Cuckoo *Coccyzus americanus*

Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3911>

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i> Wherever found There is final critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/3762	Endangered

Fishes

NAME	STATUS
Unarmored Threespine Stickleback <i>Gasterosteus aculeatus williamsoni</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7002	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
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Riverside Fairy Shrimp *Streptocephalus woottoni*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/8148>

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/498>

Flowering Plants

NAME

STATUS

California Orcutt Grass *Orcuttia californica*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4923>

Gambel's Watercress *Rorippa gambellii*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4201>

Marsh Sandwort *Arenaria paludicola*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2229>

Nevin's Barberry *Berberis nevinii*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/8025>

Slender-horned Spineflower *Dodecahema leptoceras*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4007>

Spreading Navarretia *Navarretia fossalis*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/1334>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i> https://ecos.fws.gov/ecp/species/3762#crithab	Final
Least Bell's Vireo <i>Vireo bellii pusillus</i> https://ecos.fws.gov/ecp/species/5945#crithab	Final

Southwestern Willow Flycatcher *Empidonax traillii extimus*

Final

<https://ecos.fws.gov/ecp/species/6749#crithab>

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Bald Eagle *Haliaeetus leucocephalus*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Golden Eagle *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is

the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

- The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

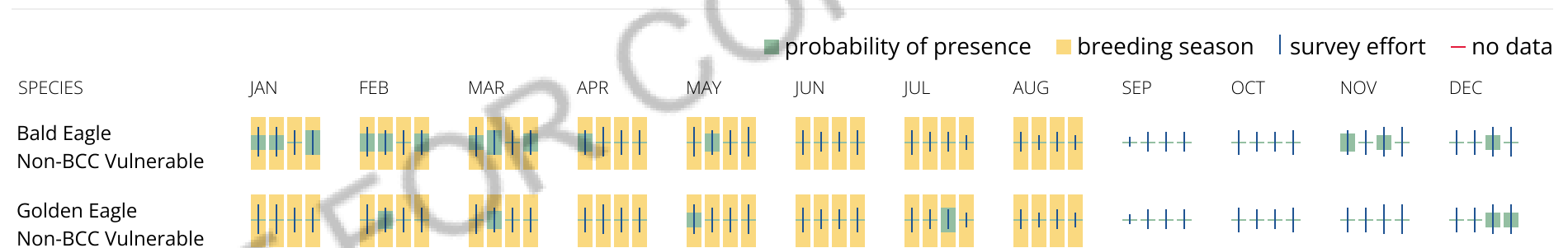
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

Bald Eagle *Haliaeetus leucocephalus*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Belding's Savannah Sparrow *Passerculus sandwichensis beldingi*

Breeds Apr 1 to Aug 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/8>

Black Swift *Cypseloides niger*

Breeds Jun 15 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8878>

Black-chinned Sparrow *Spizella atrogularis*

Breeds Apr 15 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9447>

Bullock's Oriole *Icterus bullockii*

Breeds Mar 21 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull *Larus californicus*

Breeds Mar 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher *Toxostoma redivivum*

Breeds Jan 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe *Aechmophorus clarkii*

Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat *Geothlypis trichas sinuosa*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Golden Eagle *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Marbled Godwit *Limosa fedoa*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9481>

Oak Titmouse *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Olive-sided Flycatcher *Contopus cooperi*

Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3914>

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Western Grebe *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/6743>

Willet *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort — no data

SPECIES

JAN

FEB

MAR

APR

MAY

JUN

JUL

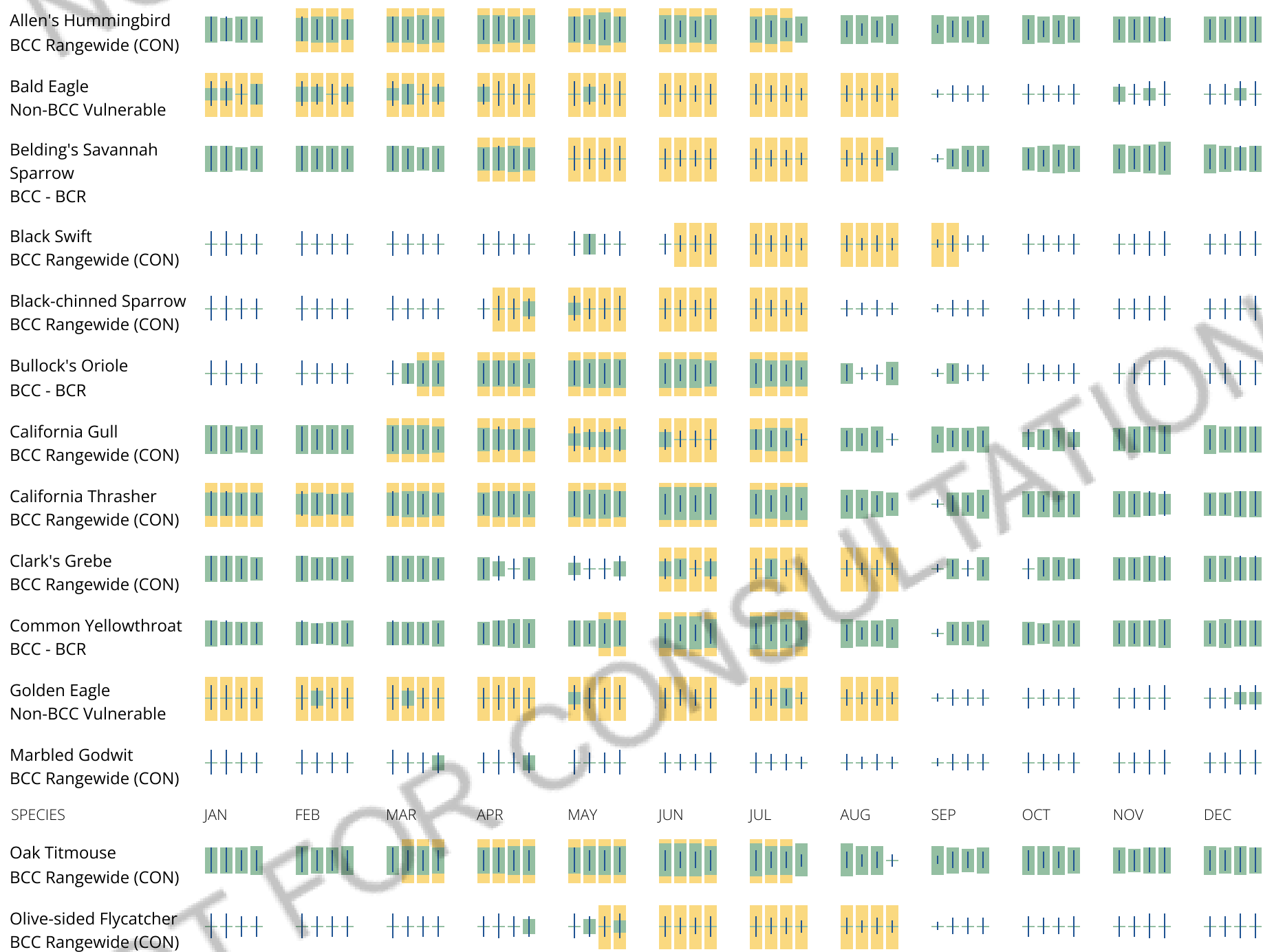
AUG

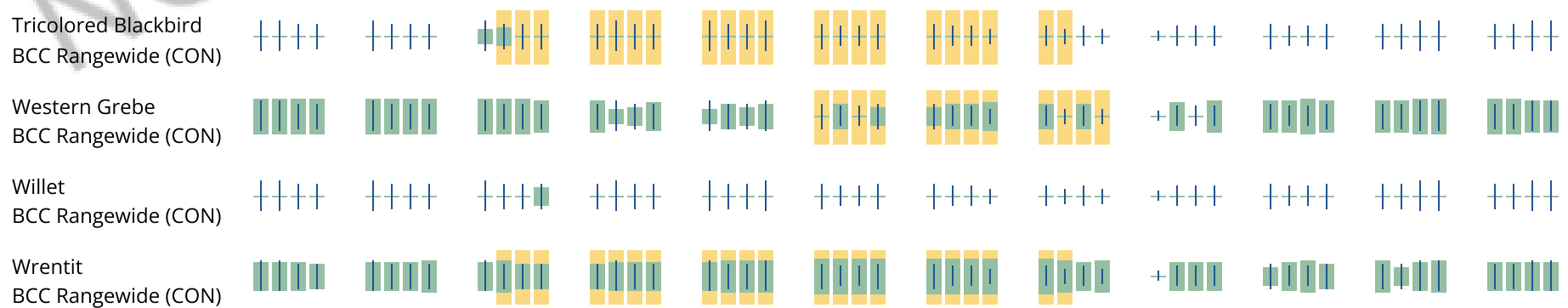
SEP

OCT

NOV

DEC





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C.4

Special-Status Wildlife Species – Potential to Occur

SPECIAL-STATUS WILDLIFE SPECIES – POTENTIAL TO OCCUR

Common and Scientific Name	Status	Habitat	Potential to Occur within Study Area
Birds			
Cooper's hawk (<i>Accipiter cooperii</i>)	WL, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area.
Sharp-shinned hawk (<i>Accipiter striatus</i>)	WL, SA	Riparian forest and woodland.	Low (Nesting). Suitable foraging habitat occurs throughout the riparian forest within the western portion of the project site and study area. However, this species is not known to nest within southern California (Cornell 2019).
Oak Titmouse (<i>Baeolophus inornatus</i>)	SA, LAA	Dense, mature chaparral, forests and woodlands.	Present. This species was observed foraging during the site visit and may breed within the project site and study area.
Turkey Vulture (<i>Cathartes aura</i>)	LAA	Various habitat types including chaparral, forest, scrub and woodland communities.	Low. This species may soar over and potentially forage within the project site and study area; however, it is not expected to breed within the study area.
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	FT, SE, LAA, SA	Riparian forest and woodland. Species generally prefers contiguous assemblages greater than 20 hectares in size (NPS 2022).	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area.
Southwestern willow flycatcher (<i>Empidonax traillii</i> ssp. <i>extimus</i>)	FT, SE, LAA, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area.
Yellow-breasted chat (<i>Icteria virens</i>)	SSC, LAA, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area.
California towhee (<i>Melospiza crissalis</i>)	LAA	Various habitats, including scrub, chaparral, and riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area.
Belted kingfisher (<i>Megasceryle alcyon</i>)	LAA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area.

Common and Scientific Name	Status	Habitat	Potential to Occur within Study Area
Ruby-crowned kinglet (<i>Regulus calendula</i>)	LAA	Various forest and woodland communities.	Present (Foraging). This species was observed foraging during the site visit; however, it is not known to breed along the coast of Southern California and is not expected to breed onsite (Cornell 2019).
Bank swallow (<i>Riparia riparia</i>)	ST, LAA, SA	Riparian forest and woodland.	Low. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area; however, vertical banks and or bluffs, required for nest placement, are not present.
Yellow warbler (<i>Setophaga petechia</i>)	SSC, LAA, SA	Riparian forest and woodland	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area.
Least Bell's vireo (<i>Vireo bellii</i> ssp. <i>pusillus</i>)	FT, SE, SA	Riparian forest and woodland.	High. Suitable foraging and nesting habitat occurs throughout the riparian forest within the western portion of the project site and study area. In addition, this species was observed approximately 0.5-mile to the northwest of the study area in 2010 (CDFW 2022) and within the northern portion of the study area during previous construction in 2018 (ESA 2018).
Mammals			
Pallid bat (<i>Antrozous pallidus</i>)	SSC, SA, WBWG - H	Grasslands, shrublands, woodlands, and coniferous forests; most common in open, dry habitat with rocky areas for roosting, as well as abandon buildings and metal clad structures (WBWG 2022).	Low. Suitable roosting habitat is not present within the study area, as this species is generally associated with rocky cliff habitat and manmade structures.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	SSC, SA, WBWG - H	Broadleaved upland forest, chaparral, chenopod scrub, great basin grassland, great basin scrub and Joshua tree woodland, among many other communities. Species most commonly roosts in caves and mines (WBWG 2022).	High. Suitable foraging/roosting habitat is present throughout the riparian forest within the western portion of the project site and study area.
Greater mastiff bat (<i>Eumops perotis</i>)	SSC, SA, WBWG - H	Chaparral, cismontane woodland, coastal scrub and valley and foothill woodland. Species is generally considered to be a cliff-dwelling species, most commonly found under exfoliating rock slabs (WBWG 2022).	Low. Suitable roosting habitat for this species is not present within the study area, as it is generally associated with rocky cliff habitat.
Silver-haired bat (<i>Lasionycteris noctivagans</i>)	SSC, SA, WBWG - M	Lower montane coniferous forest, riparian forest. Maternity roosts are almost exclusively found in trees (WBWG 2022).	High. Suitable foraging/roosting habitat is present throughout the riparian forest within the western portion of the project site and study area.
Western red bat (<i>Lasiurus blossevillii</i>)	SSC, SA, WBWG – H	Cismontane woodland, lower montane coniferous forest, and riparian forest and woodland (WBWG 2022).	High. Suitable foraging/roosting habitat is present throughout the riparian forest within the western portion of the project site and study area.

Common and Scientific Name	Status	Habitat	Potential to Occur within Study Area
San Diego desert woodrat (<i>Neotoma ssp. lepida intermedia</i>)	SSC, SA	Occurs in forest, woodland and scrub communities and are generally associated with rock outcrops (Bleich et al. 1975).	Low. Marginally suitable vegetation is present throughout the shrubland and riparian forest within the western portion of the project site and study area; however, suitable nest-building sites with rocky habitat (boulders), preferred by the species, is not present.
Mountain lion (<i>Puma concolor</i>)	SCT	Inhabits a wide range of ecosystems, making its home anywhere there is shelter and prey, including mountains, forests, deserts, and wetlands. They are territorial and have naturally low population densities, which means the species requires large swaths of habitat to thrive.	Moderate. This species may inhabit the Santa Clara River watershed and utilize the western portion of the project site and study area for local and regional movement, as well as, to hunt for prey.
American badger (<i>Taxidea taxus</i>)	SSC, SA	Various habitats, including grassland, scrub, forest, woodland, etc.	High. Suitable habitat is present throughout much of the western portion of the project site and study area, within the grass/forb, shrubland and riparian forest. In addition, this species was reported within the general vicinity (1-mile accuracy) of the project site in 2015 (CDFW 2022a).
Fish			
Santa Ana Sucker (<i>Catostomus santaanae</i>)	FT, SA	South coast flowing waters.	High. Suitable habitat for the species occurs within the open water present along the Santa Clara River, which occurs within the western portion of the study area. This species has been reported within the Santa Clara River as recently as 2007 (CDFW 2022a).
Unarmored threespine stickleback (<i>Gasterosteus aculeatus ssp. williamsoni</i>)	FE, SE, FP, SA	South coast flowing waters.	High. Suitable habitat for the species occurs within the open water present along the Santa Clara River, which occurs within the western portion of the study area. This species has been reported within the Santa Clara River as recently as 2007 (CDFW 2022a).
Arroyo chub (<i>Gila orcuttii</i>)	SSC, SA	South coast flowing waters.	High. Suitable habitat for the species occurs within the open water present along the Santa Clara River, which occurs within the western portion of the study area. This species has been reported within the Santa Clara River as recently as 2011 (CDFW 2022a).
Reptiles			
Arroyo toad (<i>Anaxyrus californicus</i>)	FE, SSC, SA	Chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon & juniper woodlands, riparian scrub, riparian woodland and valley & foothill grassland. Frequents a wide variety of habitats.	Low. Flowing, open water is present along the Santa Clara River, within the western extent of the study area, and this species has previously been reported approximately 0.5 mile to the southeast of the project site in 1994. However, shallow, meandering low-flow channels with sandy substrate and minimal shade, necessary to support breeding and the deposition of eggs strands, was not observed.

Common and Scientific Name	Status	Habitat	Potential to Occur within Study Area
San Diegan legless lizard (<i>Anniella stebbinsi</i>)	SSC, SA	Chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon & juniper woodlands, riparian scrub, riparian woodland and valley & foothill grassland. Frequents a wide variety of habitats.	High. Suitable habitat is present throughout the grass/forb, shrubland and riparian forest habitats, within the western portion of the project site and study area.
Glossy snake (<i>Arizona elegans</i> ssp. <i>occidentalis</i>)	SSC, SA	Arid scrub, rocky washes, grasslands and chaparral.	Low. This species was reported within the general vicinity (1-mile accuracy) of the project site in 1946 (CDFW 2022a). However, limited xeric conditions occur within the project site and study area.
Coastal whiptail (<i>Aspidoscelis tigris</i> ssp. <i>stejnegeri</i>)	SSC, SA	Deserts & semiarid scrub/chaparral communities with sparse vegetation.	High. Suitable habitat is present throughout the grass/forb, shrubland and riparian forest within the western portion of the project site and study area. In addition, this species was reported within the general vicinity (1-mile accuracy) of the project site in 2015 (CDFW 2022a).
Southwestern pond turtle (<i>Actinemys pallida</i>)	PFT, SSC, SA	Open water, within riparian woodland, Riparian scrub, marsh and swamp and wetland habitats.	High. Suitable habitat is present within the open water and adjacent riparian forest along the Santa Clara River, within the western portion of the project site and study area. In addition, this species was reported immediately to the north of the study area in 2015 (CDFW 2022a).
Coast horned lizard (<i>Phrynosoma blainvillii</i>)	SSC, SA	Found within chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon & juniper woodlands, riparian scrub, riparian woodland and valley & foothill grassland.	High. Suitable habitat is present throughout the grass/forb, shrubland and riparian forest within the western portion of the project site and study area. In addition, this species was reported within the general vicinity (1-mile accuracy) of the project site in 2015 (CDFW 2022a).
Two-striped garter snake (<i>Thamnophis hammondi</i>)	SCC, SA	Open water within riparian woodland, Riparian scrub, marsh and swamp, wetland.	High. Suitable habitat is present within the open water and adjacent riparian vegetation along the Santa Clara River, within the western portion of the project site and study area. In addition, this species was reported immediately to the north of the study area in 2015 (CDFW 2022a).
Insects			
Crotch's bumble bee (<i>Bombus crotchii</i>)	SCE	Open grassland and scrub habitats that support potential nectar sources such as plants within the Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae families.	Moderate. Suitable habitat is present in the California sagebrush scrub where preferred nectar sources may be found. Suitable nesting may occur in abandoned small mammal burrows.

Federal/State/Other Status:

FE – Federally Endangered, FT – Federally Threatened; PFT – Proposed Federally Threatened; SE – State Endangered, SCE – State Candidate Endangered, ST – State Threatened, SCT – State Candidate Threatened, FP – State Fully Protected, SSC – State Species of Special Concern, SA – State Special Animal, WL – State Watch List; LAA – Los Angeles County's Sensitive Bird Species; WBWG – Western Bat Working Group (Medium - M, High - H).

APPENDIX C.5

Special-Status Plant Species – Potential to Occur

SPECIAL-STATUS PLANT SPECIES - POTENTIAL TO OCCUR

Common Name	Scientific Name	Status (Federal/State/Other)	Habitat	Potential to Occur
Nevin's barberry	<i>Berberis nevinii</i>	FE/SE/1B.1	Chaparral, coastal scrub and woodland	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities and this species has been reported within the general vicinity of the study area in 1987 (2/5-mile accuracy). However, this occurrence is believed to have since been extirpated (CDFW 2022a).
Catalina mariposa lily	<i>Calochortus catalinae</i>	None/None/4.2	Chaparral, cismontane woodland, coastal scrub and valley and foothill grassland.	High. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and study area.
Club haired mariposa lily	<i>Calochortus clavatus</i> var. <i>clavatus</i>	None/None/4.3	Serpentine soils within chaparral, coastal scrub, and valley and foothill grassland	Not Expected. Suitable vegetation for this species is present throughout the grass/forb and shrubland communities; however, serpentine soils do not occur within the project site or study area.
Slender mariposa lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	None/None/1B.2	Chaparral, coastal scrub, and valley and foothill grassland	High. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and study area. Additionally, it was reported approximately 1 mile to the northwest of the project site in 2018 (CDFW 2022a).
Plummer's mariposa lily	<i>Calochortus plummerae</i>	None/None/4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest and valley, and foothill grasslands	High. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and study area. Additionally, it was reported approximately 800 feet to the southwest of the project site in 2007 (CDFW 2022a).
Peirson's morning glory	<i>Calystegia peirsonii</i>	None/None/4.2	chaparral, coastal sage scrub, shadescale scrub, yellow pine forest, and foothill woodland	High. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and study area.

Common Name	Scientific Name	Status (Federal/State/Other)	Habitat	Potential to Occur
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	None/SE/1B.1	Sandy soils within coastal scrub and valley and foothill grassland	Not Expected. Suitable vegetation for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and study area. Additionally, it was reported less than 1 mile to the west of the project site in 2011 (CDFW 2022a). However, sandy soils are not present in sufficient quantities within the study area.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	None/None/1B.1	Sandy or rocky, openings within chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland	Not Expected. Suitable vegetation for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and study area; however, sandy soils are not present in sufficient quantities.
Palmer's grappling hook	<i>Harpagonella palmeri</i>	None/None/4.2	Chaparral, coastal sage scrub and valley and foothill grassland.	High. suitable habitat for this species is present throughout the shrubland and grass/forb communities within the western portion of the project site and study area. Additionally, it was previously reported within the vicinity of the project site (5-mile accuracy; date not specified) (CDFW 2022a).
southern California black walnut	<i>Juglans californica</i>	None/None/4.2	Woodland/forest communities	High. Suitable habitat occurs throughout the grass/forb, shrubland and riparian forest communities within the western portion of the project site and study area.
California orcutt grass	<i>Orcuttia californica</i>	FE/SE/1B.1	Vernal pools	Not Expected. This species was reported within the Newhall quadrangle (date not specified) (CDFW 2022a); however, suitable vernal pool habitat is not present within the study area.
Hubby's phacelia	<i>Phacelia hubbyi</i>	None/None/4.2	Gravelly or rocky soils within chaparral. Coastal scrub, and valley and foothill grassland	High. Suitable habitat occurs throughout the grass/forb, shrubland and riparian forest communities within the western portion of the project site and study area.
Nuttall's scrub oak	<i>Quercus dumosa</i>	None/None/1B.1	Generally found in sandy soils, near coast, within foothill woodland, northern coastal scrub and coastal sage scrub.	High. Suitable habitat occurs throughout the grass/forb, shrubland and riparian forest communities within the western portion of the project site and study area.

Common Name	Scientific Name	Status (Federal/State/Other)	Habitat	Potential to Occur
Chaparral ragwort	<i>Senecio aphanactis</i>	None/None/2B.2	Foothill woodland, northern coastal scrub and coastal sage scrub.	Not Expected. Suitable habitat for this species is present throughout the grass/forb and shrubland communities within the western portion of the project site and study area; however, it was not observed during the appropriately-timed, focused survey.
Federal/State/Other Status: FE – Federally endangered; SE – State endangered; CNPS CRPR 1B – Plants rare, threatened, or endangered in California and elsewhere, 2B – Plants rare, threatened or endangered in California, but more common elsewhere, and 4 – Plants of limited distribution; 0.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat) and 0.2 Fairly threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat).				

Draft

VALENCIA WATER RECLAMATION PLANT MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT

Aquatic Resources Delineation Report

Prepared for
Santa Clarita Valley Sanitation District

February 2024



Draft

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EXECUTIVE SUMMARY

At the request of Santa Clarita Valley Sanitation District, Environmental Science Associates (ESA) conducted a site investigation for the Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project of the 11.7-acre survey area located in Los Angeles County, California, within the Upper Santa Clara River watershed. The purpose of the site investigation was to identify and delineate potential wetlands and other waters of the United States and State on the project site, as well as on-site resources that are protected under Section 1600 et seq. of the California Fish and Game Code, to support any necessary permits from the regulatory agencies.

Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that 0.001-acre of potential wetland waters and 0.49-acre (666.52 linear feet [LF]) of potential other (non-wetland) waters of the United States and waters of the State occur within the survey area. Finally, it is presumed that 6.83 acres of stream and associated riparian habitat occurring within the survey area are potentially protected under Section 1600 et seq. of the California Fish and Game Code.

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CHAPTER 1

Introduction

At the request of the Santa Clarita Valley Sanitation District (District), Environmental Science Associates (ESA) conducted a site investigation for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (project). The proposed project would include the construction of a new retaining wall along the southern boundary of the proposed project site on the river side of the existing retaining wall. The project would also include upgrades to two existing outfall structures: a 48-inch diameter outfall (Discharge Outfall 001) and a 26-inch diameter outfall (Discharge Outfall 002). The site investigation was conducted by ESA to identify and delineate potential wetlands and other waters of the United States and State on the project site that may be subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); the Los Angeles Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal CWA and the Porter-Cologne Water Quality Control Act; and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 et seq. of the California Fish and Game Code.

This aquatic resources delineation report (ARDR) was prepared in accordance with the USACE Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2017) and the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a).

1.1 Survey Location

The VWRP is located in an urbanized area in unincorporated Los Angeles County, CA (**Figure 1-1**). The project site is bound by The Old Road to the north and adjacent commercial businesses to the northeast, the Santa Clara River (SCR) to the west and south, and Six Flags Magic Mountain amusement park to the southwest beyond the SCR. The site investigation was conducted within the Santa Clara River within the Santa Clarita Valley (**Figure 1-2**). The Santa Clara River generally flows west and empties into the Pacific Ocean. It is situated within Section 00, Township 3 North, Range 16 West, in the Newhall U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (**Figure 1-3**) (USGS 2023a).

1.1.1 Directions to the Survey Area

From the USACE Los Angeles office (915 Wilshire Boulevard, Los Angeles, CA 90017), get on CA-110 N from S. Figueroa Street for 0.5 mile to US-101 N, continue onto CA-170 N and then merge onto Interstate 5 N. Continue for 17.1 miles. Take exit 170 for Magic Mountain Parkway and head west then north onto The Old Road toward the Santa Clara River.

1.2 Contact Information

1.2.1 Applicant

Name: Daniel Swenson
Title: Senior Permitting Specialist
Company/agency: ESA
Address: 626 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017
Contact information: dswenson@esassoc.com

1.2.2 Property Owner

Name: Mandy Huffman
Title: Environmental Planner
Company/agency: Santa Clarita Valley Sanitation District
Address: 1955 Workman Mill Road, Whittier, CA 90601
Contact information: mandyhuffman@lacsdsd.org

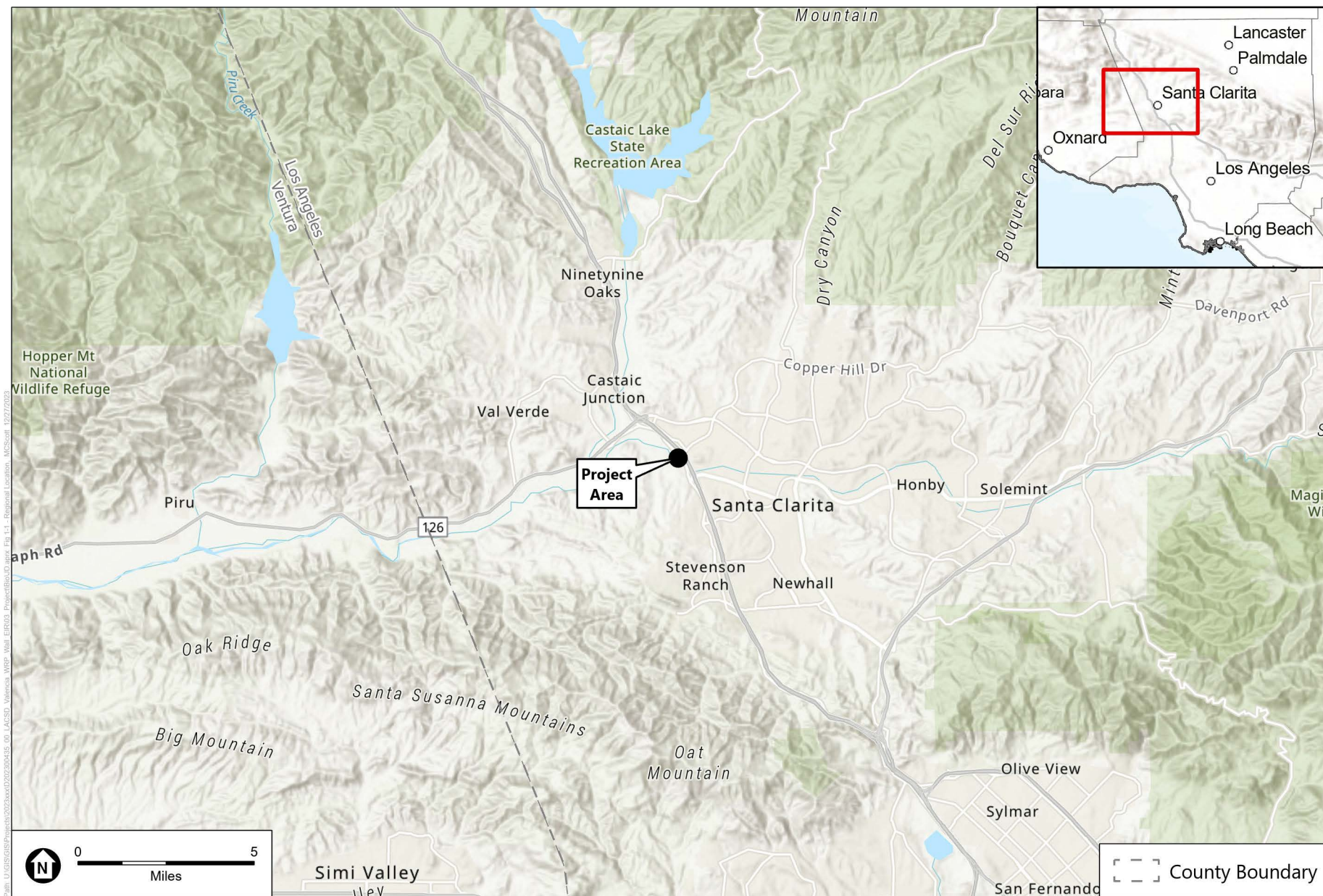
1.2.3 Agent

Name: Daniel Swenson
Title: Senior Permitting Specialist
Company/agency: ESA
Address: 626 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017
Contact information: dswenson@esassoc.com

1.2.4 Delineator(s)

Name: Robert Sweet
Title: Senior Biologist
Company/agency: ESA
Address: 2945 Townsgate Road, Suite 200
Thousand Oaks, CA 91361
Contact information: rsweet@esassoc.com

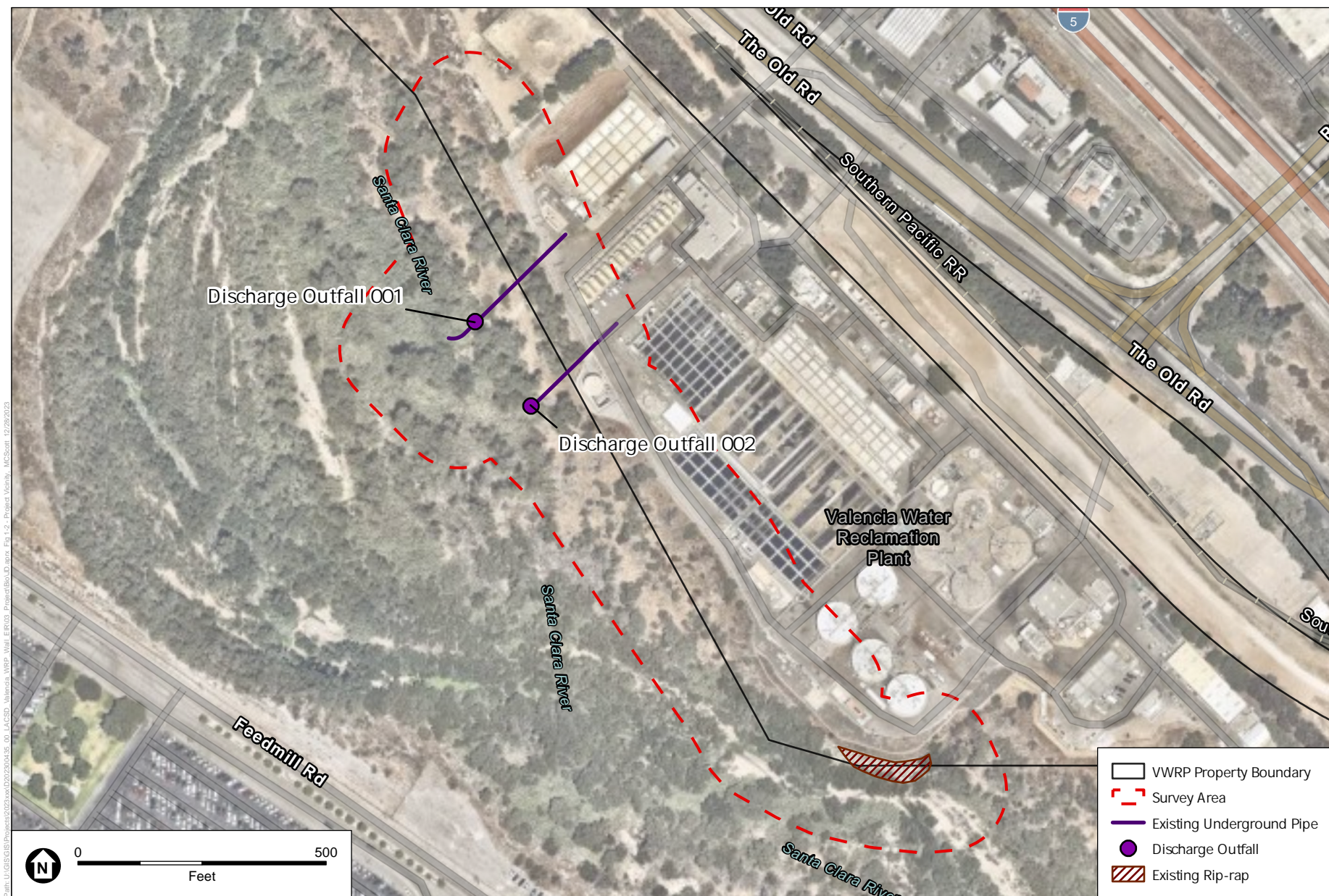
Name: Sonya Vargas
Title: Senior Biologist
Company/agency: ESA
Address: 2945 Townsgate Road, Suite 200
Thousand Oaks, CA 91361
Contact information: rsweet@esassoc.com



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

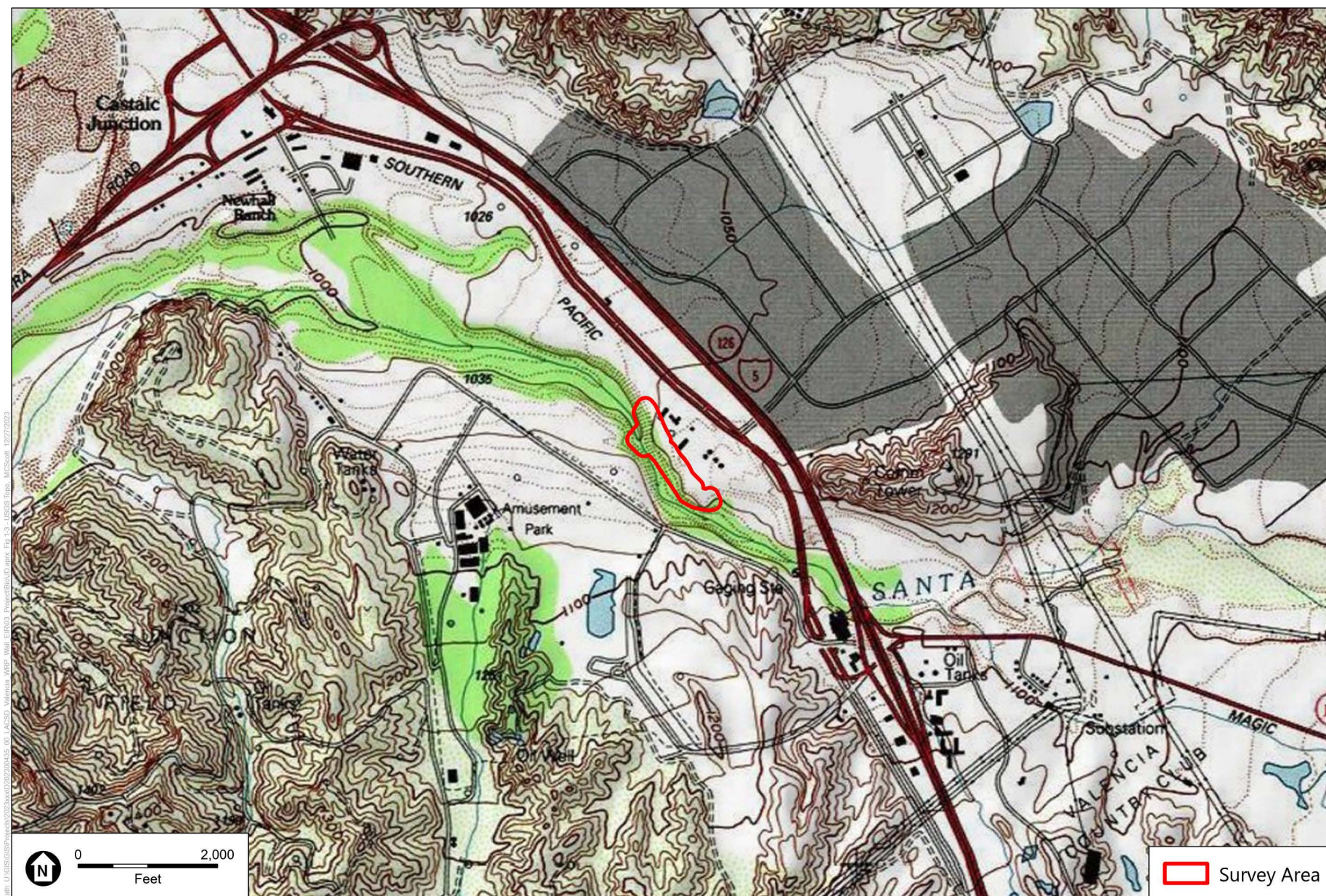
Figure 1-1
Regional Location



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 1-2
Project Vicinity



SOURCE: ESA, 2023; USGS, 2023

Topo Quad: Newhall, 1970

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Township 3 North, Section 00 Range 16 West
San Bernardino Principal Meridian

(34.4296 N, 118.5914 W)

Figure 1-3
U.S. Geological Survey
Topographic Map

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CHAPTER 2

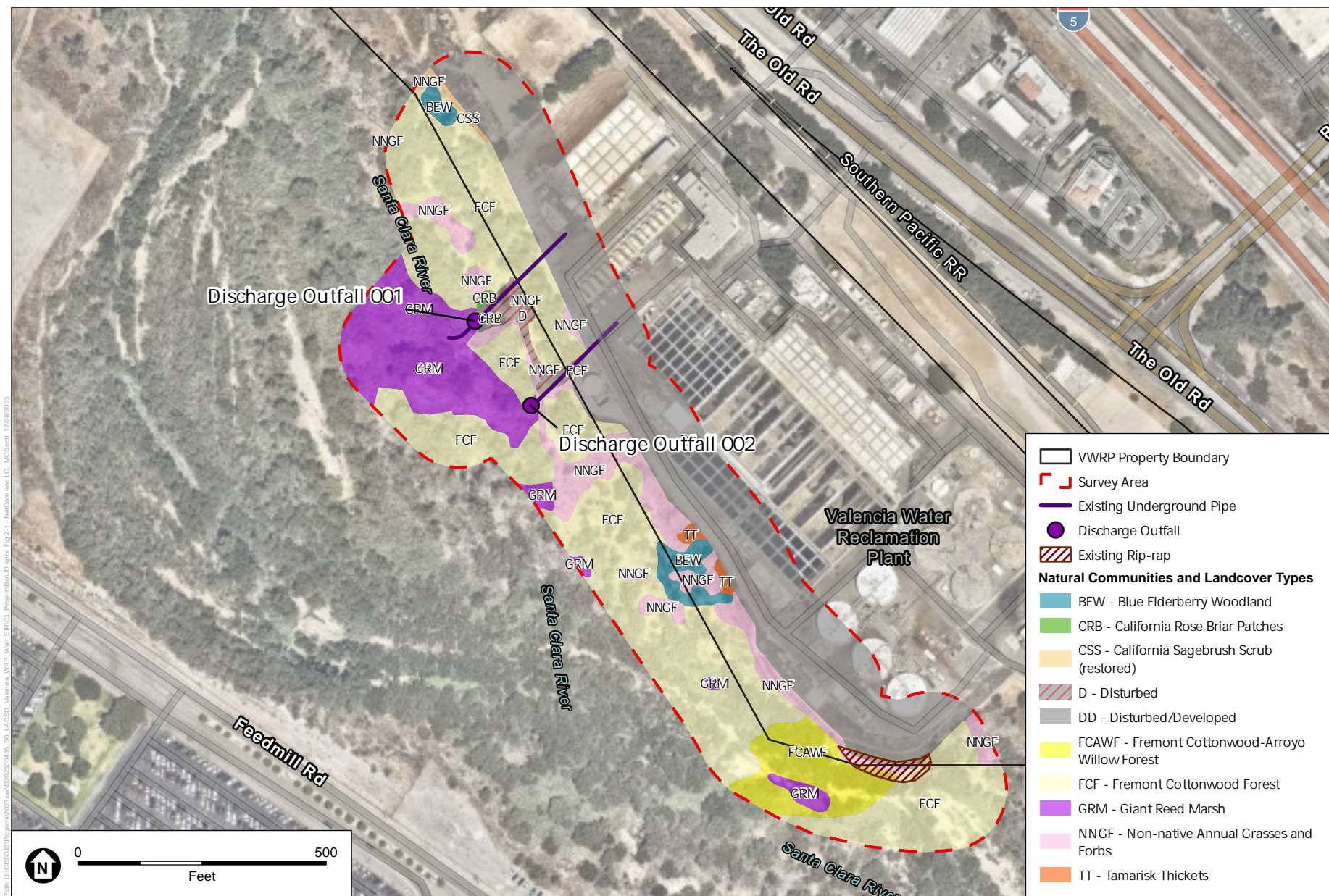
Existing Conditions

2.1 Survey Area

The survey area encompasses approximately 11.7 acres and includes a 100-foot buffer around the potential project footprint. Natural plant communities and other habitats in the survey area are concentrated along the Santa Clara River in the southwestern portion of the survey area, and include blue elderberry woodland, Fremont cottonwood-arroyo willow forest, Fremont cottonwood forest, giant reed marsh, tamarisk thickets, California rose briar patches, California sagebrush scrub (restored), non-native annual grasses and forbs, and developed and disturbed land. The northeastern portion of the survey area consists of disturbed/developed land use occupied by the VWRP, which contains sparse non-native grasses and forbs and ornamentally planted trees.

2.2 Vegetation Communities and Land Cover Types

A total of ten natural communities and land cover types were characterized and mapped during the site visit; these are depicted in **Figure 2-1** and listed in **Table 2-1** along with the acreage within the survey area. The vegetation communities and land cover types have been organized into three groups: riparian, upland, and developed/disturbed land cover types. A list of plant species observed during the site assessment was generated and is provided in **Appendix A**. Photographs taken during the site assessment are provided in **Appendix B**.



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 2-1
Natural Communities and
Land Cover Types

TABLE 2-1
NATURAL COMMUNITIES AND LAND COVER TYPES WITHIN THE SURVEY AREA

Vegetation Community/Land Cover Type	Acreage
Riparian	
Blue Elderberry Woodland	0.21
Fremont Cottonwood-Arroyo Willow Forest	0.58
Fremont Cottonwood Forest	4.75
Giant Reed Marsh	1.26
Tamarisk Thickets	0.04
Upland	
California Rose Briar Patches	0.02
California Sagebrush Scrub (restored)	0.03
Non-native Annual Grasses and Forbs	0.95
Developed/Disturbed Land Cover Types	
Disturbed/Developed	3.72
Disturbed	0.17
Total	11.71
SOURCE: ESA 2023	

2.2.1 Riparian

Blue Elderberry Woodland (*Sambucus nigra* ssp. *caerulea* Woodland)

Blue elderberry woodland occurs in two locations within the northern and central portions of the survey area, immediately adjacent to the VRWP. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a dense tree layer of blue elderberry (*Sambucus nigra* ssp. *caerulea*) as the dominant species, interspersed with few other tree or shrub species such as mulefat (*Baccharis salicifolia*) and Fremont cottonwood (*Populus fremontii*).

Fremont Cottonwood-Arroyo Willow Forest (*Populus fremontii*-*Salix lasiolepis* Forest)

Fremont cottonwood-arroyo willow forest occurs in one location in the southern portion of the survey area. This community is situated within the bed, banks, and floodplain of the Santa Clara River and is characterized as supporting a tree layer of Fremont cottonwood and arroyo willow (*Salix lasiolepis*) as the co-dominant species, interspersed with giant reed (*Arundo donax*), blue elderberry, mulefat and red willow (*Salix laevigata*).

Fremont Cottonwood Forest (*Populus fremontii* Forest)

Fremont cottonwood forest occurs throughout much of the western half of the survey area and abuts portions of the VWRP. This community is situated within the bed, banks, and floodplain of the Santa Clara River and is characterized as supporting a tree/large grass layer of Fremont cottonwood as the dominant species, interspersed with blue elderberry, giant reed, mulefat, and red willow.

Giant Reed Marsh (*Arundo donax* Marsh)

Giant reed marsh occurs in large patches throughout the western half of the survey area, within the Fremont cottonwood forest. This community is situated within the bed, banks, and floodplain of the Santa Clara River and is characterized as supporting a tree/large grass layer almost exclusively of giant reed, interspersed periodically with arroyo willow, Fremont cottonwood, mulefat, red willow, and sandbar willow (*S. exigua*).

Tamarisk Thickets (*Tamarix ramosissima* Thickets)

Tamarisk thickets occur in two small patches within the southern portion of the survey area, immediately adjacent to the VWRP. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a tree layer composed entirely of tamarisk (*Tamarix ramosissima*).

2.2.2 Upland

California Rose Briar Patches (*Rosa californica* Shrubland)

California rose briar patches occur in one location within the north-central portion of the survey area. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a dense shrub layer consisting entirely of California rose (*Rosa californica*).

California Sagebrush Scrub (Restored) (*Artemisia californica* Shrubland)

California sagebrush (restored) occurs in one location in the northern portion of the project site, immediately adjacent to the VWRP. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a shrub layer of California sagebrush (*Artemisia californica*) as the dominant species, interspersed with big sagebrush (*Artemisia tridentata*), mulefat, and black sage (*Salvia mellifera*). The vegetation within this community was established as part of restoration implemented as compensation for impacts associated with previous construction (ESA 2022).

Non-Native Annual Grasses and Forbs

Non-native grasses and forbs occur throughout much of the western half of the survey area and abut portions of the VWRP. This community is situated within the floodplain of the Santa Clara River and is characterized as supporting a dense herbaceous layer of grasses and forbs, including lamb's quarters (*Chenopodium album*), barley (*Hordeum murinum*), jimsonweed (*Datura wrightii*), horehound (*Marrubium vulgare*), ripgut brome (*Bromus diandrus*), London rocket (*Sisymbrium irio*), and wild oats (*Avena* sp.).

2.2.3 Developed/Disturbed Land Cover Types

Disturbed/Developed

Disturbed/developed land use occurs throughout most of the survey area within the VWRP and to the northeast along The Old Road. Land use within the VWRP includes various buildings, parking lots, and other infrastructure associated with the treatment of wastewater. Vegetation observed within these areas, aside from sparse weedy cover (i.e., horehound, lamb's quarters, and short-podded mustard [*Hirschfeldia incana*]), includes landscaped and ornamentally planted trees such as European olive (*Olea europea*) and Peruvian pepper (*Schinus molle*).

Disturbed

Disturbed land occurs on the central portion of the survey area, just west of the VWRP. This community consisted of exposed soil that contained sparse weedy cover (i.e., non-native annual grass seedlings and short-podded mustard).

2.3 Soils

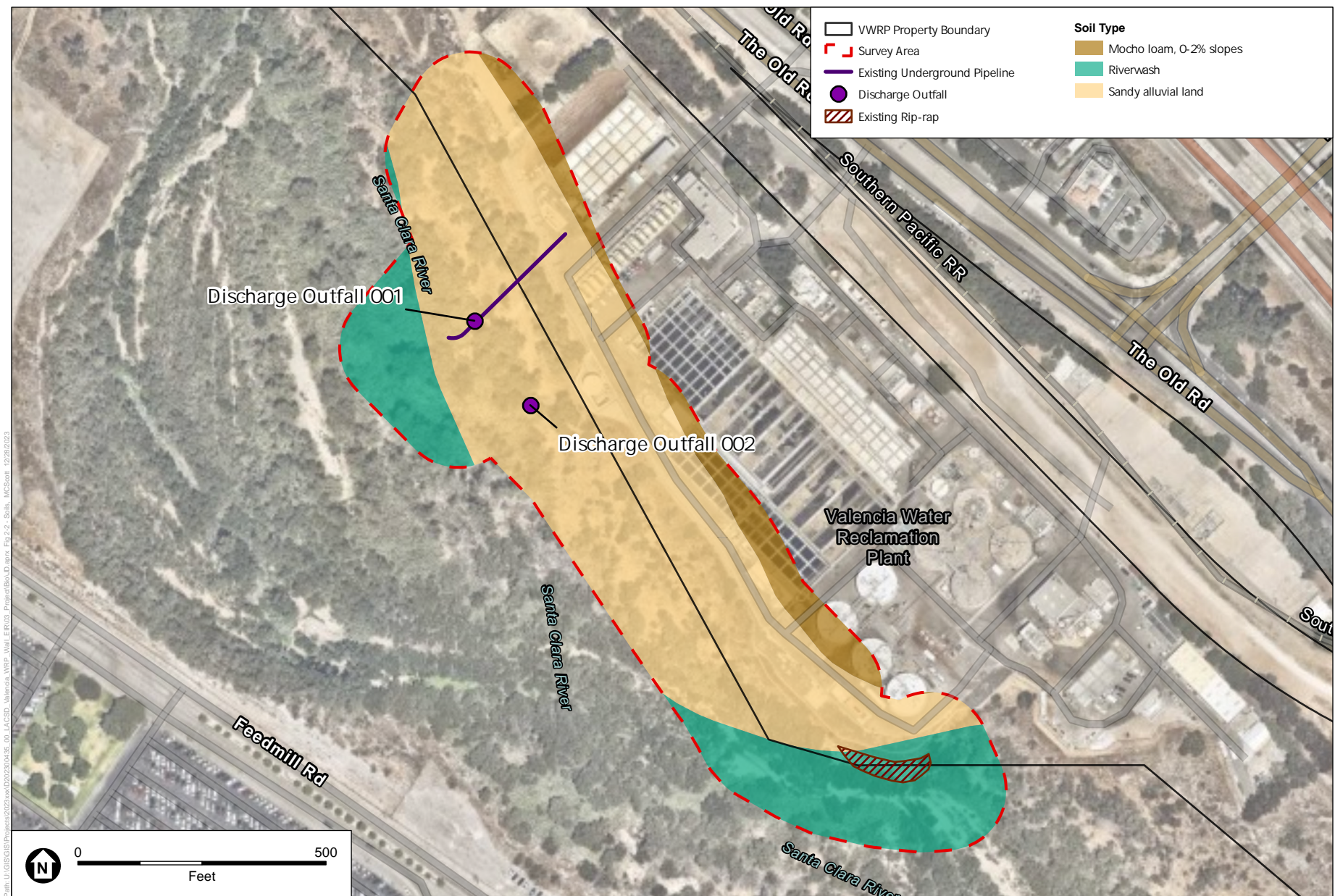
The survey area is along the northeastern portion of the Santa Clara River and includes portions of its bed, banks, floodplain, and adjacent upland areas. As shown in **Figure 2-2**, three soil and cover types occur within the survey area: Mocho loam, Riverwash and sandy alluvial land, 0 to 2 percent slopes (NRCS 2023).

2.3.1 Mocho Loam, 0 to 2 percent slopes

This soil type was mapped along the northern boundary of the survey area, under the urban/developed land cover type. This soil type is considered to be well drained and consists of alluvium derived from sedimentary rock. The depth to a restrictive feature is more than 80 inches, and a typical soil profile consists of loam from 0 to 60 inches. This soil profile occurs on alluvial fan landforms with rare flooding and does not support soil components with a hydric soil rating, except for an unnamed minor component estimated to be 1 percent of the map unit.

2.3.2 Riverwash

This cover type was mapped along the southern boundary of the survey area. Riverwash is considered to be excessively drained and consists of alluvium. The depth to water table is about 0 inches, and a typical profile consists of sand from 0 to 6 inches and stratified coarse sand to sandy loam from 6 to 60 inches. Riverwash occurs in drainageways with frequent flooding and has a hydric soil rating.



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 2-2
Soils

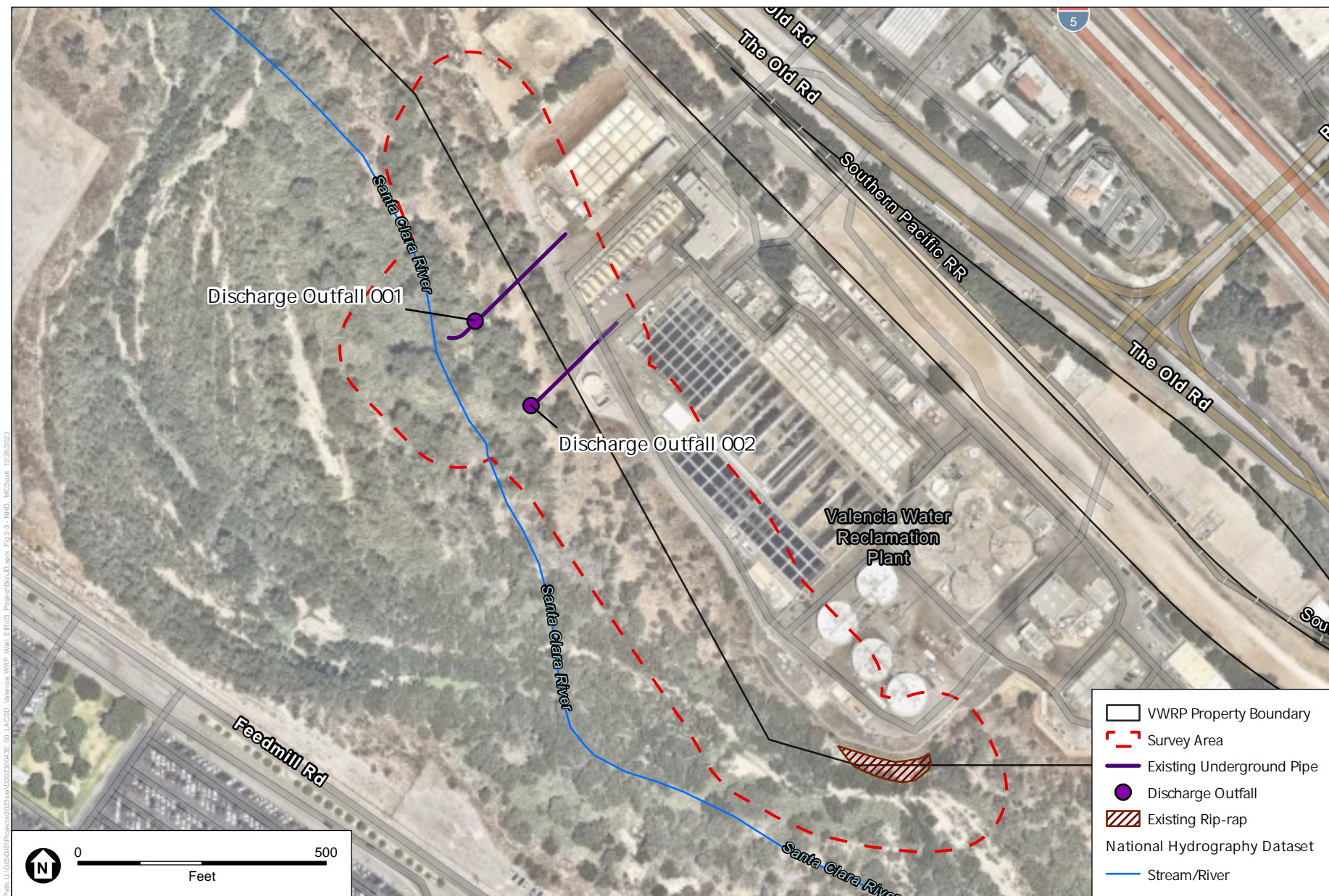
2.3.3 Sandy Alluvial Land

This cover type made up the majority of the survey area and was mapped along the center of the survey area. Sandy alluvial land is considered to be excessively drained and consists of alluvium. The depth to water table is about 10 inches, and a typical profile consists of sand from 0 to 10 inches, stratified sand to loam from 10 to 30 inches, and stratified gravelly sand to gravelly loam from 30 to 60 inches. Sandy alluvial land occurs on flood plain landforms with frequent flooding and has a hydric soil rating.

2.4 Hydrology

The survey area is within the Upper Santa Clara River Watershed Salt Canyon-Santa Clara River Subwatershed (USGS Hydrologic Unit Code 12-180701020403) (USGS 2023a). The overall elevation gradient within the survey area is relatively flat. Hydrology generally flows in a southeast-northwest direction within the survey area. Beyond the survey area, the Santa Clara River continues for approximately 45 river miles, and receives water from several sources, including Castaic Creek, Piru Creek, and Santa Paula Creek, before terminating at the Pacific Ocean. A total of two drainage features were identified to convey flows within the survey area. Drainage 1 - Outfall is situated in the central portion of the survey area and originates at Discharge Outfall 001. Outfall 001 conveys disinfected effluent from the VWRP to the northeast along Drainage 1 – Outfall, and into the Santa Clara River through an existing underground pipe. Discharge Outfall 001 is an existing concrete structure that has a 48-inch diameter opening. Drainage 2 -Santa Clara River is found in the southern portion of the survey area, and it flows north then west. Discharge Outfall 002 is an existing concrete structure that has a 26-inch diameter opening, which is used to convey surficial water through an existing underground pipe; no water or recent sign of flowing water were detected in this feature during the December 19, 2023 survey.

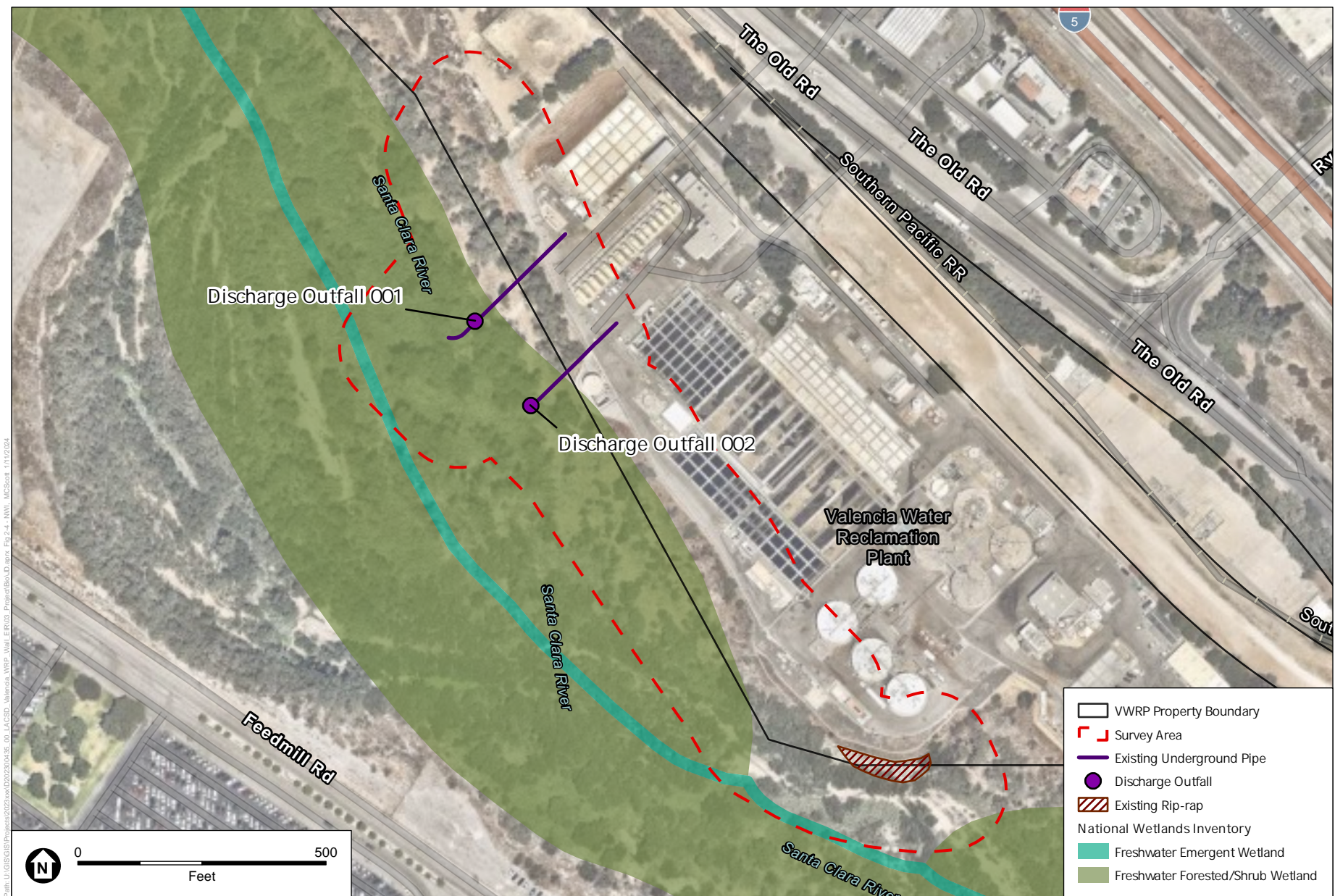
The National Hydrography Dataset (NHD) and National Wetland Inventory (NWI) were queried to identify known aquatic resources within the survey area, the results of which are depicted in **Figure 2-3** and **Figure 2-4, respectively**. A perennial blue line stream/river is shown, which corresponds to the Santa Clara River. The nearest stream gauge is the Santa Clara R NR Piru CA Station No. 11109000, which is located approximately along the Santa Clara River ten river miles downstream of the survey area. Monthly mean discharge through the USGS stream gage data for the ten-year span between 2012 and 2021 is provided in cubic feet per second (CFS) in **Table 2-2**.



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 2-3
National Hydrography Dataset



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 2-4
National Wetlands Inventory

TABLE 2-2
MONTHLY MEAN DISCHARGE (CUBIC FEET PER SECOND) FOR U.S. GEOLOGICAL SURVEY STATION [STATION NO. 11109000] (SANTA CLARA R NR PIRU CA)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012										30.2	41.3	47.2
2013	41.7	41.0	40.0	34.4	29.6	21.8	20.6	17.4	21.9	31.1	41.3	39.4
2014	32.1	63.7	44.8	23.6	17.0	24.9	10.2	6.1	11.4	17.1	32.2	118.7
2015	60.5	32.1	33.8	21.6	38.2	16.7	14.8	8.2	24.8	17.9	20.6	24.3
2016	79.7	26.1	43.0	19.9	16.8	7.0	4.9	8.1	18.1	14.4	16.9	47.9
2017	198.5	307.6	69.6	38.1	49.2	130.4	93.1	17.2	13.8	16.5	22.1	22.2
2018	38.7	34.9	55.6	34.2	17.2	13.7	10.3	8.3	12.8	13.5	32.1	108.0
2019	167.0	191.0	121.7	139.6	129.7	48.6	26.1	18.3	19.2	22.3	72.0	121.3
2020	46.3	32.4	74.6	127.4	104.2	38.8	22.4	22.7	29.8	29.3	36.9	39.6
2021	48.7	37.8	40.9	34.4	19.5	12.8	7.7	6.4	6.9	18.3	18.9	170.6
Mean of Monthly Discharge	78	80	58	52	45	33	22	12	17	21	33	74

SOURCE: USGS 2023b

2.5 Climate

The regional vicinity has a Mediterranean climate characterized by warm, dry summers and cool winters with relatively low rainfall. Average highs for the region range between 67 degrees Fahrenheit (°F) in the winter (December and January) and 79°F in the summer (July and August), while average lows range between 51°F in the winter and 62°F in the summer (WorldClimate.com 2023).

Agricultural Applied Climate Information System Wetlands Climate Table

The Agricultural Applied Climate Information System (AgACIS) Wetlands (WETS) climate table for Los Angeles, California, is shown in **Table 2-3** for 2013 through 2023. The aquatic resources delineation for the project site occurred on December 19, 2023 and January 31, 2024; historically (over a 10-year sampling period), the month of December has experienced 2.25 inches mean rainfall levels and the preceding month of November has experienced 0.49 inches mean rainfall levels (NOAA 2023). Precipitation totals for December 2023 were 2.21 inches, just below the annual mean of 2.25 inches; during the previous month of November 2023, 0.82 inches of precipitation were recorded in the region, just above the annual mean of 0.49 inches (NOAA 2023). Two months prior in October 2023, total precipitation (0.03 inches) was just below the historic annual mean reported for that month (0.20 inches). Based on site conditions and review of the AgACIS data provided in **Table 2-4**, it appears that conditions at the time of the delineation were drier than normal, as indicated by the conditions for the two months leading up to the aquatic resources delineation (October and November) which were drier than normal and slightly wetter than normal, respectively. However, the site received an atypical precipitation event on August 20-21, 2023, which brought approximately 6.15 inches of rain to the survey area approximately 4 months prior to the delineation conducted in December 2023.

TABLE 2-3
WETS TABLE: MONTHLY TOTAL PRECIPITATION (INCHES) FOR CANYON COUNTRY 2.6 E, CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2013	0.91	0.18	0.65	0.02	0.38	0	0.05	0	0	0.17	0.52	0.32	3.2
2014	0.02	1.28	2.53	0.21	0.07	0	T	0.27	0.01	0	0.41	4.45	9.25
2015	1.21	0.57	1.1	0.11	0.82	0.01	1.47	0	0.86	0.3	0.09	0.34	6.88
2016	2.63	1	1.88	0.34	0.11	0	0	0	0	0.24	0.92	2.57	9.69
2017	6.34	4.48	0.16	0.11	0.28	0	M	M	0.02	0	0	0	M
2018	2.05	0.19	3.67	T	0	0	0	0.01	0	0.51	1.21	2.34	9.98
2019	3.95	5.76	2.54	0.04	0.88	T	0	0	0	0	M	M	19.49
2020	0.13	0.03	5.13	3.91	0.07	T	0	0	0	0	0.06	1.22	10.55
2021	2.02	T	0.47	0.08	0	0	0	0.01	0	0.65	0	7.13	10.36
2022	0.39	T	1.79	0.24	0	0.1	0	0	1.12	0.13	1.17	1.92	6.86
Mean (2013–2022)	1.97	1.69	1.99	0.56	0.26	0.01	0.19	0.03	0.20	0.20	0.49	2.25	9.58
2023 (current year)	7.43	6.89	4.65	0	0.58	0.01	0	6.15	0.1	0.03	0.82	2.21	28.87

NOTES: WETS = AGRICULTURAL APPLIED CLIMATE INFORMATION SYSTEM (AGACIS) WETLANDS ; M = MISSING (APPLICABLE WHEN MORE THAN ONE DAY OF DATA IS MISSING FOR A MONTH); T= TRACE.
SOURCE: NOAA 2023.

The Antecedent Precipitation Tool (APT; Version 2.0.0) (USACE 2023) was also used to evaluate climatic conditions at the survey area. A single point (34.430391, -118.592390) was placed within the survey area, and the APT Watershed Sampling Summary provided in **Appendix C** summarizes precipitation and climatic data for the survey area for the three months before the delineation survey date of December 19, 2023. The Antecedent Precipitation Score (derived from the Antecedent Condition Calculation of the prior month) of November indicates that climatic conditions were drier than normal along with the corresponding Palmer drought severity index indication of “Mild wetness” (Table 2-4). Rainfall in the 30-day periods ending on December 16 and January 15 received wetter than normal precipitation amounts for each respective month according to the APT results (Appendix C).

TABLE 2-4
ANTECEDENT PRECIPITATION TOOL RESULTS FOR THE PROJECT SITE ON DECEMBER 19, 2023

No. of Sampling Points	Class	Season	Antecedent Precipitation Score	Antecedent Precipitation Condition
1	Mild wetness	Wet Season	9	Drier than Normal

SOURCE: USACE 2023

CHAPTER 3

Regulatory Framework

3.1 Waters of the United States

3.1.1 Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the law was significantly reorganized and expanded in 1972. “Clean Water Act” became the law’s common name with amendments in 1972.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires that a permit be issued before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from regulation under Section 404 (e.g., certain farming and forestry activities).

Wetlands are defined by USACE as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 CFR 328.3[c][1]; 40 CFR 120.2[c][1]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by site investigation, must be present at a site for USACE to classify the site as a wetland (Environmental Laboratory 1987).

Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the United States. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The regional water quality control board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the state is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the state or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of CWA Sections 301, 302, 303, 306, and 307.

3.1.2 Waters of the United States

Since its inception, the definition of “waters of the United States” has been a litigious issue. Most recently, in 2023, the Supreme Court, ruling in *Sackett v. Environmental Protection Agency*, sharply limited the scope of the federal CWA’s protection for the nation’s waters. As a result of this decision, EPA and USACE issued a final rule that amends the “Revised Definition of ‘Waters of the United States’” to conform key aspects of the regulatory text to the U.S. Supreme Court’s decision (88 *Federal Register* 61964–61969, September 8, 2023).

Under the “Revised Definition of ‘Waters of the United States’; Conforming” rule, the term “waters of the United States” is defined as follows (33 CFR 328.3[a]):

- (1) Waters which are:
 - (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - (ii) The territorial seas; or
 - (iii) Interstate waters;
- (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section; To meet this category, you must be able to demonstrate that the current impoundment would have met the criteria of a water of the U.S. at the time of impoundment. Meaning that prior to the impoundment the feature would have met a(1), a(3), a(4) or a(5). This usually requires using historic aerial photos/maps or historic topo maps.
- (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
- (4) Wetlands adjacent to the following waters:
 - (i) Waters identified in paragraph (a)(1) of this section; or
 - (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
- (5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

In addition, the amended regulations include eight types of excluded waters (33 CFR 328.3[b]) which are not “waters of the United States” even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

- (1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
- (2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area’s status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

- (3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
- (4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;
- (5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
- (6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
- (7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
- (8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

3.2 Waters of the State

Most projects involving water bodies or drainages are regulated by the RWQCB, the principal state agency overseeing the water quality of the state at the regional and local levels. The survey area is located within the region of the Los Angeles RWQCB. RWQCBs are responsible for implementing Section 401 of the CWA as described above in Section 3.1.2, *Clean Water Act*.

The *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Wetland Definition and Procedures), as prepared by the State Water Resources Control Board, was adopted April 2, 2019, and revised April 6, 2021. The State Wetland Definition and Procedures include a definition for wetland waters of the state and exclusions for certain artificial wetlands, as listed below.

The Water Boards define an area as wetland as follows:

“An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes [wetland plants] or the area lacks vegetation.”

3.3 Rivers, Streams, and Lakes

Pursuant to Division 2, Chapter 6, Section 1600 et seq. of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife. A notification of a lake or streambed alteration must be submitted to CDFW for “any activity that may substantially change the bed, channel, or bank of any river, stream, or lake.” In addition, CDFW has authority under the Fish and Game Code over wetland and riparian habitats associated with lakes and streams. CDFW reviews proposed actions and, if necessary, submits to the applicant a proposal that

includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake and Streambed Alteration Agreement.

Fish and Game Code Section 2785 defines riparian habitat as “lands which contain habitat which grows close to and depends upon soil moisture from a nearby freshwater source.” Additionally, the CDFW Notification Instructions and Process guide characterizes the riparian zone as “the area that surrounds a channel or lake and supports (or can support) vegetation that is dependent on surface or subsurface flow.” Furthermore, this CDFW guide calls for the analysis of impacts on the riparian zone up to the outer landward edge of the drip line of riparian vegetation.

CHAPTER 4

Methodology

4.1 Pre-survey Review

Before completing the aquatic resources delineation, ESA conducted a review of available background information pertaining to the survey area. The following resources were reviewed:

- NRCS Web Soil Survey (NRCS 2023).
- USGS 7.5' topographic quadrangle map: Newhall (USGS 2023a).
- Current aerial imagery (Google Earth).
- Precipitation data from the Applied Climate Information System (NOAA 2023).
- National Wetlands Inventory (NWI) (USFWS 2023).
- National Hydrography Dataset (NHD) (USGS 2023c).
- USGS StreamStats application (USGS 2023d).

The results of the NWI and NHD database queries are provided in Figure 2-3 and Figure 2-4.

4.2 Survey Methods

A delineation of aquatic resources within the survey area was conducted on December 19, 2023, and January 31, 2024, by ESA Biologists Robert Sweet and Sonya Vargas. Survey data were collected using an Eos Arrow 100® Global Navigation Satellite System receiver, which provides Satellite-based Augmentation System corrections processing in the field and can provide 60 cm real-time horizontal accuracy. Photos taken during the delineation are provided in Appendix B and **Appendix D**

The delineation was conducted by walking throughout the survey area to identify, document, and delineate potentially jurisdictional features. Potential jurisdictional features were identified and delineated following current federal and state methodology and guidelines, including waters of the United States, waters of the state, and California Fish and Game Code Section 1600 resources. Survey data forms are included in Appendix D.

4.2.1 Waters of the United States

Wetlands

The delineation used the “Routine Determination Method” as described in the *1987 Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), hereafter called the

“1987 Manual.” The 1987 Manual was used in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), hereafter called the “Arid West Supplement.” For areas where the 1987 Manual and the Arid West Supplement differ, the Arid West Supplement was followed. Wetlands and waters were classified using commonly accepted habitat types; however, the Cowardin classification (Cowardin et al. 1979) of each feature type is noted in the discussion in Chapter 5.

To determine the extent of potential jurisdictional wetlands on a project site, the 1987 Manual and Arid West Supplement were used as a guide for identifying wetland characteristics. Three positive wetland parameters must normally be present for an area to be considered a wetland: (1) a dominance of wetland vegetation, (2) presence of hydric soils, and (3) presence of wetland hydrology. Presence or absence of positive indicators for wetland vegetation, soils, and hydrology was assessed per the 1987 Manual and Arid West Supplement guidelines. Data points were taken within suspected wetlands and a paired point was taken (where applicable) in nearby upland areas. Data points were recorded on Arid West Region wetland determination data forms, which are provided in Appendix D.

At each data point, a visual assessment of the dominant plant species within the vegetation community was made. Dominant species were assessed using the recommended “50/20” rule per the Arid West Supplement. Plants were identified to species using the *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). The *Arid West 2020 Regional Wetland Plant List* (USACE 2020) was used to determine the wetland indicator status of all plants.

Hydric soils were identified using soil indicators presented in the *Regional Supplement to the Arid West Supplement* and the *Field Indicators of Hydric Soils in the United States*, Version 8.2 (NRCS 2023). Soils at each data point were characterized by color, texture, organic matter accumulation, and the presence or absence of hydric soil indicators. The coloration of the soil samples, matrix, and mottles was assessed using the *Munsell Soil Color Book* (Munsell 2000).

The presence of wetland hydrology was determined at each data point by the presence of one or more of the primary and/or secondary indicators, per the guidance of the Arid West Supplement.

Non-wetland (Other) Waters of the United States

Non-wetland waters of the United States extend to the Ordinary High Water Mark (OHWM), defined in 33 CFR 328.3 as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. In the Arid West region of the United States, waters are variable and include ephemeral, intermittent, and perennial channel forms. The most problematic ordinary high-water delineations are associated with the commonly occurring ephemeral and intermittent channel forms that dominate the Arid West landscape.

Delineation methods were completed in accordance with the National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams (USACE 2022). OHWM Transects were established within potentially jurisdictional features to determine the presence/absence of OHWM indicators. OHWM data sheets are provided in Appendix D.

Methodology for Applying the Relatively Permanent Standard

The Relatively Permanent Standard (RPS) was applied to determine whether an aquatic resource qualifies as a water of the United States as any of the following:

- **(a)(3) Tributaries** of (a)(1) or (2) waters.
- **(a)(4) Wetlands** adjacent to an RPW (Relatively permanent, standing or continuously flowing bodies of water identified as an as [a][2] or [a][3] water and with a continuous surface connection to those waters).
- **(a)(5) Intrastate lakes and ponds** not identified in paragraphs (a)(1) through (a)(4).

An evaluation of the applicability of the RPS was conducted for:

Wetlands: Under the RPS for (a)(4) adjacent wetlands, such wetlands must be adjacent to an RPW identified as an (a)(2) or (a)(3) water and must meet the continuous surface connection requirement (CSC). A wetland ecologist also evaluated whether a CSC was present, based on whether:

- The wetland(s) physically abut, or touch, either an [a][1] water, a relatively permanent impoundment of waters ([a][2] water) or a jurisdictional tributary ([a][3] water) that also meets the RPS, OR
- The wetland(s) connects to an impoundment or tributary ([a][2] or [a][3] waters) by a discrete feature like a non-jurisdictional ditch, swale, pipe, or culvert., OR
- An intervening natural landform provides evidence of a CSC (riverbank, natural berms, natural levees, beaver dams, dunes).

Perennial or intermittent streams: Under the RPS for (a)(3) tributaries or (a)(5) lakes and ponds, such aquatic resources must exhibit sufficient flow during certain times of the year. The phrase “certain times of the year” includes extended periods of standing or continuously flowing water occurring in the same geographic feature year after year, except in times of drought. To determine whether the RPS applies, the flow characteristics of each stream were evaluated along the entire reach of the same Strahler stream order (Strahler 1957) (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).

Stream hydrology (ephemeral, intermittent, and perennial) is an important factor and can be assessed in part using a streamflow duration assessment method (SDAM). SDAMs are being developed by USACE and EPA to do a rapid assessment of hydrology, geomorphology, and/or biological indicators to classify streamflow duration as perennial, intermittent, or ephemeral at the reach scale. There is one for the Pacific Northwest, and one is in development for the Arid West (a beta version is available), which was referenced during the December 19, 2023, survey.

4.2.2 Waters of the State

Waters of the state were delineated using the same methodology as waters of the U.S.

4.2.3 Rivers, Streams, and Lakes

California Fish and Game Code Section 1600 resources were delineated to include bed, bank, and channel up to the top of bank (indicated by a break in slope), and the extent of riparian vegetation to the outer drip line.

CHAPTER 5

Results

5.1 Aquatic Resources

All aquatic features within the survey area were analyzed in the field to determine whether each may be considered a jurisdictional feature. Each resource is described in detail below, including its relevance to each jurisdiction; results are provided in Appendix D.

5.2 Waters of the United States

As defined under Section 3.1, under the Revised Definition of Waters of the United States, there are five categories that are considered jurisdictional waters of the United States. These categories include (a)(1)—territorial seas and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide, and interstate waters, including interstate wetlands; (a)(2)—impoundments of waters of the United States; (a)(3) tributaries of waters of the United States that meet the RPS; (a)(4) wetlands adjacent to certain waters that meet the RPS; (a)(5) intrastate lakes and ponds that meet the RPS.

One feature was identified and mapped as potential wetland waters of the U.S. and state and a total of two drainage features were identified and mapped as potential non-wetland waters of the U.S. and state during the delineation. The two potential non-wetland waters features had flowing water during the delineation, supported riparian vegetation, and exhibited OHWM indicators. Drainage 1 – Outfall conveys flows from the VWRP into Drainage 2 – Santa Clara River. The results from the SDAM conducted at Drainage 2 – Santa Clara River indicated the feature was intermittent (see section 5.2.1). Therefore, both drainages were characterized as intermittent features that would meet criteria for a (a)(3) tributary. The potential wetland waters feature was found to meet all three wetland criteria and was located adjacent to a RPW identified as an (a)(3) water and meet the CSC and therefore are considered potential adjacent wetlands under paragraph (a)(4). Potential wetland and non-wetland waters of the U.S. and state mapped within the survey area are presented in **Table 5-1**, depicted in **Figure 5-1**, and further described below.

TABLE 5-1
POTENTIAL WATERS OF THE U.S. AND STATE

Aquatic Feature	Cowardin Type	Dominant Vegetation/ Land Cover Type	OHWM (feet) (range from within survey area)	Linear Feet	Lat./Long.	Acres	Applicable Waters of the United States Definition*
Waters							
Wetland 1	Riverine	Giant reed marsh	N/A	N/A	N/A	0.001	(a)(4)
Other waters							
Drainage 1 – Outfall	Riverine	Giant reed marsh	11.36 – 14.46	230.75	N/A	0.07	(a)(3)
Drainage 2 – Santa Clara River	Riverine	Fremont cottonwood-Arroyo willow Forest	11.75 – 58.73	435.77	N/A	0.42	(a)(3)
Total Potential Waters of the U.S. and State:	N/A	N/A	N/A	666.52	N/A	0.49	N/A

NOTES:

Lat./Long. = Latitude/Longitude; N/A = not applicable; OHWM = ordinary high-water mark

*See Section 3.1.2 for complete definition of jurisdictional waters. Broadly:

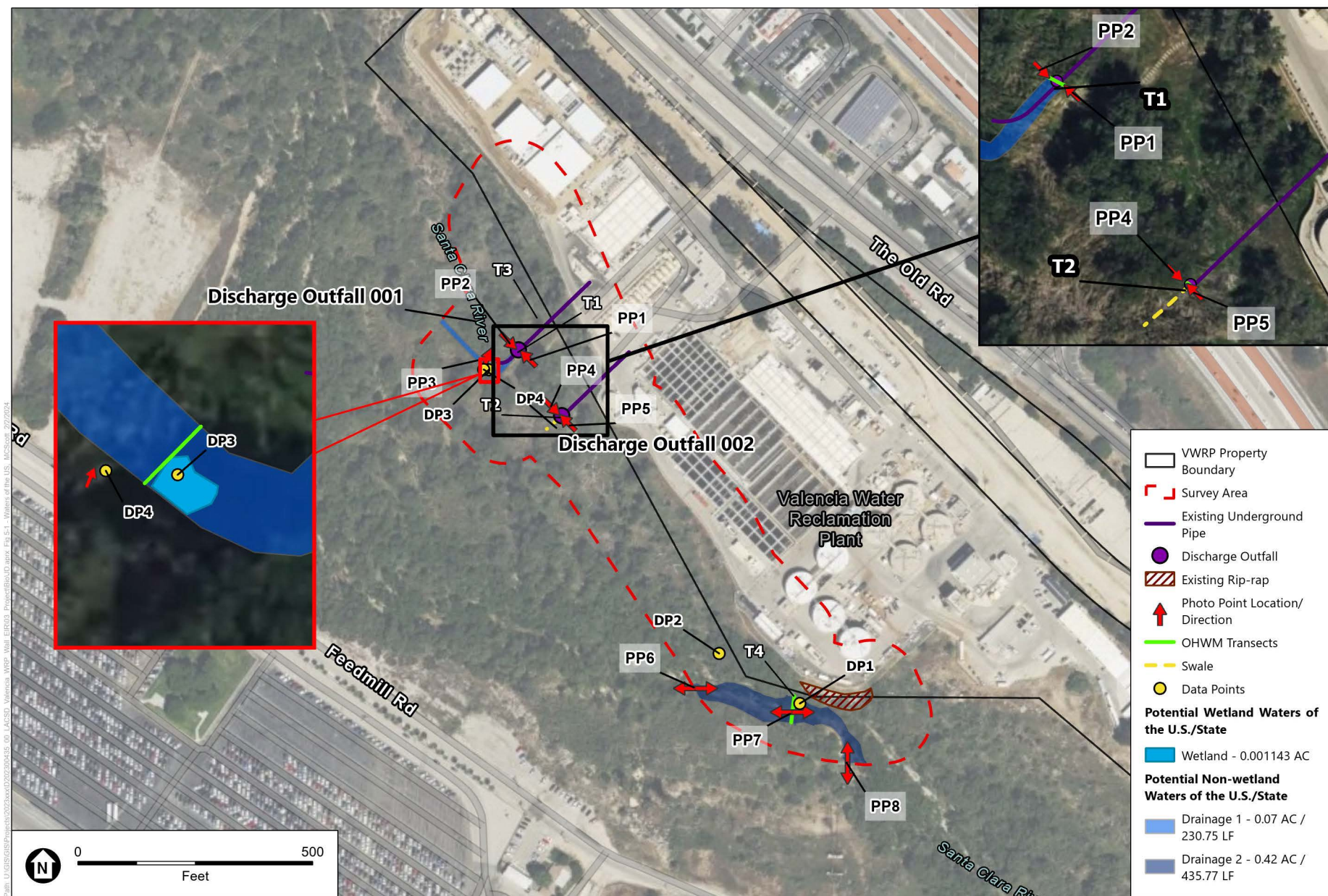
(a)(1) waters include areas subject to ebb and flow of the tide, and territorial seas.

(a)(2) waters include impoundment of waters.

(a)(3) waters include tributaries of waters.

(a)(4) waters include wetlands adjacent to waters that meet required criteria.

(a)(5) waters include intrastate lakes and ponds, streams, or wetlands that meet required criteria.



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 5-1
Potential Waters of the
United States and State

5.2.1 Potential Waters of the United States

Freshwater Wetland

One freshwater wetland feature was mapped adjacent to Drainage 1 – Outfall consisting of 0.001 acres. A total of two data points were collected (DP3 and DP4) to determine whether this feature met the criteria for a wetland in accordance with the 1987 Manual and Arid West Supplement (Figure 5-1).

Vegetation within DP3 was dominated by giant reed (FACW) and met the dominance test for hydrophytic vegetation. The soil consisted of silty clay loam and sand and the (S5) Sandy Redox hydric soil indicator was met. Three primary hydrology indicators—High Water Table (A2), Saturation (A3), and Surface Water (A1)—were met. DP4 was collected adjacent to DP3 to identify the wetland-upland transitional boundary and aid in mapping the extent of the wetland feature. DP4 supported hydrophytic vegetation (e.g., giant reed), and met the dominance test for hydrophytic vegetation as well as hydrology indicators (Water-Stained Leaves [B9], Drift Deposits [B3], and Water-stained Leaves [B9]); however, hydric soil indicators were not met.

This wetland feature was found to meet all three wetland criteria. In addition, the wetland feature was adjacent to a RPW identified as an (a)(3) water and met the CSC requirement because it physically occurs within the boundaries of the jurisdictional tributary (a)(3) water that also meets the RPS. Therefore, this wetland feature is adjacent wetlands with a CSC to a RPW water of the U.S. and is therefore a potential adjacent wetland under paragraph (a)(4).

5.2.2 Potential Other Waters of the United States

Drainage 1 – Outfall

Drainage 1 – Outfall was delineated based on the identification of OHWM indicators, which included, but were not limited to, a break in slope, shelving, channel bar with vegetation transitions, deposition of gravel sheets, change in vegetation type, exposed roots below the intact soil layer, wracking/presence of organic litter, and presence of large wood. Flowing water was observed within this drainage during the delineation due to active water discharge from the VWRP operations, which flows into the Santa Clara River, which is an NHD feature mapped as a stream/river. The discharge outfall (Discharge Outfall 001) at this drainage was inspected and observed to have water staining on the concrete along with algal growth. It was determined that Drainage 1 likely flows for at least 3 months of a typical year and would, at a minimum, be characterized as an intermittent feature, and thus meets criteria for an RPW and an (a)(3) tributary, based on presence of a continuous surface connection to an (a)(1) water (i.e., Pacific Ocean).

Drainage 2 – Santa Clara River

Drainage 2 – Santa Clara River is the Santa Clara River, which is an NHD feature mapped as a stream/river. Drainage 2 – Santa Clara River was delineated based on the identification of OHWM indicators, which included, but were not limited to, a break in slope, shelving, and deposition of gravel sheets. Flowing water was observed within this drainage during the delineation. An SDAM was performed at this feature and was recorded to have few (1–2)

hydrophytic plant species, few (1–19) aquatic invertebrates, no EPT¹ taxa, and algae present. Based on these observations, it was determined that Drainage 2 – Santa Clara River likely flows for at least 3 months of a typical year and would, at a minimum, be characterized as an intermittent feature, and thus meets criteria for an RPW and an (a)(3) tributary, based on presence of a continuous surface connection to an (a)(1) water (i.e., Pacific Ocean).

A total of two data points were collected (DP1 and DP2) to determine whether the area around Drainage 2 – Santa Clara River met the criteria for a wetland in accordance with the 1987 Manual and Arid West Supplement (Figure 5-1). Vegetation within DP1 and DP2 were both dominated by arroyo willow (FACW) and met the dominance test for hydrophytic vegetation. Wetland hydrology indicators were also met (including Water-stained Leaves [B9], Drift Deposits [B3], and Sediment Deposits [B2]); however, hydric soil indicators were not met. Therefore, no wetlands were mapped within or adjacent to Drainage 2 – Santa Clara River.

5.2.3 Potential Non-jurisdictional Features

The Revised Definition of Waters of the United States specifically identifies eight types of excluded waters that are considered non-jurisdictional, including (b)(8) swales and erosional features. Based on the results of the aquatic resource delineation, non-jurisdictional wetlands/other features identified in the survey area included Discharge Outlet 002. This feature was assessed and determined to be a swale due to absence of an OHWM and the lack of a bed and bank. Therefore, it is likely an excluded water based on the Revised Definition of Waters of the United States.

5.3 Waters of the State

All potential wetland and non-wetland waters of the United States delineated in this report are also considered potential wetland and non-wetland waters of the state and are mapped in Figure 5-1.

5.3.1 Potential Wetland Waters of the State

As discussed in Section 5.2.1, one wetland waters of the U.S. (and state) feature was mapped based on the field delineation.

5.3.2 Potential Non-wetland Waters of the State

All potential non-wetland waters of the United States delineated in this report are also potential non-wetland waters of the state. The swale feature at Discharge Outlet 002 that was discussed under Section 5.2.2, is not considered a water of the state due to absence of an OHWM and lack of bed and bank. No additional waters of the state were identified based on the delineation.

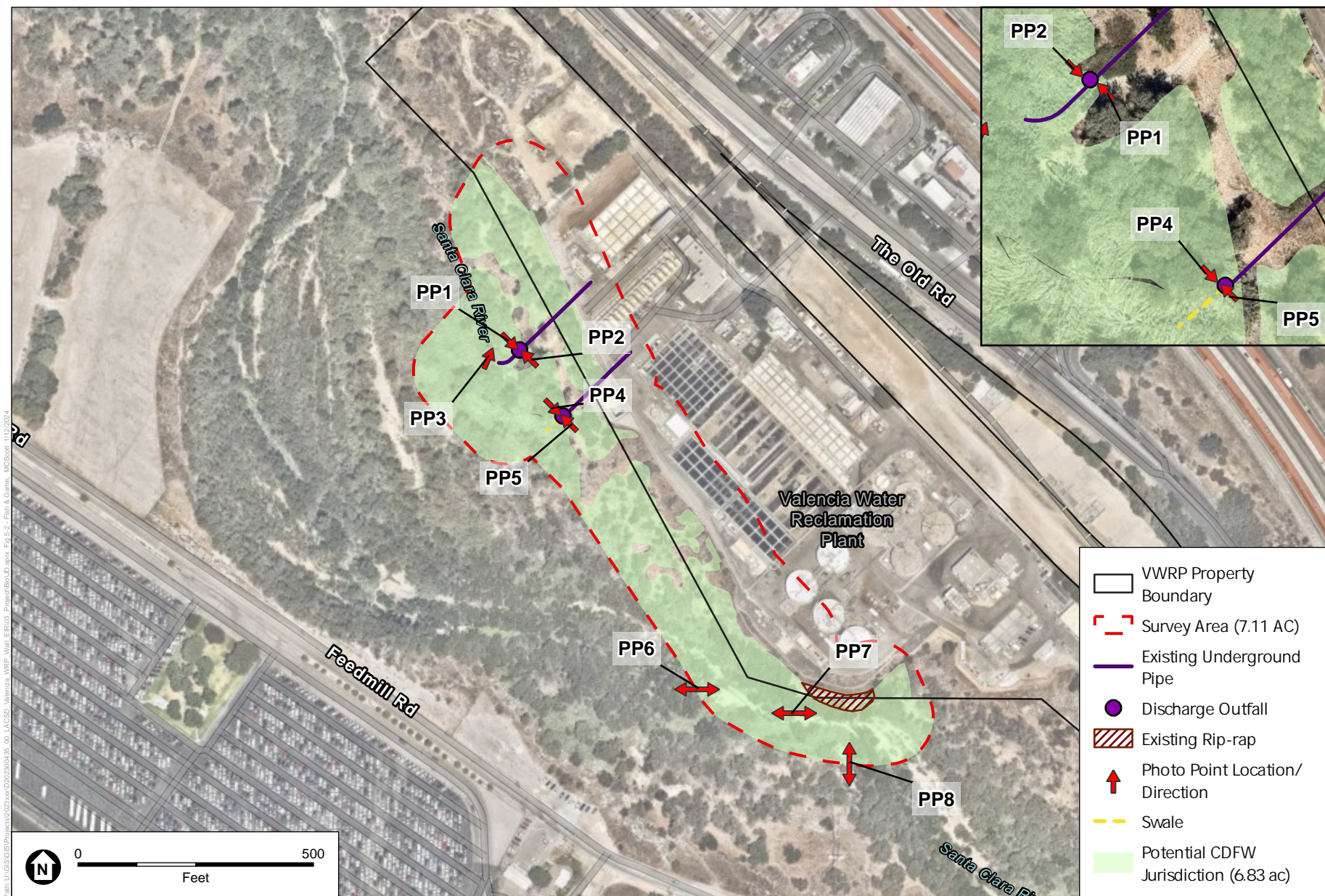
¹ Pollution sensitive invertebrate orders - Ephemeroptera, Plecoptera and Tricoptera

5.4 Rivers, Streams, and Lakes

Areas potentially protected under Section 1600 et seq. of the California Fish and Game Code are shown in **Figure 5-2** and extend beyond the OHWM to the outer extent of the riparian canopy (i.e., drip line). The total acreages potentially protected under Section 1600 et seq. of the California Fish and Game Code are provided in **Table 5-2**. In addition, as discussed in Section 5.2.2, a non-jurisdictional swale was detected within the survey area. This feature is an erosional feature that lacked a bed and bank. Therefore, it is not considered a stream.

TABLE 5-2
FEATURES POTENTIALLY SUBJECT TO SECTION 1600 ET SEQ. OF THE FISH AND GAME CODE

Aquatic Feature	Cowardin Type	Vegetation/Land Cover Type	Length (feet)	Average Width (feet)	Acreage
Drainage 1 – Outfall and 2 – Santa Clara River, and riparian canopy	Riverine	Fremont Cottonwood Forest	-	-	6.83
Totals:	-	-	-	-	6.83



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 5-2
Features Potentially Subject to
Fish and Game Code Section 1600 et seq.

5.4 Conclusions

Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that:

- **Waters of the U.S. and State.** A total of 0.001 acres of potential wetland waters of the U.S. and a total of 0.49 acres (666.52 LF) of potential other (non-wetland) waters of the U.S that are potentially jurisdictional under the CWA occur within the survey area.
- **Rivers, Streams, and Lakes.** A total of 6.83 acres of aquatic resources that are potentially jurisdictional under Section 1600 et seq. of the Fish and Game Code occur within the survey area.

Figure 5-3 presents all aquatic resources documented within the survey area. This report documents the aquatic resources boundary delineation and best professional judgment of ESA investigators. All conclusions presented should be considered preliminary and subject to change pending official review and verification by the appropriate regulatory agencies.



SOURCE: ESA, 2024

Valencia Water Reclamation Plant Retaining Wall Mid-Section Project

Figure 5-3
Aquatic Resources Documented within Survey Area

CHAPTER 6

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Appendix A

Floral Compendia

APPENDIX A

Floral Compendia

Family	Scientific Name	Common Name	Nativity	Wetland Indicator Status
ANGIOSPERMS				
DICOTS				
Adoxaceae – Moschatel Family				
	<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry	native	FACU
Anacardiaceae – Sumac Family				
	<i>Schinus molle</i>	Peruvian pepper	Cal-IPC Limited	FACU
Asteraceae – Sunflower Family				
	<i>Baccharis salicifolia</i>	Mulefat	native	FAC
Brassicaceae – Mustard Family				
	<i>Hirschfeldia incana</i>	short-podded mustard	Cal-IPC Moderate	UPL
Euphorbiaceae – Spurge Family				
	<i>Ricinus communis</i>	Castor bean	Cal-IPC Limited	FACU
Oleaceae – Olive Family				
	<i>Olea europaea</i>	European olive	Cal-IPC Limited	UPL
Salicaceae – Willow Family				
	<i>Populus fremontii</i>	Fremont cottonwood	native	UPL
	<i>Salix exigua</i>	Sandbar willow	native	FACW
	<i>Salix laevigata</i>	Red willow	native	FACW
	<i>Salix lasiolepis</i>	Arroyo willow	native	FACW
Tamaricaceae – Tamarisk Family				
	<i>Tamarix ramosissima</i>	Tamarisk	Cal-IPC High	UPL
Urticaceae – Nettle Family				
	<i>Urtica dioica</i>	Stinging nettle	Native	FAC
MONOCOTS				
Poaceae – Grass Family				
	<i>Arundo donax</i>	Giant reed	Cal-IPC High	FACW
	<i>Bromus madritensis</i>	Compact brome	Non-native	UPL

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Appendix B

Photographic Log



Photograph 1 (NW). Photo Point 1, Transect 1, facing northwest at Drainage 1. View of VWRP Outlet Structure.



Photograph 2 (SE). Photo Point 2, Transect 1, facing southeast at Drainage 1. View of VWRP Outlet Structure.



Photograph 3 (NNE). Photo Point 3, Transect 3, facing north northeast at Drainage 1.



Photograph 4 (NW). Photo Point 4, Transect 2, facing northwest at culvert.



Photograph 5 (SE). Photo Point 5, Transect 2, facing southeast at culvert.



Photograph 6 (East). Photo Point 6, SDAM bottom, facing downstream.



Photograph 7 (E). Photo Point 6, SDAM bottom, facing upstream.



Photograph 8 (W). Photo Point 7, SDAM mid, facing downstream.



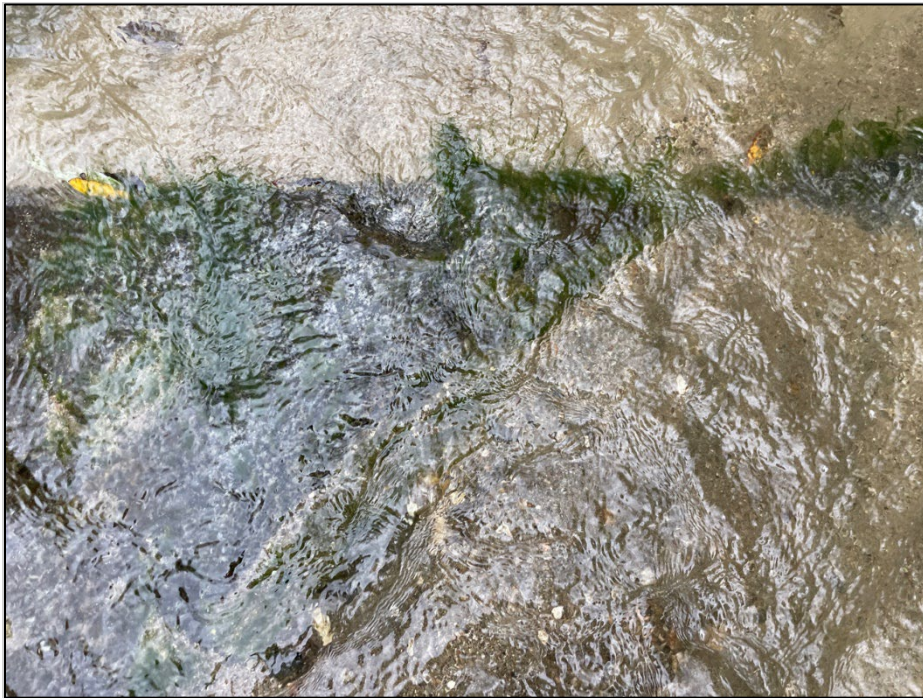
Photograph 9 (E). Photo Point 7, SDAM mid, facing upstream.
View of Transect 4.



Photograph 10 (N). Photo Point 8, SDAM top, facing downstream.



Photograph 11 (S). Photo Point 8, SDAM top, facing upstream.



Photograph 12. Drainage 2, view of algae.



Photograph 13. Drainage 2, view of Chironomidae midge.



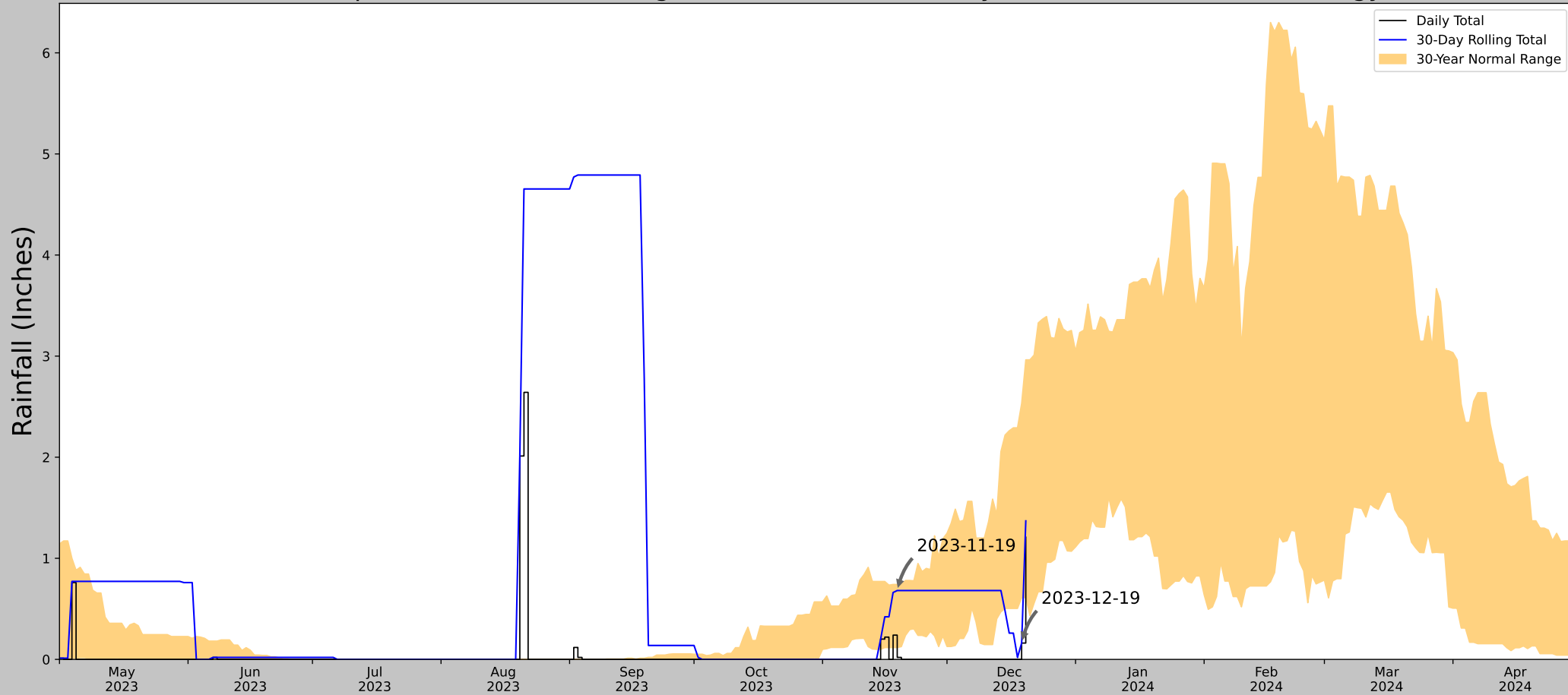
Photograph 14 (SE). Drainage 2, representative view of hydrophytic vegetation, facing upstream.

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Appendix C


Antecedent Precipitation Tool Results

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	34.430391, -118.592390
Observation Date	2023-12-19
Elevation (ft)	1040.124
Drought Index (PDSI)	Mild wetness (2023-11)
WebWIMP H ₂ O Balance	Wet Season


30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-12-19	0.611417	2.53189	0.161417	Dry	1	3	3
2023-11-19	0.116929	0.741339	0.681102	Normal	2	2	4
2023-10-20	0.0	0.328346	0.0	Normal	2	1	2
Result							Drier than Normal - 9



US Army Corps of Engineers

Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center



ERDC

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
WOODLAND HILLS PIERCE COLLEGE	34.1819, -118.5744	790.026	17.2	250.098	12.042	11286	80
HIDDEN HILLS 6.0 ENE	34.1862, -118.5577	770.013	1.0	20.013	0.47	0	10
VAN NUYS AP	34.2122, -118.4914	785.105	5.185	4.921	2.359	32	0
TOPANGA PATROL FC-6	34.0842, -118.5989	745.079	6.894	44.947	3.412	34	0

Appendix D

Data Sheets

DP1, Robbie Sweet, Valencia Middle Retaining Wall

Created	2024-01-31 21:58:26 UTC by SC Fulcrum09
Updated	2024-01-31 22:43:24 UTC by SC Fulcrum09
Location	34.42848755533333, -118.59054800999999

Project Information

Generate Single Report	https://api.esassoc.net/api/reports/WetlandsExcel?form=Wetland Determination Data Form- Arid West Region&id=401c3bbc-b72d-4a89-8eae-64c3ef7107a7
Generate All Reports	https://api.esassoc.net/api/reports/WetlandsExcelZip?form=Wetland Determination Data Form- Arid West Region&id=401c3bbc-b72d-4a89-8eae-64c3ef7107a7
Project Name	Valencia Middle Retaining Wall
City/County	Los Angeles County
State	California
Investigator(s)	Robbie Sweet
Sampling Date	2024-01-31
Sampling Point	DP1
Applicant/Owner	LACSD
Section/Township/Range	Na
Landform	Floodplain
Local Relief	Concave
Slope %	3
Subregion (LRR)	LRR-C
Soil Map Unit Name	Na
NWI Classification	Riverine
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes
Are Vegetation significantly disturbed?	No
Are Vegetation naturally problematic?	No
Are Soil significantly disturbed?	No
Are Soil naturally problematic?	No
Are Hydrology significantly disturbed?	No
Are Hydrology naturally problematic?	No
Are normal circumstances present?	Yes
Project Photos	





Vegetation

Tree Stratum

Plot Size	30
Plot dimensions	ft/radius

Tree Stratum 1

Tree Stratum 1	Salix lasiolepis , FACW, Arroyo Willow
Tree Species 1	Salix lasiolepis
Absolute % Cover 1	30
Indicator Status 1	FACW
Dominant Species 1	Yes

Tree Stratum Totals

Tree Stratum Total % Cover	30
Tree 50	15
Tree 20	6

Sapling/Shrub Stratum

Plot Size	30
Plot dimensions	ft/radius

Sapling/Shrub Stratum 1

Sapling/Shrub Stratum 1	Arundo donax , FACW, Giant-Reed
Sapling/Shrub Species 1	Arundo donax
Absolute % Cover 1	2
Indicator Status 1	FACW
Dominant Species 1	Yes

Sapling/Shrub Stratum Totals

Sapling/Shrub Stratum Total % Cover	2
Sapling/Shrub 50	1
Sapling/Shrub 20	0.4

Herb Stratum

Plot Size	5
Plot dimensions	ft/radius

Herb Stratum 1

Herb Stratum 1	Bromus madritensis , UPL, Compact Brome
Herb Species 1	Bromus madritensis
Absolute % Cover 1	2
Indicator Status 1	UPL
Dominant Species 1	Yes

Herb Stratum 2

Herb Species 2	Bromus madritensis
Indicator Status 2	UPL
Dominant Species 2	No

Herb Stratum Totals

Herb Stratum Total % Cover	2
Herb 50	1
Herb 20	0.4

Woody Vine Stratum

Plot Size	30
Plot dimensions	ft/radius

Woody Vine Stratum Totals

Woody Vine Stratum Total % Cover	0
----------------------------------	---

Vegetation Photos



Prevalence Index Worksheet

Total % Cover of OBL species:	0
OBL x1	0
Total % Cover of FACW species:	32
FACW x2	64
Total % Cover of FAC species:	0
FAC x3	0
Total % Cover of FACU species:	0
FACU x4	0
Prevalence Column A Total:	32
Prevalence Column B Total:	64

Dominance/Prevalence Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2

Number of Dominant Species across all Strata: 3

Percent of Dominant Species That are OBL, FACW, or FAC: 66.67

Prevalence Index = 2.0

Hydrophytic Vegetation Indicators:

1 Dominance Test is >50% Yes

2 Prevalence Index is ≤ 3.0 Yes

3 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) No

4 Problematic Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet) No

Hydrophytic Vegetation Present? Yes

Soil

Profile Description:

Soil Horizon 1

Depth Top (Inches)1 15

Depth Bottom (Inches)1 0

Matrix Color (moist) 1 10YR 4/2

Matrix % 1 100

Texture 1 Sand

Hydric Soil Present? No

Hydrology

Wetland Hydrology Indicators

Primary Indicators Water-Stained Leaves (B9)

Secondary Indicators Drift Deposits (B3) (Riverine), Sediment Deposits (B2) (Riverine)

Field Observation:

Surface Water Present? No

Water Table Present? No

Saturation Present? No

Wetland Hydrology Present? Yes

Hydrology Photos





Summary of Findings

Hydrophytic Vegetation Present? yes

Hydric Soil Present? no

Wetland Hydrology Present? yes

Is the Sampled Area within a Wetland? No

Representative Photos



DP2, Robbie Sweet, Valencia Middle Retaining Wall

Created	2024-01-31 22:42:08 UTC by SC Fulcrum09
Updated	2024-01-31 23:05:02 UTC by SC Fulcrum09
Location	34.42877747366666, -118.59111998783334

Project Information

Generate Single Report	https://api.esassoc.net/api/reports/WetlandsExcel?form=Wetland Determination Data Form- Arid West Region&id=f397f58d-c3f7-4b45-a4fc-3098d2b0f120
Generate All Reports	https://api.esassoc.net/api/reports/WetlandsExcelZip?form=Wetland Determination Data Form- Arid West Region&id=f397f58d-c3f7-4b45-a4fc-3098d2b0f120
Project Name	Valencia Middle Retaining Wall
City/County	Los Angeles County
State	California
Investigator(s)	Robbie Sweet
Sampling Date	2024-01-31
Sampling Point	DP2
Applicant/Owner	LACSD
Section/Township/Range	Na
Landform	Floodplain
Local Relief	Concave
Slope %	5
Subregion (LRR)	LRR-C
Soil Map Unit Name	Na
NWI Classification	Riverine
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes
Are Vegetation significantly disturbed?	No
Are Vegetation naturally problematic?	No
Are Soil significantly disturbed?	No
Are Soil naturally problematic?	No
Are Hydrology significantly disturbed?	No
Are Hydrology naturally problematic?	No
Are normal circumstances present?	No



Vegetation

Tree Stratum

Plot Size	30
Plot dimensions	ft/radius

Tree Stratum 1

Tree Stratum 1	Salix lasiolepis , FACW, Arroyo Willow
Tree Species 1	Salix lasiolepis
Absolute % Cover 1	5
Indicator Status 1	FACW
Dominant Species 1	No

Tree Stratum 2

Tree Stratum 2	Arundo donax , FACW, Giant-Reed
Tree Species 2	Arundo donax
Absolute % Cover 2	10
Indicator Status 2	FACW
Dominant Species 2	Yes

Tree Stratum 3

Dominant Species 3	No
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Tree Stratum - Manual Entry

Tree Stratum 4	Populus fremontii
Absolute % Cover 4	30
Indicator Status 4	FACW
Dominant Species 4	Yes

Tree Stratum Totals

Tree Stratum Total % Cover	45
Tree 50	22.5
Tree 20	9

Sapling/Shrub Stratum

Plot Size	30
Plot dimensions	ft/radius

Sapling/Shrub Stratum 1

Sapling/Shrub Stratum 1	Ricinus communis , FACU, Castor-Bean
Sapling/Shrub Species 1	Ricinus communis
Absolute % Cover 1	1
Indicator Status 1	FACU
Dominant Species 1	Yes

Sapling/Shrub Stratum 2

Sapling/Shrub Stratum 2	Baccharis salicifolia , FAC, Mule's-Fat
Sapling/Shrub Species 2	Baccharis salicifolia
Absolute % Cover 2	10
Indicator Status 2	FAC

Sapling/Shrub Stratum Totals

Sapling/Shrub Stratum Total % Cover	11
Sapling/Shrub 50	5.5
Sapling/Shrub 20	2.2

Herb Stratum

Plot Size	5
Plot dimensions	ft/radius

Herb Stratum 1

Herb Stratum 1	Arundo donax , FACW, Giant-Reed
Herb Species 1	Arundo donax
Absolute % Cover 1	5
Indicator Status 1	FACW
Dominant Species 1	Yes

Herb Stratum 2

Herb Stratum 2	Urtica dioica , FAC, Stinging Nettle
Herb Species 2	Urtica dioica
Absolute % Cover 2	2
Indicator Status 2	FAC
Dominant Species 2	Yes

Herb Stratum Totals

Herb Stratum Total % Cover	7
Herb 50	3.5

Herb 20	1.4
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Woody Vine Stratum

Plot Size	30
Plot dimensions	ft/radius

Woody Vine Stratum Totals

Woody Vine Stratum Total % Cover	0
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Prevalence Index Worksheet

Total % Cover of OBL species:	0
OBL x1	0
Total % Cover of FACW species:	20
FACW x2	40
Total % Cover of FAC species:	12
FAC x3	36
Total % Cover of FACU species:	1
FACU x4	4
Total % Cover of UPL species:	0
UPL x5	0
Prevalence Column A Total:	33
Prevalence Column B Total:	80

Dominance/Prevalence Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC:	3
Number of Dominant Species across all Strata:	5
Percent of Dominant Species That are OBL, FACW, or FAC:	60
Prevalence Index =	2.42

Hydrophytic Vegetation Indicators:

1 Dominance Test is >50%	Yes
2 Prevalence Index is ≤ 3.0	Yes
3 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	No
4 Problematic Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet)	No
Hydrophytic Vegetation Present?	No

Soil

Profile Description:

Soil Horizon 1

Depth Top (Inches)1	15
Depth Bottom (Inches)1	0

Matrix Color (moist) 1	7.5YR 4/3
Matrix % 1	100
Texture 1	Sandy loam
Hydric Soil Present?	No
Soil Photos	



Hydrology

Wetland Hydrology Indicators

Primary Indicators	Water-Stained Leaves (B9)
Secondary Indicators	Drift Deposits (B3) (Riverine)

Field Observation:

Surface Water Present?	No
Water Table Present?	No
Saturation Present?	No
Wetland Hydrology Present?	Yes
Hydrology Photos	





Summary of Findings

Hydrophytic Vegetation Present?	no
Hydric Soil Present?	no
Wetland Hydrology Present?	yes
Is the Sampled Area within a Wetland?	No

DP3, Robbie Sweet, Valencia Middle Retaining Wall

Created	2024-01-31 23:41:04 UTC by SC Fulcrum09
Updated	2024-02-01 21:30:23 UTC by SC Fulcrum09
Location	34.43043527433333, -118.59277256933335

Project Information

Generate Single Report	https://api.esassoc.net/api/reports/WetlandsExcel?form=Wetland Determination Data Form- Arid West Region&id=ed4e0983-1e12-4121-8dca-a208e0052a3c
Generate All Reports	https://api.esassoc.net/api/reports/WetlandsExcelZip?form=Wetland Determination Data Form- Arid West Region&id=ed4e0983-1e12-4121-8dca-a208e0052a3c
Project Name	Valencia Middle Retaining Wall
City/County	Los Angeles County
State	California
Investigator(s)	Robbie Sweet
Sampling Date	2024-01-31
Sampling Point	DP3
Applicant/Owner	LACSD
Section/Township/Range	Na
Landform	Channel (active)
Local Relief	Convex
Slope %	2
Subregion (LRR)	LRR-C
Soil Map Unit Name	Na
NWI Classification	Riverine
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes
Are Vegetation significantly disturbed?	No
Are Vegetation naturally problematic?	No
Are Soil significantly disturbed?	No
Are Soil naturally problematic?	No
Are Hydrology significantly disturbed?	Yes
Are Hydrology naturally problematic?	No
Are normal circumstances present?	Yes

Vegetation

Tree Stratum

Plot Size	30
Plot dimensions	ft/radius

Tree Stratum 1

Tree Stratum 1	Arundo donax , FACW, Giant-Reed
Tree Species 1	Arundo donax
Absolute % Cover 1	45
Indicator Status 1	FACW
Dominant Species 1	Yes

Tree Stratum 2

Dominant Species 2	No
--------------------	----

Tree Stratum - Manual Entry

Tree Stratum 4	Populus fremontii
Absolute % Cover 4	5
Indicator Status 4	FACW
Dominant Species 4	No

Tree Stratum Totals

Tree Stratum Total % Cover	50
Tree 50	25
Tree 20	10

Sapling/Shrub Stratum

Plot Size	30
Plot dimensions	ft/radius

Sapling/Shrub Stratum Totals

Sapling/Shrub Stratum Total % Cover	0
Sapling/Shrub 50	0
Sapling/Shrub 20	0

Herb Stratum

Plot Size	5
Plot dimensions	ft/radius

Herb Stratum 1

Herb Stratum 1	Urtica dioica , FAC, Stinging Nettle
Herb Species 1	Urtica dioica
Absolute % Cover 1	3
Indicator Status 1	FAC
Dominant Species 1	Yes

Herb Stratum Totals

Herb Stratum Total % Cover	3
Herb 50	1.5
Herb 20	0.6

Woody Vine Stratum

Plot Size	30
Plot dimensions	ft/radius

Woody Vine Stratum Totals

Woody Vine Stratum Total % Cover	0
----------------------------------	---

Vegetation Photos



Prevalence Index Worksheet

Total % Cover of OBL species:	0
OBL x1	0
Total % Cover of FACW species:	45
FACW x2	90
Total % Cover of FAC species:	3
FAC x3	9
Total % Cover of FACU species:	0
FACU x4	0
Total % Cover of UPL species:	0
UPL x5	0
Prevalence Column A Total:	48

Prevalence Column B Total: 99

Dominance/Prevalence Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC:	2
Number of Dominant Species across all Strata:	2
Percent of Dominant Species That are OBL, FACW, or FAC:	100
Prevalence Index =	2.06

Hydrophytic Vegetation Indicators:

1 Dominance Test is >50%	Yes
2 Prevalence Index is ≤ 3.0	Yes
3 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	No
4 Problematic Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet)	No
Hydrophytic Vegetation Present?	No

Soil

Profile Description:

Soil Horizon 1

Depth Top (Inches)1	10
Depth Bottom (Inches)1	8
Matrix Color (moist) 1	10YR 3/2
Matrix % 1	90
Redox Color (moist) 1	7.5YR 5/8
Redox % 1	10
Redox Type 1	C
Redox Location 1	M
Texture 1	Silty clay loam

Soil Horizon 2

Depth Top (Inches) 2	8
Depth Bottom (Inches) 2	0
Matrix Color (moist) 2	7.5YR 4/4
Matrix % 2	95
Redox Color (moist) 2	7.5YR 5/8
Redox % 2	5
Redox Type 2	C
Redox Location 2	M
Texture 2	Sand
Hydric Soil Indicators:	Sandy Redox (S5)
Hydric Soil Present?	Yes

Soil Photos



Hydrology

Wetland Hydrology Indicators

Primary Indicators

Saturation (A3), High Water Table (A2), Surface Water (A1)

Field Observation:

Surface Water Present? Yes

Surface Water Depth (Inches) 0

Water Table Present? Yes

Water Table Depth (Inches) 0

Saturation Present? Yes

Saturation Depth (Inches) 0

Wetland Hydrology Present? Yes

Hydrology Photos



Summary of Findings

Hydrophytic Vegetation Present? no

Hydric Soil Present? yes

Wetland Hydrology Present? yes

Is the Sampled Area within a Wetland? Yes

DP4, Robbie Sweet, Valencia Middle Retaining Wall

Created	2024-01-31 23:54:43 UTC by SC Fulcrum09
Updated	2024-02-01 00:01:47 UTC by SC Fulcrum09
Location	34.43043714233333, -118.59277058783333

Project Information

Generate Single Report	https://api.esassoc.net/api/reports/WetlandsExcel?form=Wetland Determination Data Form- Arid West Region&id=535e356f-28fb-434c-a4dd-c4252cda1a23
Generate All Reports	https://api.esassoc.net/api/reports/WetlandsExcelZip?form=Wetland Determination Data Form- Arid West Region&id=535e356f-28fb-434c-a4dd-c4252cda1a23
Project Name	Valencia Middle Retaining Wall
City/County	Los Angeles County
State	California
Investigator(s)	Robbie Sweet
Sampling Date	2024-01-31
Sampling Point	DP4
Applicant/Owner	LACSD
Section/Township/Range	Na
Landform	Floodplain
Local Relief	Concave
Slope %	2
Subregion (LRR)	LRR-C
Soil Map Unit Name	Na
NWI Classification	Riverine
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes
Are Vegetation significantly disturbed?	No
Are Vegetation naturally problematic?	No
Are Soil significantly disturbed?	No
Are Soil naturally problematic?	No
Are Hydrology significantly disturbed?	No
Are Hydrology naturally problematic?	No
Are normal circumstances present?	Yes



Vegetation

Tree Stratum

Plot Size	30
Plot dimensions	ft/radius

Tree Stratum 1

Tree Stratum 1	Arundo donax , FACW, Giant-Reed
Tree Species 1	Arundo donax
Absolute % Cover 1	60
Indicator Status 1	FACW
Dominant Species 1	Yes

Tree Stratum Totals

Tree Statum Total % Cover	60
Tree 50	30
Tree 20	12

Sapling/Shrub Stratum

Plot Size	30
Plot dimensions	ft/radius

Sapling/Shrub Stratum Totals

Sapling/Shrub Stratum Total % Cover	0
-------------------------------------	---

Sapling/Shrub 50	0
Sapling/Shrub 20	0

Herb Stratum

Plot Size	5
Plot dimensions	ft/radius

Herb Stratum Totals

Herb Stratum Total % Cover	0
Herb 50	0
Herb 20	0

Woody Vine Stratum

Plot Size	30
Plot dimensions	ft/radius

Woody Vine Stratum Totals

Woody Vine Stratum Total % Cover	0
----------------------------------	---

Vegetation Photos



Prevalence Index Worksheet

Total % Cover of OBL species:	0
OBL x1	0
Total % Cover of FACW species:	60
FACW x2	120
Total % Cover of FAC species:	0

FAC x3	0
Total % Cover of FACU species:	0
FACU x4	0
Total % Cover of UPL species:	0
UPL x5	0
Prevalence Column A Total:	60
Prevalence Column B Total:	120

Dominance/Prevalence Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC:	1
Number of Dominant Species across all Strata:	1
Percent of Dominant Species That are OBL, FACW, or FAC:	100
Prevalence Index =	2.0

Hydrophytic Vegetation Indicators:

1 Dominance Test is >50%	Yes
2 Prevalence Index is ≤ 3.0	Yes
Hydrophytic Vegetation Present?	No

Soil

Profile Description:

Soil Horizon 1

Depth Top (Inches)1	6
Depth Bottom (Inches)1	0
Matrix Color (moist) 1	7.5YR 4/4
Matrix % 1	100
Redox Color (moist) 1	7.5YR 4/4
Texture 1	Sand
Hydric Soil Present?	No

Soil Photos



Hydrology

Wetland Hydrology Indicators

Primary Indicators	Water-Stained Leaves (B9)
Secondary Indicators	Drift Deposits (B3) (Riverine)

Field Observation:

Surface Water Present?	No
Water Table Present?	No
Saturation Present?	No
Wetland Hydrology Present?	Yes

Hydrology Photos



Summary of Findings

Hydrophytic Vegetation Present?	no
Hydric Soil Present?	no
Wetland Hydrology Present?	yes
Is the Sampled Area within a Wetland?	No

Transect-1

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U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

From Approved -

OMB No. 0710-0025

Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: D202300435.00 Site Name: Valencia Middle Retaining Wall Date and Time: 12/19/23; 0930Location (lat/long): 34.430552, -118.597562 Investigator(s): Sonya Vargas, Robert Sweet

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- | | | |
|--|---|--|
| <input type="checkbox"/> gage data | <input type="checkbox"/> LIDAR | <input type="checkbox"/> geologic maps |
| <input type="checkbox"/> climatic data | <input checked="" type="checkbox"/> satellite imagery | <input type="checkbox"/> land use maps |
| <input type="checkbox"/> aerial photos | <input type="checkbox"/> topographic maps | <input type="checkbox"/> Other: _____ |

Describe land use and flow conditions from online resources.

Were there any recent extreme events (floods or drought)?

Recent wet season in summer causing flood events in August 2023.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

OHWM-1 taken at man-made concrete outlet structure, which had rapid flowing water at the time of survey from adjacent land use that is urban/industrial.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below 'b', at 'x', or just above 'a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- | | | |
|--|---|--|
| <input type="checkbox"/> Break in slope: | <input type="checkbox"/> Channel bar: | <input type="checkbox"/> erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.) |
| <input type="checkbox"/> on the bank: | <input type="checkbox"/> shelving (berms) on bar: | <input type="checkbox"/> Secondary channels: |
| <input type="checkbox"/> undercut bank: | <input type="checkbox"/> unvegetated: | Sediment indicators |
| <input type="checkbox"/> valley bottom: | <input type="checkbox"/> vegetation transition (go to veg. indicators) | <input type="checkbox"/> Soil development: |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> sediment transition (go to sed. indicators) | <input type="checkbox"/> Changes in character of soil: |
| <input checked="" type="checkbox"/> Shelving: | <input type="checkbox"/> upper limit of deposition on bar: | <input type="checkbox"/> Mudcracks: |
| <input type="checkbox"/> shelf at top of bank: | <input type="checkbox"/> Instream bedforms and other bedload transport evidence: | <input type="checkbox"/> Changes in particle-sized distribution: |
| <input type="checkbox"/> natural levee: | <input type="checkbox"/> deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.) | <input type="checkbox"/> transition from _____ to _____ |
| <input type="checkbox"/> man-made berms or levees: | <input type="checkbox"/> bedforms (e.g., pools, riffles, steps, etc.): | <input type="checkbox"/> upper limit of sand-sized particles |
| <input checked="" type="checkbox"/> other berms: <u>Concrete-lined channel</u> | | <input type="checkbox"/> silt deposits: |

Vegetation Indicators

- | | | |
|--|--|---|
| <input type="checkbox"/> Change in vegetation type and/or density: | <input type="checkbox"/> forbs to: | <input type="checkbox"/> Exposed roots below intact soil layer: |
| Check the appropriate boxes and select the general vegetation change (e.g., graminoids to woody shrubs). Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain. | <input type="checkbox"/> graminoids to: | Ancillary indicators |
| <input type="checkbox"/> vegetation absent to: | <input type="checkbox"/> woody shrubs to: | <input type="checkbox"/> Wracking/presence of organic litter: |
| <input type="checkbox"/> moss to: | <input type="checkbox"/> deciduous trees to: | <input type="checkbox"/> Presence of large wood: |
| | <input type="checkbox"/> coniferous trees to: | <input type="checkbox"/> Leaf litter disturbed or washed away: |
| | <input type="checkbox"/> Vegetation matted down and/or bent: | <input type="checkbox"/> Water staining: |
| | | <input type="checkbox"/> Weathered clasts or bedrock: |

Other observed indicators? Describe: concrete staining on channel sides containing algal growth.

Transsect 2

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U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

From Approved -

OMB No. 0710-0025

Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: D20230435.00 Site Name: Valencia Middle Retaining Wall Date and Time: 12/19/23

Location (lat/long): 34.430168, -118.592255 Investigator(s): Sanyal Vargas, Robert Sweet

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- ☐ gage data ☐ LIDAR ☐ geologic maps
☐ climatic data ☒ satellite imagery ☐ land use maps
☐ aerial photos ☐ topographic maps ☐ Other:

Describe land use and flow conditions from online resources.

Were there any recent extreme events (floods or drought)?

Recent wet season in summer causing flood events in Aug. 2023

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

OHWM-2 taken at man-made concrete outfall structure which had no flowing or standing water, but had evidence of previous flowing water from adjacent land use that is urban/industrial.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below 'b', at 'x', or just above 'a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- ☐ Break in slope:
☐ on the bank
☐ undercut bank
☐ valley bottom
☐ Other:
☒ Shelving:
☐ shelf at top of bank
☐ natural levee
☐ man-made berms or levees
☒ other berms: concrete outfall
- ☐ Channel bar:
☐ shelving (berms) on bar
☐ unvegetated:
☐ vegetation transition (go to veg. indicators)
☐ sediment transition (go to sed. indicators)
☐ upper limit of deposition on bar
☐ Instream bedforms and other bedload transport evidence:
☐ deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)
☐ bedforms (e.g., pools, riffles, steps, etc.):
- ☐ erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)
☐ Secondary channels:

Sediment indicators

- ☐ Soil development:
☐ Changes in character of soil:
☐ Mudcracks:
☐ Changes in particle-sized distribution:
☐ transition from to
☐ upper limit of sand-sized particles
☐ silt deposits:

Vegetation Indicators

- ☐ Change in vegetation type and/or density:
 Check the appropriate boxes and select the general vegetation change (e.g., graminoids to woody shrubs). Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.
☒ vegetation absent to:
☐ moss to:
- ☐ forbs to:
☒ graminoids to:
☐ woody shrubs to:
☐ deciduous trees to:
☐ coniferous trees to:
☐ Vegetation matted down and/or bent:
- ☐ Exposed roots below intact soil layer:

Ancillary indicators

- ☐ Wracking/presence of organic litter:
☐ Presence of large wood:
☐ Leaf litter disturbed or washed away:
☐ Water staining:
☐ Weathered clasts or bedrock:

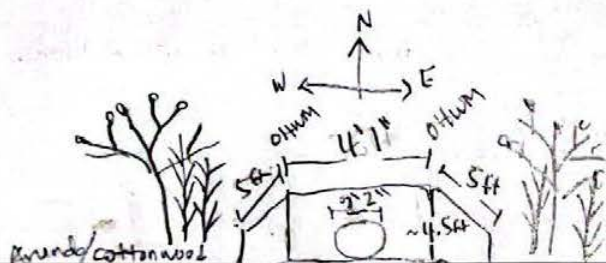
Other observed indicators? Describe: faint concrete staining on outlet & concrete sides.

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

faint water staining on outlet walls

Additional observations or notes



Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not:

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

[illegible]

Transect-3

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U.S. Army Corps of Engineers (USACE)
RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

From Approved -

OMB No. 0710-0025

Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: D202300435.00 Site Name: Valencia Middle Retaining Wall Date and Time: 12/19/23; 1200

Location (lat/long): 34.430446, -118.592271 Investigator(s): Sonyca Vargas, Robert Sweet

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- | | | |
|--|---|--|
| <input type="checkbox"/> gage data | <input type="checkbox"/> LiDAR | <input type="checkbox"/> geologic maps |
| <input type="checkbox"/> climatic data | <input checked="" type="checkbox"/> satellite imagery | <input type="checkbox"/> land use maps |
| <input type="checkbox"/> aerial photos | <input type="checkbox"/> topographic maps | <input type="checkbox"/> Other: _____ |

Describe land use and flow conditions from online resources.

Were there any recent extreme events (floods or drought)?

Recent wet season in summer causing flood events in Aug 2023.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in

vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

OHWM-3 taken downstream (south) of concrete outlet which had rapid flowing water at the time of survey from adjacent land use that is urban/industrial.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below 'b', at 'x', or just above 'a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic Indicators☒ Break in slope:☒ on the bank: X☐ undercut bank:☐ valley bottom:☐ Other: _____☒ Shelving:☒ shelf at top of bank: X☐ natural levee:☐ man-made berms or levees:☐ other berms: _____☒ Channel bar:☐ shelving (berms) on bar:☐ unvegetated:☒ vegetation transition (go to veg. indicators) b☐ sediment transition☐ (go to sed. indicators)☐ upper limit of deposition☐ on bar:☒ Instream bedforms and other bedload transport evidence:☒ deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.) b☐ bedforms (e.g., pools, riffles, steps, etc.):

☐ erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)

☐ Secondary channels:**Sediment indicators**☐ Soil development:☐ Changes in character of soil:☐ Mudcracks:☐ Changes in particle-sized distribution:☐ transition from _____ to _____☐ upper limit of sand-sized particles☐ silt deposits:**Vegetation Indicators**☒ Change in vegetation type and/or density:

Check the appropriate boxes and select the general vegetation change (e.g., graminoids to woody shrubs). Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.

☒ vegetation absent to: MOSS☒ moss to: forbs/herbs/graminoids☐ forbs to:☐ graminoids to:☐ woody shrubs to:☐ deciduous trees to:☐ coniferous trees to:☐ Vegetation matted down and/or bent:☒ Exposed roots below intact soil layer: b**Ancillary indicators**☒ Wracking/presence of organic litter: a☒ Presence of large wood: b☐ Leaf litter disturbed or washed away:☐ Water staining:☐ Weathered clasts or bedrock:

Other observed indicators? Describe:

Transect 4

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Project ID #: D202300435.00 Site Name: Valencia Middle Retaining Wall Date and Time: 12/19/23;

Location (lat/long): 34.428455, -118.590612 Investigator(s): Sonya Vargas, Robert Snelb

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- ☐ gage data ☐ LIDAR ☐ geologic maps
☐ climatic data ☒ satellite imagery ☐ land use maps
☐ aerial photos ☐ topographic maps ☐ Other: _____

Describe land use and flow conditions from online resources.

Were there any recent extreme events (floods or drought)?

Recent wet season in summer causing flood events in Aug 2023.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in

vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc. OHWM is located adjacent to man-made riprap wall

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below 'b', at 'x', or just above 'a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- ☒ Break in slope:
☒ on the bank: X earthen left bank
☐ undercut bank:
☐ valley bottom:
☐ Other: _____
☒ Shelving:
☐ shelf at top of bank:
☐ natural levee:
☒ man-made berms or levees: a rip-rap right bank
☐ other berms: _____

- ☐ Channel bar:
☐ shelving (berms) on bar:
☐ unvegetated:
☐ vegetation transition (go to veg. indicators)
☐ sediment transition (go to sed. indicators)
☐ upper limit of deposition on bar:
☒ Instream bedforms and other bedload transport evidence:
☒ deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.) b
☐ bedforms (e.g., pools, riffles, steps, etc.):

- ☐ erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)

Secondary channels:

Sediment indicators

- ☐ Soil development:
☐ Changes in character of soil:
☐ Mudcracks:
☐ Changes in particle-sized distribution:
☐ transition from _____ to _____
☐ upper limit of sand-sized particles
☐ silt deposits:

Vegetation Indicators

- ☐ Change in vegetation type and/or density:
 Check the appropriate boxes and select the general vegetation change (e.g., graminoids to woody shrubs). Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.
☐ vegetation absent to:
☐ moss to:

- ☐ forbs to:
☐ graminoids to:
☐ woody shrubs to:
☐ deciduous trees to:
☐ coniferous trees to:
☐ Vegetation matted down and/or bent:

- ☐ Exposed roots below intact soil layer:

Ancillary indicators

- ☐ Wracking/presence of organic litter:
☐ Presence of large wood:
☐ Leaf litter disturbed or washed away:
☐ Water staining:
☐ Weathered clasts or bedrock:

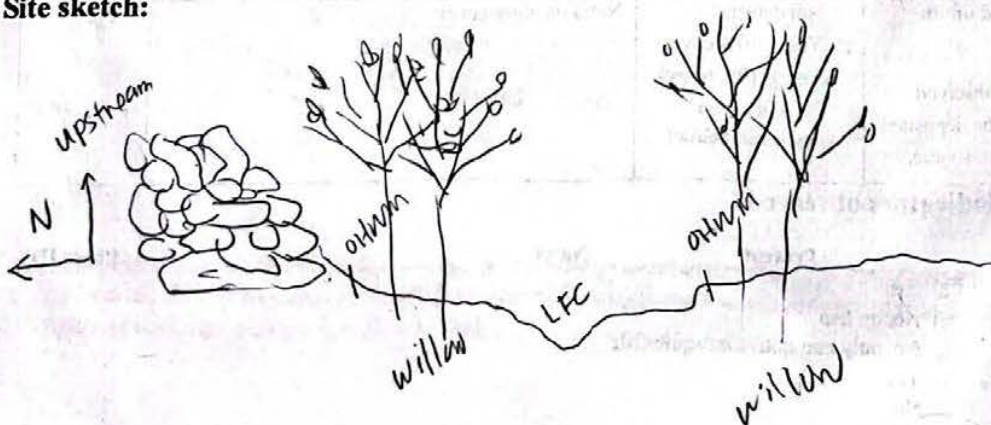
Other observed indicators? Describe:

Beta Arid West Streamflow Duration Assessment Method

General site information

Project name or number: <u>D202300435.00 Valencia Middle Retaining wall</u>		
Site code or identifier: <u>D2</u>	Assessor(s): <u>Smya Vargas, Robert Sweet</u>	
Waterway name: <u>Santa Clara River</u>		Visit date: <u>12/19/23</u>
Current weather conditions (check one) <input type="checkbox"/> Storm/heavy rain <input type="checkbox"/> Steady rain <input type="checkbox"/> Intermittent rain <input type="checkbox"/> Snowing <input checked="" type="checkbox"/> Cloudy (100% cover) <u>overcast</u> <input type="checkbox"/> Clear/Sunny	Notes on current or recent weather conditions (e.g., precipitation in previous week): <u>Total precip on 12/18/23 was 0.05"</u>	Coordinates at downstream end (decimal degrees): Lat (N): <u>34.428555</u> Long (W): <u>-118.591298</u> Datum: <u>WGS 84</u>
Surrounding land-use within 100 m (check one or two): <input checked="" type="checkbox"/> Urban/industrial/residential <input type="checkbox"/> Agricultural (farmland, crops, vineyards, pasture) <input type="checkbox"/> Developed open-space (e.g., golf course) <input checked="" type="checkbox"/> Forested (<u>FLW, FCAF</u>) <input type="checkbox"/> Other natural <input type="checkbox"/> Other:		Describe reach boundaries: <u>Downstream end has approx. 7' wide low flow channel and is relatively flat/unvegetated up to bottom bordered by willows before reaching rap wall.</u>
Mean channel width (m) <u>7 feet → 2.1336 m</u>	Reach length (m): <small>40x width; min 40 m; max 200 m.</small> <u>400 ft → 121.92 m</u>	Enter photo ID, or check if completed Top down: <input checked="" type="checkbox"/> Mid up: <input checked="" type="checkbox"/> Mid down: <input checked="" type="checkbox"/> Bottom up: <input checked="" type="checkbox"/> <u>Appendix C</u>
Disturbed or difficult conditions (check all that apply): <input type="checkbox"/> Recent flood or debris flow <input type="checkbox"/> Stream modifications (e.g., channelization) <input type="checkbox"/> Diversions <input checked="" type="checkbox"/> Discharges <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Vegetation removal/limitations <input type="checkbox"/> Other (explain in notes) <input type="checkbox"/> None		Notes on disturbances or difficult site conditions:
Observed hydrology: <u>100</u> % of reach with <u>surface</u> flow <u>100</u> % of reach with <u>sub-surface</u> or <u>surface</u> flow <u>0</u> # of isolated pools		Comments on observed hydrology:

Site sketch:



1. Hydrophytic plant species

Record up to 5 hydrophytic plant species (FACW or OBL in the Arid West regional wetland plant list) within the assessment area: within the channel or up to one half-channel width. Explain in notes if species has an odd distribution (e.g., covers less than 2% of assessment area, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID, or check if photo is taken.

Check if applicable:




☐ No vegetation in assessment area

☐ No hydrophytes in assessment area

Species	Odd distribution?	Notes	Photo ID
Arroyo willow (<i>Salix lasiolepis</i>) - FACW Cottonwood (<i>Populus</i>)			AppC Photo 14

Notes on hydrophytic vegetation:

2 and 3. Aquatic invertebrates

<p>2. How many aquatic invertebrates are quantified in a 15-minute search?</p> <p>Number of individuals quantified: <input type="checkbox"/> None <input checked="" type="checkbox"/> 1 to 19 <input type="checkbox"/> 20 +</p> <p>(Do not count mosquitoes) <i>chironomidae midges</i></p> <p>Photo ID: <i>App C, Photo 13</i></p>	<p>3. Is there evidence of aquatic stages of EPT (Ephemeroptera, Plecoptera and Trichoptera)?</p> <p>Yes / No</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Ephemeroptera larva Image credit: Dieter Tracey</p> </div> <div style="text-align: center;">  <p>Plecoptera larva Tracey Saxby</p> </div> <div style="text-align: center;">  <p>Trichoptera larva Tracey Saxby</p> </div> </div>
--	---

Notes on aquatic invertebrates:

4. Algal Cover

<p>Are algae found on the streambed?</p> <p><input type="checkbox"/> Check if <u>all</u> observed algae appear to be deposited from an upstream source.</p>	<p><input type="checkbox"/> Not detected <input checked="" type="checkbox"/> Yes, < 10% cover <input type="checkbox"/> Yes, ≥ 10% (check Yes in single indicator below)</p>	<p>Notes on algae cover: <i>algae was found throughout reach growing on large rocks and leaves</i></p>	<p>Photo ID: <i>App C photo 12</i></p>
--	--	--	--

5. Are single indicators observed?

Indicator	Present	Notes	Photo ID
Fish	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, no fish <input type="checkbox"/> No, only non-native mosquitofish		
Algae cover ≥ 10%	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Supplemental information E.g., aquatic or semi-aquatic amphibians, snakes, or turtles; iron-oxidizing bacteria and fungi; etc.

Photo log

Indicate if any other photos taken during the assessment

Photo ID	Description

Additional notes about the assessment:

Classification: intermittent

1. Hydrophytic plant species	2. Aquatic invertebrates	3. EPT taxa	4. Algae	5. Single indicators • fish present • algae cover $\geq 10\%$	Classification
None	None	Absent	Absent	Absent	Ephemeral
			Present	Present	At least intermittent
	Few (1-19)	Absent	Absent	Absent	Less than Perennial
			Present	Present	At least intermittent
		Present	Absent		Intermittent
			Present		Perennial
	Many (20+)	Absent	Absent	Absent	Ephemeral
			Present	Present	At least intermittent
		Present	Absent	Absent	Ephemeral
			Present	Present	At least intermittent
Few (1-2)	None				Intermittent
	Few (1-19)	Absent			Intermittent
		Present	Absent		Intermittent
	Many (20+)	Absent	Present		Perennial
		Present	Absent		Intermittent
			Present		Perennial
	Many (20+)	Present	Absent		Perennial
			Present		Intermittent
Many (3+)	None				Intermittent
	Few (1-19)	Absent	Absent		Intermittent
		Present	Present		Perennial
	Many (20+)				Perennial
	Many (20+)				Perennial

Shading provided to enhance readability by increasing the contrast between neighboring cells; empty cells indicate the classification will not change with additional information however it is recommended that all five indicators be measured and recorded during every assessment.

Appendix D

Cultural Resources Assessment Report

VALENCIA WATER RECLAMATION PLANT MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT, LOS ANGELES COUNTY, CALIFORNIA

Cultural Resources Assessment Report

Prepared for
Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90601

June 2024



VALENCIA WATER RECLAMATION PLANT MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT, LOS ANGELES COUNTY, CALIFORNIA

Cultural Resources Assessment Report

Prepared for
Santa Clarita Valley Sanitation District
1955 Workman Mill Road
Whittier, CA 90601

June 2024

Prepared by
ESA
626 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017

Project Director:
Nicolle Ianelli Steiner

Report Authors:
Fatima Clark, B.A.
Shannon Papin, M.A.,
Valerie Smith, M.S.

Project Location:
Newhall (CA) USGS 7.5-minute Topographic Quad
Township 4 North, Range 16 West, Unsectioned

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Suite 1100
Los Angeles, CA 90017
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esassoc.com



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EXECUTIVE SUMMARY

Environmental Science Associates (ESA) has been retained by the Santa Clarita Valley Sanitation District (SCVSD) to conduct a cultural resource assessment for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (Project) in support of an Environmental Impact Report (EIR). The SCVSD operates the VWRP located at 28185 The Old Road in the Valencia neighborhood of Santa Clarita. SCVSD has determined through previous studies that under a Capital Storm event, the VWRP has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. The Project would include a new ground retaining wall structure to fortify the middle section of the wall and protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures: a 48-inch diameter outfall (Discharge Outfall 001) and an 18-inch diameter outfall (Discharge Outfall 002). An operations and maintenance area would be cleared around the existing outfall easements for continued use during long-term maintenance of the structures. Lastly, excavation would also be required approximately 15 feet north of the existing Outfall 001 in order to create trenches for a temporary bypass pipe alignment. The SCVSD is the lead agency pursuant to the California Environmental Quality Act (CEQA).

A record search was conducted on November 7, 2023, at the California Historical Resources Information System – South Central Coastal Information Center housed at California State University, Fullerton, and included a review of all recorded archaeological resources and previous studies within the Project Site and a 0.50-mile radius, and historic architectural resources within the Project Site and a 0.25-mile radius. A review of archaeological resources was also conducted in the immediate vicinity outside of the 0.50-mile radius. The records search results indicate that approximately 75 percent of the area in the 0.50-mile radius has been included in previous cultural resources studies. Less than 10 percent of the Project Site has been previously included in a pedestrian survey, which yielded negative results. The record search results indicate that six cultural resources have been previously recorded within the 0.50-mile radius. Of the six resources, one is a protohistoric archaeological site/Chumash Native American village with burials and associated artifacts (CA-LAN-823); one is a historic-period archaeological site (P-19-4830) consisting of a building foundation; one is a historical landmark (P-19-186541) commemorating the 1842 gold discovery in Placerita Canyon; and three are historic architectural resources (P-19-190315, -192633, and -192643) consisting of two bridges and the VWRP. The additional archaeological review indicated that seven cultural resources are also located in the immediate vicinity of the 0.50-mile radius. Of the seven resources, one is a historic-period archaeological site (CA-LAN-961) consisting of the Newhall Ranch Headquarters built by pioneer Henry Newhall in 1878, and six are prehistoric archaeological resources (CA-LAN-4834, -4837, -4838, -4844, -4898, and -4899) consisting of lithic scatters.

The California Native American Heritage Commission (NAHC) conducted a Sacred Lands File (SLF) search on December 12, 2023, yielding positive results. The letter did not provide details on the resources identified within the Project Site but suggested contacting the Fernandeño Tataviam Band of Mission Indians for information. The SCVSD is conducting consultation with appropriate tribes per Assembly Bill 52 requirements to identify potential tribal cultural resources. The results of this consultation will be summarized in the EIR.

A cultural resources survey of the Project Site was conducted on December 28, 2023. Approximately 80 percent of the Project Site was subject to survey. The remaining 20 percent could not be surveyed due to safety hazards (heavy vegetation and riverine environments). Ground surface visibility in the areas surveyed ranged from approximately 15 to 90 percent, due to grass coverage, leaf litter, trees, and thick overgrowth. No archaeological resources were encountered.

No archaeological resources were identified within or immediately adjacent to the Project Site, but were found in the vicinity. The archaeological sensitivity assessment concluded that there is a moderate to high potential for encountering subsurface prehistoric archaeological resources and a low to moderate potential for finding subsurface historic-period archaeological resources. Since the Project includes ground disturbance, recommended mitigation measures are provided in the *Conclusions and Recommendations* section at the close of this report to reduce potential impacts to previously unknown archaeological resources and human remains to less than significant levels under CEQA.

No potential historic architectural resources were identified as a result of archival research and survey of the VWRP and retaining wall. Neither the retaining wall nor the outfall structures are recommended eligible for individual listing in the National Register and California Register under Criteria A/1 - D/4. The retaining wall is not 45 years old and is not eligible as a resource under CEQA. Although they date to the original period of construction, Outfall Structures 001 and 002 do not retain the required significance for eligibility as individual historical resources on either the National Register or the California Register. The VWRP is not eligible as a District. As such, neither the retaining wall nor the outfall structure and are contributors to a District, and do not qualify as historical resources under CEQA.

VALENCIA WATER RECLAMATION PLANT MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT

Cultural Resources Assessment Report

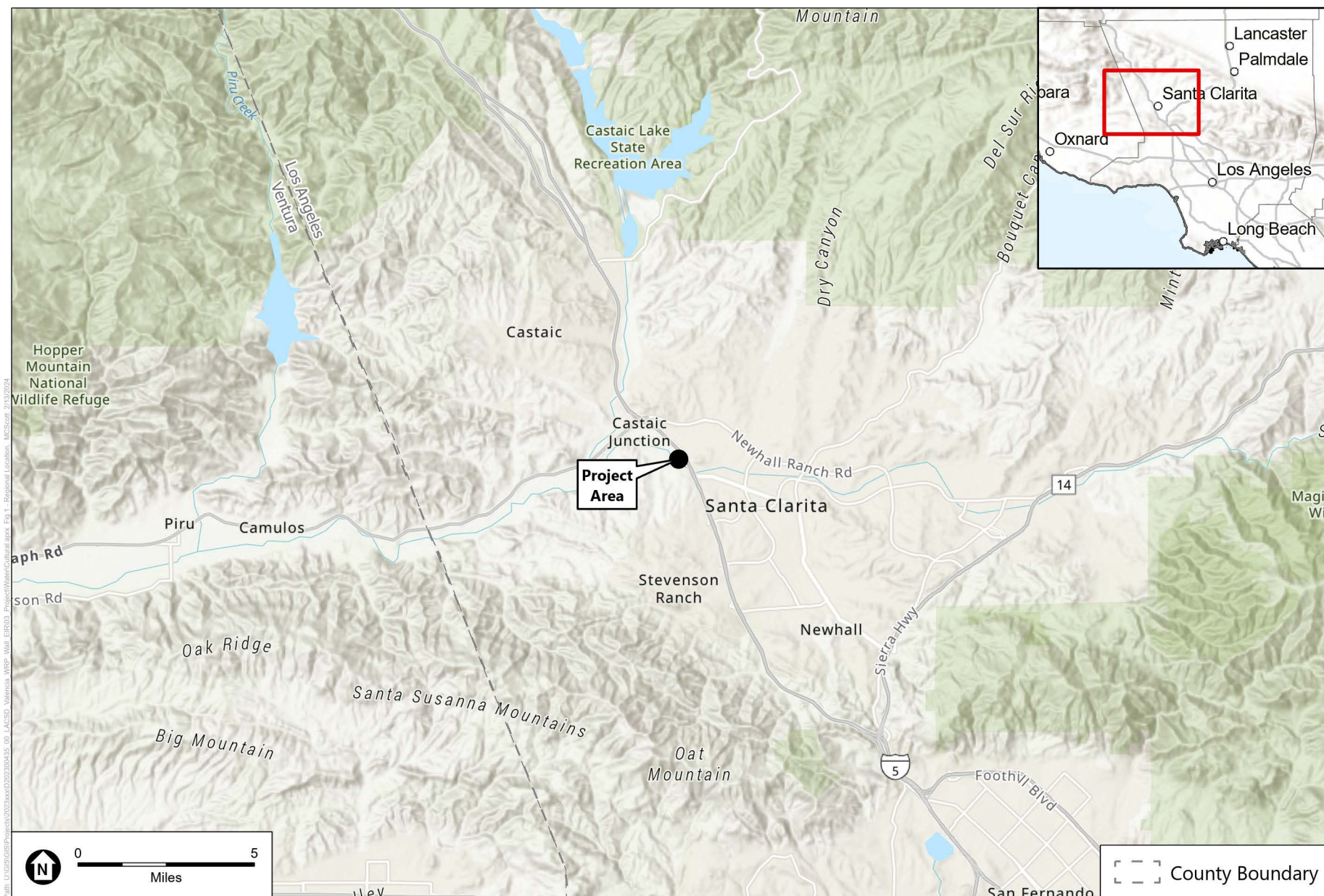
Introduction

Environmental Science Associates (ESA) has been retained by the Santa Clarita Valley Sanitation District (SCVSD or District) to conduct a cultural resources assessment for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (Project) in support of an Environmental Impact Report (EIR). The SCVSD operates the VWRP located at 28185 The Old Road in the Valencia neighborhood of Santa Clarita. SCVSD has determined through previous studies that under a Capital Storm event, the VWRP has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. The Project would include a new ground retaining wall structure and upgrades to the outfall structures. The SCVSD is the lead agency pursuant to the California Environmental Quality Act (CEQA).

ESA personnel involved in the preparation of this report are as follows: Nicolle Ianelli Steiner, Project Director; Fatima Clark, B.A., Shannon Papin, M.A., Valerie Smith, M.S., report authors; Dorian Miller, B.A., Shannon Papin, M.A., surveyor; and Chance Scott, GIS specialist. Resumes of key personnel are included in **Appendix A**.

Project Location

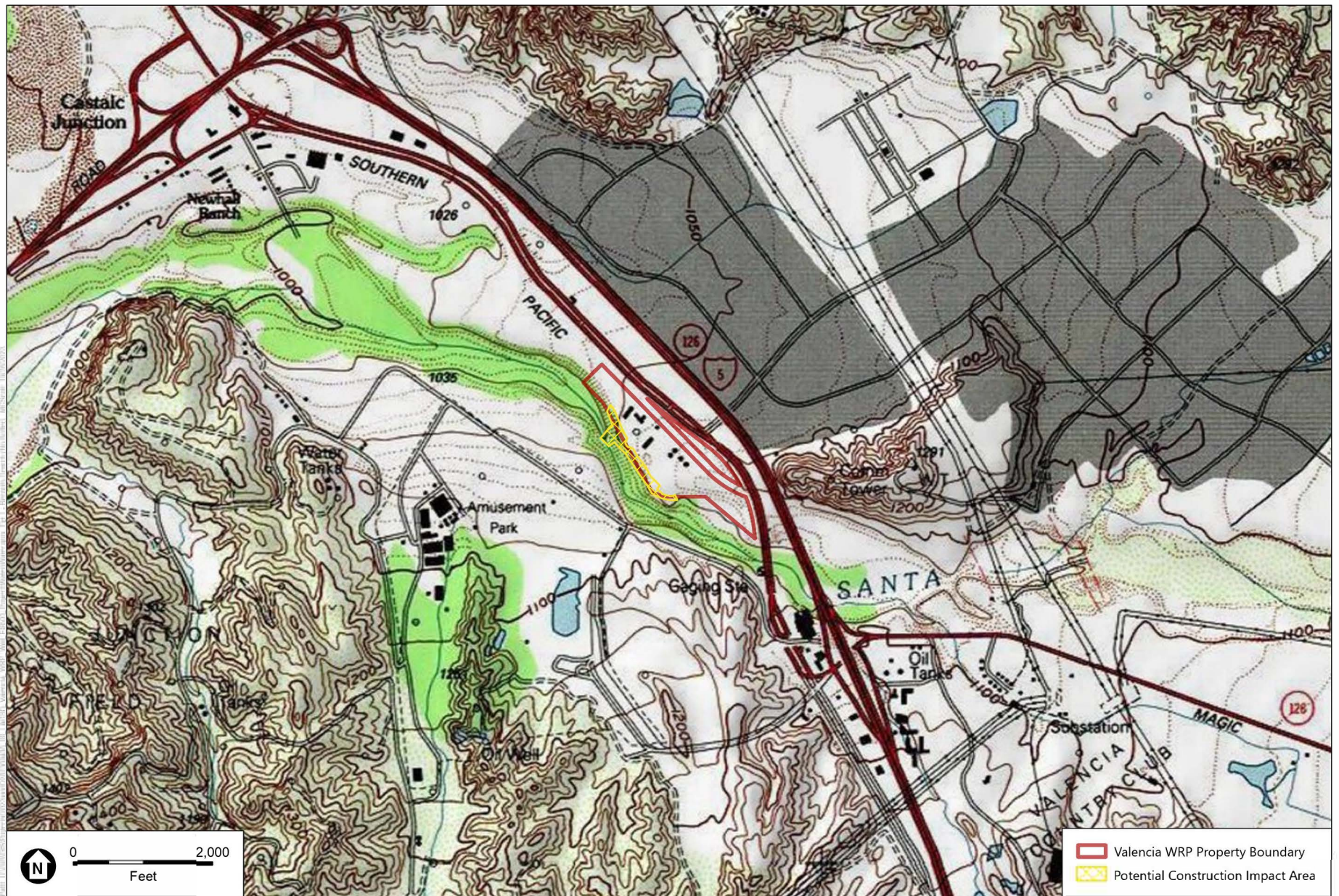
As previously mentioned, the VWRP is located at 28185 The Old Road in the Valencia neighborhood of Santa Clarita, in unincorporated Los Angeles County (**Figure 1**). The VWRP is bound by The Old Road to the north and adjacent commercial businesses to the northeast, the Santa Clara River and Santa Clara River Significant Ecological Area to the west and south, and Six Flags Magic Mountain amusement park to the southwest beyond the Santa Clara River. The proposed Project is situated in an unsectioned portion of Township 4 North, Range 16 West, of the Newhall, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (**Figure 2**).



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project

Figure 1
Regional Location



SOURCE: ESA, 2023; USGS, 2023

TopoQuad: Newhall, 1970

LACSD Valencia WRP Wall EIR

Figure 2
Local Vicinity Map

Project Description

The Project would include a new ground retaining wall structure to fortify approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary to protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures: a 48-inch diameter outfall (Discharge Outfall 001) and an 18-inch diameter outfall (Discharge Outfall 002). An operations and maintenance area would be cleared around the existing outfall easements for continued use during long-term maintenance of the structures. Lastly, excavation would also be required approximately 15 feet north of the existing Outfall 001 in order to create trenches for a temporary bypass pipe alignment. The temporary bypass pipe would be connected to an existing, buried portion of Discharge Outfall 001 and redirected towards the riverbank to discharge into an existing concrete channel. Excavation depth would be approximately 10 feet below grade towards the discharge location and approximately 10 feet wide, with the total length of the bypass pipe alignment at 251 feet.

Setting

Prehistoric Setting

The chronology of Southern California is typically divided into three general time periods: the Early Holocene (9,600 cal B.C. to 5,600 cal B.C.), the Middle Holocene (5,600 cal B.C. to 1,650 cal B.C.), and the Late Holocene (1,650 cal B.C. to cal A.D. 1769). This chronology is manifested in the archaeological record by particular artifacts and burial practices that indicate specific technologies, economic systems, trade networks, and other aspects of culture.

While it is not certain when humans first came to California, their presence in Southern California by about 9,600 cal B.C. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 9,150 and 9,000 cal B.C. (Byrd and Raab, 2007). During the Early Holocene (9,600 cal B.C. to 5,600 cal B.C.), the climate of Southern California became warmer and more arid and the human populations, who were represented by small hunter gathers until this point and resided mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

During the Late Holocene (1,650 cal B.C. to cal A.D. 1769), many aspects of Millingstone culture persisted, but a number of socioeconomic changes occurred (Erlandson, 1994; Wallace 1955; Warren, 1968). The native populations of Southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Increasing population size necessitated the intensified use of existing terrestrial and marine resources (Erlandson, 1994). Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence, towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). Between about A.D. 800 and A.D. 1350, there was an episode of sustained drought, known as the Medieval Climatic Anomaly (MCA) (Jones et al., 1999). While this climatic event did not appear to reduce the human population, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources.

Given the increasing sedentism and growing populations during the Late Holocene, territorial conscription and competition became acute. Primary settlements or village sites were typically established in areas with available freshwater, and where two or more ecological zones intersected (McCawley, 1996). This strategic placement of living space provided a degree of security in that when subsistence resources associated with one ecological zone failed, the resources of another could be exploited (McCawley, 1996). Villages typically claimed and carefully defended fixed territories that may have averaged 30-square miles in size encompassing a variety of ecological zones that could be exploited for subsistence resources (McCawley, 1996).

The Late Holocene marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Trade during this period reached its zenith as asphaltum (tar), seashells, and steatite were traded from Catalina Island (*Pimu* or *Pimugna*) and coastal Southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow sometime after cal A.D. 500, which largely replaced the use of the dart and atlatl (Byrd and Raab, 2007).

Ethnographic Setting

The Project Site is located within the territory traditionally assigned to the Tataviam.

Tataviam

The Project Site is located within the territory traditionally occupied by the Tataviam. Tataviam territory was concentrated along the upper reaches of the Santa Clara River drainage between the San Fernando Valley on the south and Pastoria Creek in the Tehachapi Mountains to the north. Their territory also included east Piru Creek and the southern slopes of Sawmill and Liebre Mountains, and also extended into the southern end of the Antelope Valley (King and Blackburn, 1978). Tataviam territory was bounded by the Gabrielino to the south, the Serrano to the east, the Kitanemuk to the northeast, the Emigdiano Chumash to the north, and the Ventureño Chumash to the west.

There are few historical sources regarding the Tataviam. The word “Tataviam” most likely came from a Kitanemuk word that may be roughly translated as “people of the south-facing slope,” due to their settlement on south-facing mountain slopes (King and Blackburn, 1978). The Chumash referred to them as “Alliklik” (Kroeber, 1925). What the Tataviam called themselves is not known. The Tataviam spoke a language that was part of the Takic branch of the Uto-Aztecan language family (King and Blackburn, 1978). The language was related to that spoken by the Gabrielino and Kitanemuk.

Tataviam villages varied in size from larger centers with as many as 200 people, to smaller villages with only a few families (King and Blackburn, 1978). At the time of Spanish contact, the Tataviam population is estimated to have been less than 1,000. Primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds. Small game such as antelope and deer supplemented these foods. Trade networks between inland groups such as the Tataviam, the coastal regions, and desert regions enabled the trade of exotic materials such as shell, asphaltum,

and steatite. The first European visit to Tataviam territory occurred in A.D. 1769 with the expedition of Gaspar de Portolá, and again in 1776 with the expedition of Friar Francisco Garcés.

Historic Setting

The first European presence in what is now southern California came in 1542, when Juan Rodriguez Cabrillo led an expedition along the coast. Europeans did not return until 1769, when the expedition of Gaspar de Portola traveled overland from San Diego to San Francisco. Juan Bautista de Anza is credited with the discovery of an inland route from Sonora to the northern coast of California in 1774, bringing him through much of present-day Riverside and San Bernardino counties (Greene, 1983; Rolle, 2003). With the opening of the overland route, Spanish pueblos were established, evolving into the Spanish system of governance.

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples (Horne and McDougall, 2003). The purpose of the missions was to encourage, by any means necessary, the assimilation of Native populations to adopt the Spanish customs, language, and religion. The mission strategy relied upon an agricultural economy and as such, locations selected for the construction of a mission depended upon three factors: arable soil for crops, an adequate supply of fresh water, and a large local Indian population for labor (Rolle, 2003).

In 1821 Mexico, which included much of present-day California, became independent from Spain, and during the 1820s and 1830s the California missions were secularized. Mission property was supposed to have been held in trust for the Native Californians, but instead was handed over to civil administrators and then into private ownership as land grants. After secularization, many former Mission Indians were forced to leave the Missions and seek employment as laborers, ranch hands, or domestic servants (Horne and McDougall, 2003). Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Californios (native Hispanic Californians), many of whom became wealthy and prominent members of society.

As a result of the Mexican American War (1846-1848) Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo in 1848. While the treaty recognized the right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007). California officially was admitted to the Union and became a part of the United States in 1850.

When the discovery of gold in northern California was announced in 1848, a huge influx of settlers from other parts of North America flooded into California. The increased population provided an additional market for the cattle industry that was established during the Spanish and Mexican periods. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during this period (McWilliams, 1946; Dinkelspiel, 2008). These droughts, coupled with the burden of proving ownership of their lands, caused many Hispanic-Californian landowners to lose their lands during

this period (McWilliams, 1946). Former ranchos were subsequently subdivided and sold for agriculture and residential settlement.

The first transcontinental railroad, known as the Pacific Railway, was completed in 1869 by the Union Pacific and Central Pacific railroads. It connected San Francisco with the eastern United States, and newcomers poured into northern California. Southern California experienced a trickle-down effect, as many of these new inhabitants made their way south. The Southern Pacific Railroad (originally Central Pacific) extended their line from San Francisco to Los Angeles in 1876. The second transcontinental line, the Santa Fe, was completed to Los Angeles in 1887 and caused a fare war, driving ticket prices to an unprecedented low, from \$125 a ticket from Chicago to Los Angeles down to a single, solitary dollar. Settlers flooded into southern California and the demand for property skyrocketed, boosting the population of Los Angeles from roughly 11,000 in 1880 to at least 50,000 by 1890. The populations of dozens of other nearby cities such as Pasadena, San Bernardino and Riverside shot up with it. As real estate prices soared, land that had been farmed for decades outlived its agricultural value and was sold to become residential communities, and a new word “Boom!” appeared to capture the real estate explosion (Sedgwick 2021). The subdivision of the large ranchos took place during this time (McWilliams, 1946; Meyer, 1981).

History of the Project Site and Surrounding Area

The Project Site is in the community of Valencia, in an unincorporated portion of Los Angeles County in the Santa Clarita Valley. The site was originally part of the Rancho San Francisco and land in the area was purchased by Thomas A. Scott and Thomas Bard, representatives of the California Petroleum Company in 1865. They sold 39,503 acres of land to San Francisco businessman Henry Mayo Newhall in 1875 (**Figure 3**). Newhall formed Newhall Ranch for cattle and crops in the western portion of the Santa Clarita Valley. He invested in the railroad industry and became the President of the San Francisco & San Jose Railroad. He sold his holdings in the San Francisco & San Jose Railroad to Southern Pacific Railroad (SPRR) and granted a right-of-way for the company to build a railroad through Newhall Ranch, extending the line to an area immediately east of the Project Site. He also granted a parcel of land to the railroad company to build a depot and subdivide land for the development of the town of Newhall, one of the earliest settlements in the area (Mello, 2018; Boston, 2009).

Typical of western towns in this period, oil was a major industry, drawing settlers to the area after it was discovered in nearby Pico Canyon (Boston, 2009). Mining was also an key industry in the area and was discovered before the land was acquired by Newhall. In 1842, Francisco Lopez Y Arballo discovered gold approximately nine miles southwest of the Project Site, a site which has been designated California Historical Landmark #168 (Ehringer, 2012). Other villages that developed around the Project Site in the Santa Clarita Valley were Saugus and Castaic, both situated along the transportation route of the railroad (Los Angeles County Department of Regional Planning, 2012). After Newhall’s death in 1882, his widow and five sons continued to operate the ranch and established the Newhall Land and Farming Company (**Figure 4**) (Boston, 2009).

In 1926, the St. Francis Dam was constructed in the Santa Clarita Valley, and an aqueduct extended over the eastern portion of the Newhall Ranch. Tragically, the dam failed in 1928, resulting in extensive flooding that destroyed large portions of farmland and houses in the area. It became known as “Mulholland’s Folly” and was one of the worst civil engineering failures in the nation during the 20th century. A new dam was constructed by the Los Angeles Department of Water and Power in Bouquet Canyon in 1932-1934 (City of Santa Clarita General Plan, 2011). Aerial imagery and topographic maps from the 1920s through the 1940s show the area surrounding the Project Site was mostly undeveloped and used for agricultural purposes with the railroad curving around the site to the east (**Figures 5-7**) (EDR 1928-1940).

Residential development spread throughout the suburban areas of Los Angeles in the post-World War II boom, and housing tracts began to develop in the greater Santa Clarita Valley area in the 1940s and 1950s (Mello 2018; HRG, 2009). A 1952 topographic map depicts oil tanks and water tanks to the southeast of the Project Site, and an oil well to the southwest during this time. Aerial imagery shows the area to the east, across Old Road had been subdivided but was still vacant with no building improvements (**Figure 8**) (EDR, 1952).

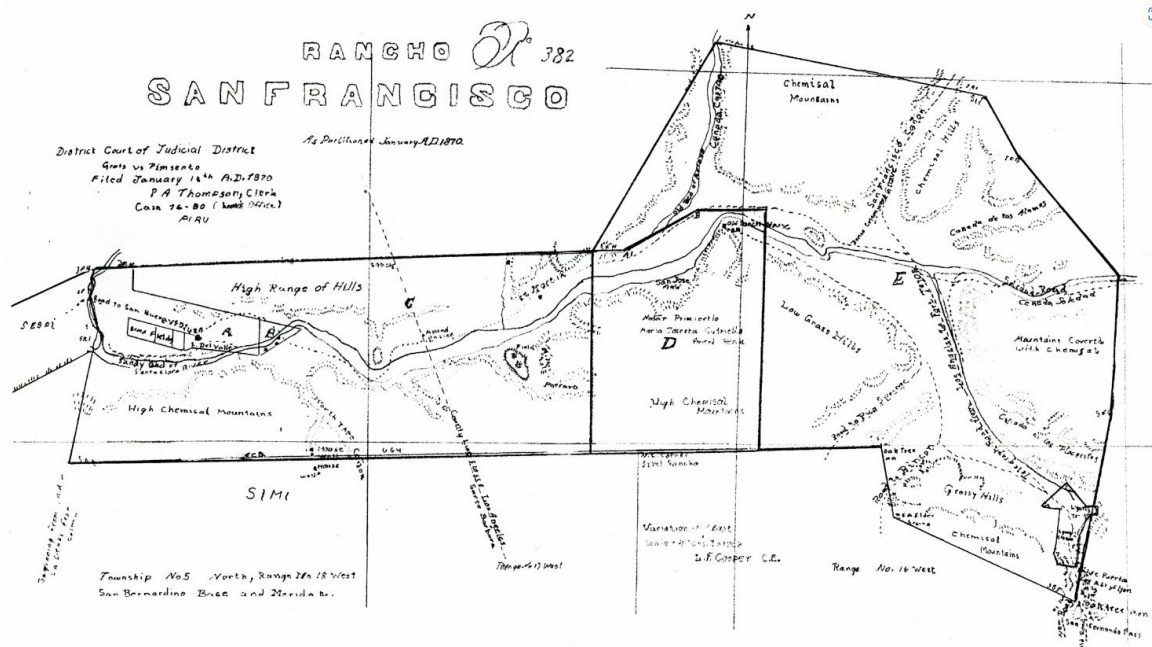
In the 1960s, the Santa Clarita Valley experienced rapid growth and new resident predictions by the Los Angeles Board of Supervisors were said to reach 70,000 by 1975. Interstate 5 (I-5), to the immediate east of the Project Site, was completed in 1968 and connected the San Fernando Valley to Los Angeles. This helped fuel growth in the area by making it more accessible and appealing for suburban development. Infrastructure improvements were needed to service new residents including sewage and water services. The growth was predicted to increase sewage to five million gallons daily, and new sewage water treatment facilities were needed (Mello, 2018).

Santa Clarita Valley became part of the Sanitation District of Los Angeles County in 1965. District 26, the Saugus Water Reclamation Plant, and District 32, the VWRP, were established in 1967. The Newell Land and Farming Company owned most of the surrounding area of the Project Site and developed the master planned community of Valencia in 1967. The area to the east of the Project Site also began to develop as an office park with some light industrial. An aerial image shows one large building, and a few smaller ones were constructed by 1969 (**Figure 9**) (Mello, 2018; EDR, 1969).

By the late 1980s, the area to the east of the Project Site in the I-5 corridor was developed with multiple office and light industrial buildings (**Figure 10**). The communities of Valencia, Saugus, Newhall, and Canyon Country merged to become the City of Santa Clarita. The Project Site remains in an unincorporated portion of the valley. Magic Mountain amusement park is located to the southwest of the Project Site (constructed in 1971) and is separated from the VWRP by a large amount of open green space. The green space became part of a conservation easement that was granted to the State of California in 1992 (EDR 1989; County Sanitation Districts of Los Angeles County, 2015; Mello, 2018, HRG, 2002).

In recent years, the Santa Clarita Valley has continued to experience suburban growth due to its affordability and proximity to Los Angeles. The area around the Project Site is agricultural and commercial to the north and south. The I-5 corridor consists of a business park with a few public

city service buildings for the City of Santa Clarita. The Magic Mountain amusement park is still in operation to the west and is separated from the Project Site by the previously mentioned open space easement (**Figure 11**) (County Sanitation Districts of Los Angeles County, 2015; Google 2023, EDR, 2020).



SOURCE: SCVHistory, ND

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

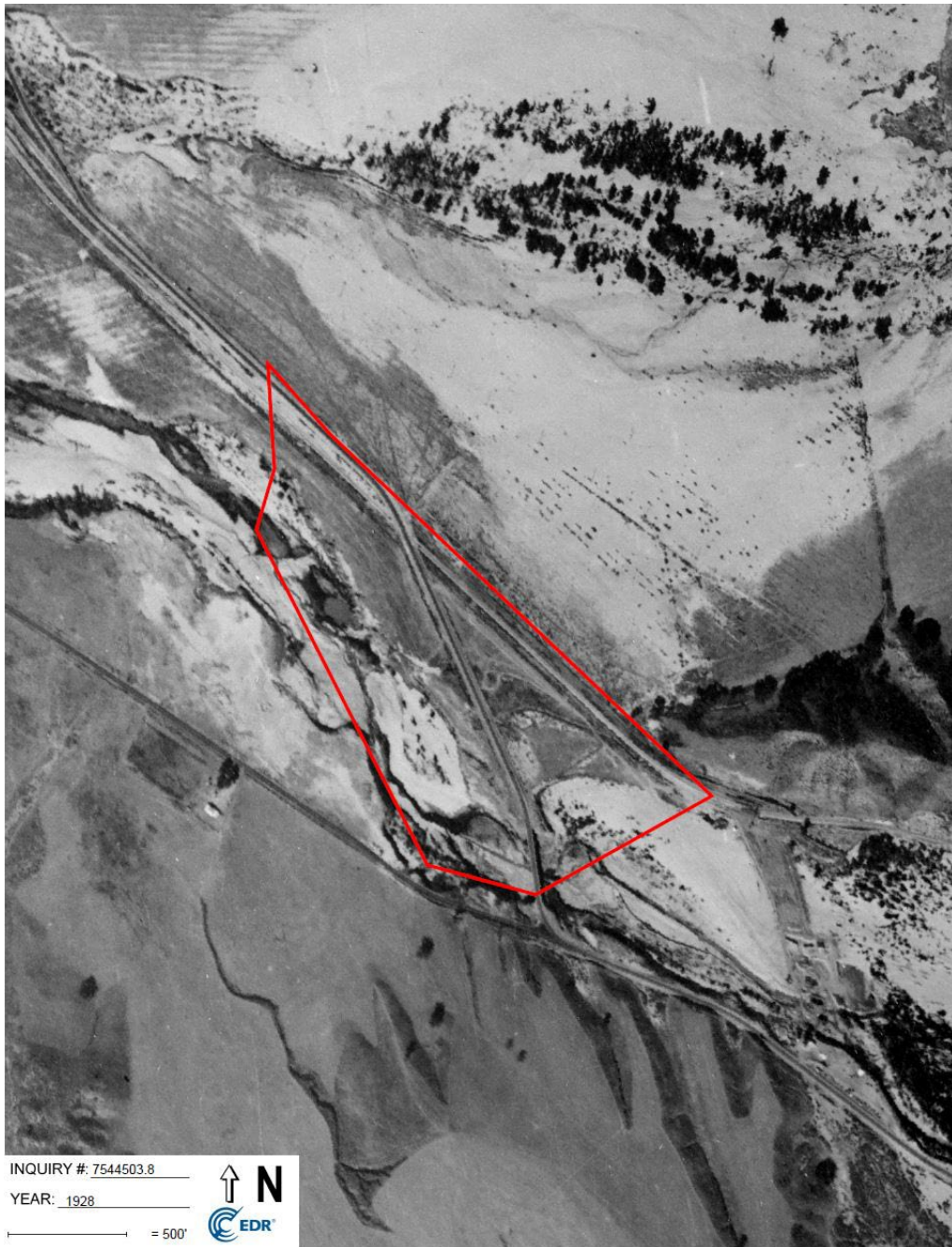
Figure 3
Map of the partitioned Rancho San Francisco, 1870



SOURCE: Ranch River, ND

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

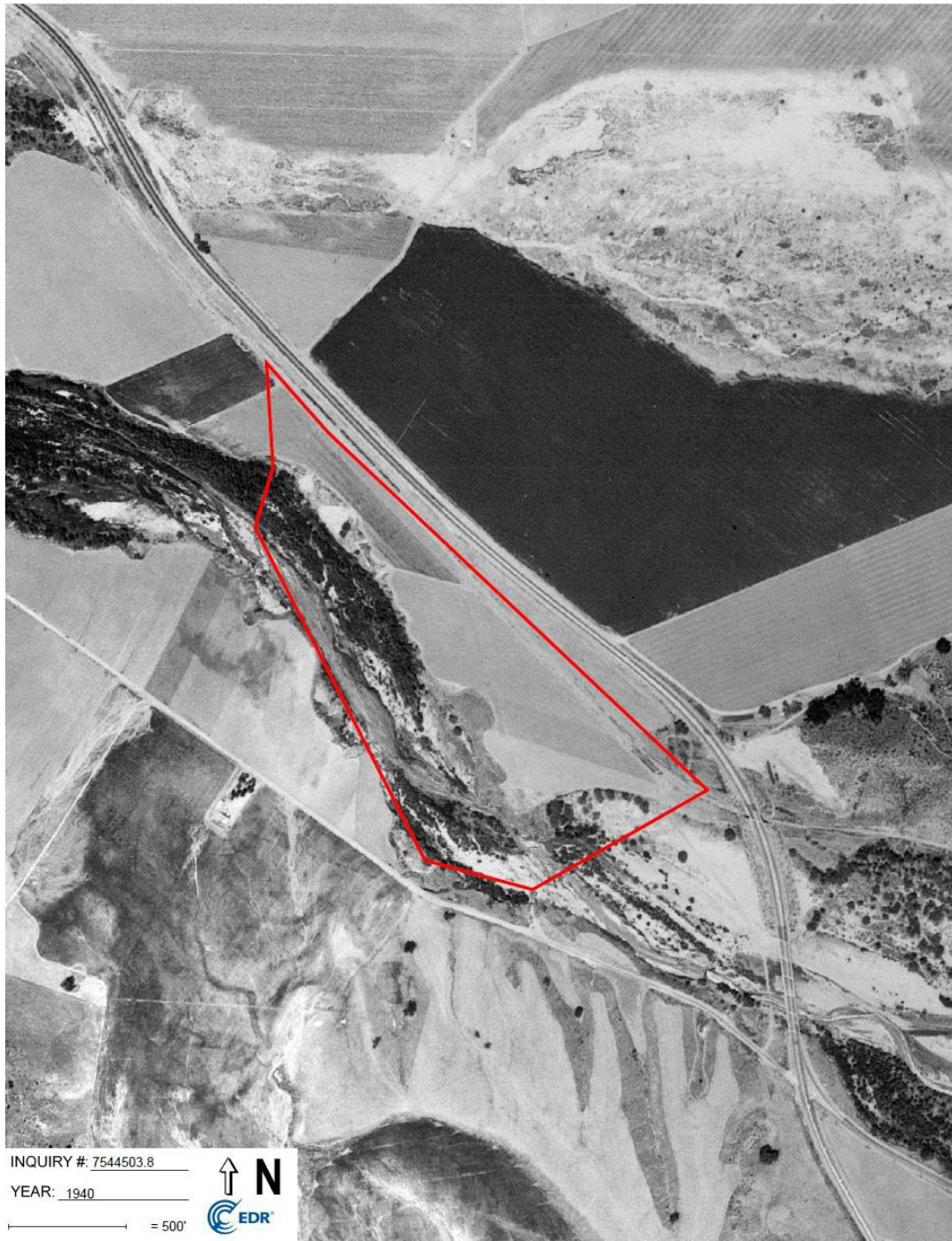
Figure 4
Stock certificate for Newhall Land & Farming
Company, c. 1883



SOURCE: EDR, 1928

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

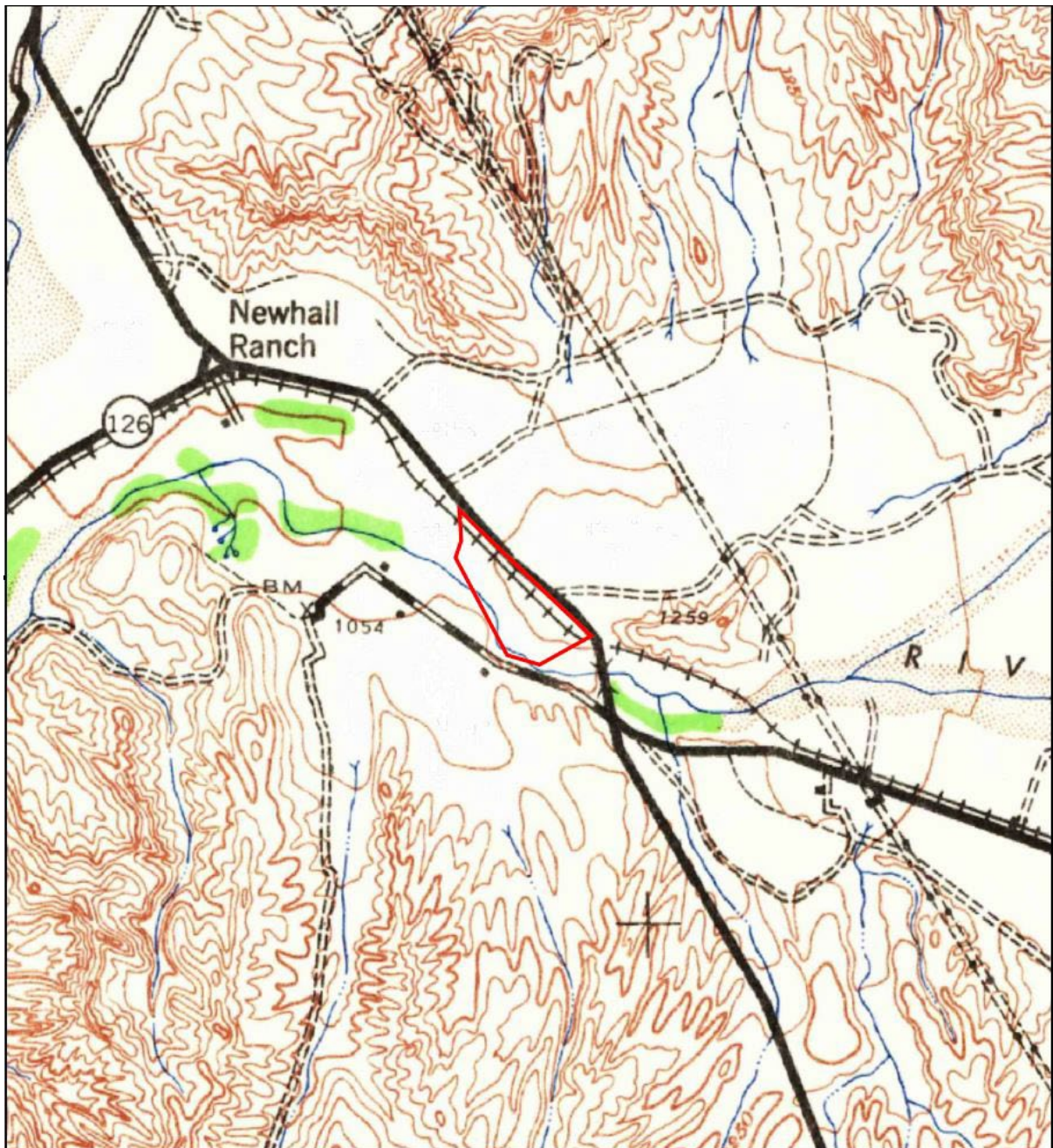
Figure 5
 Aerial imagery of Project Site (red) and the
 surrounding area, 1928



SOURCE: EDR, 1940

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 6
Aerial imagery of Project Site (red) and the
surrounding area, 1940



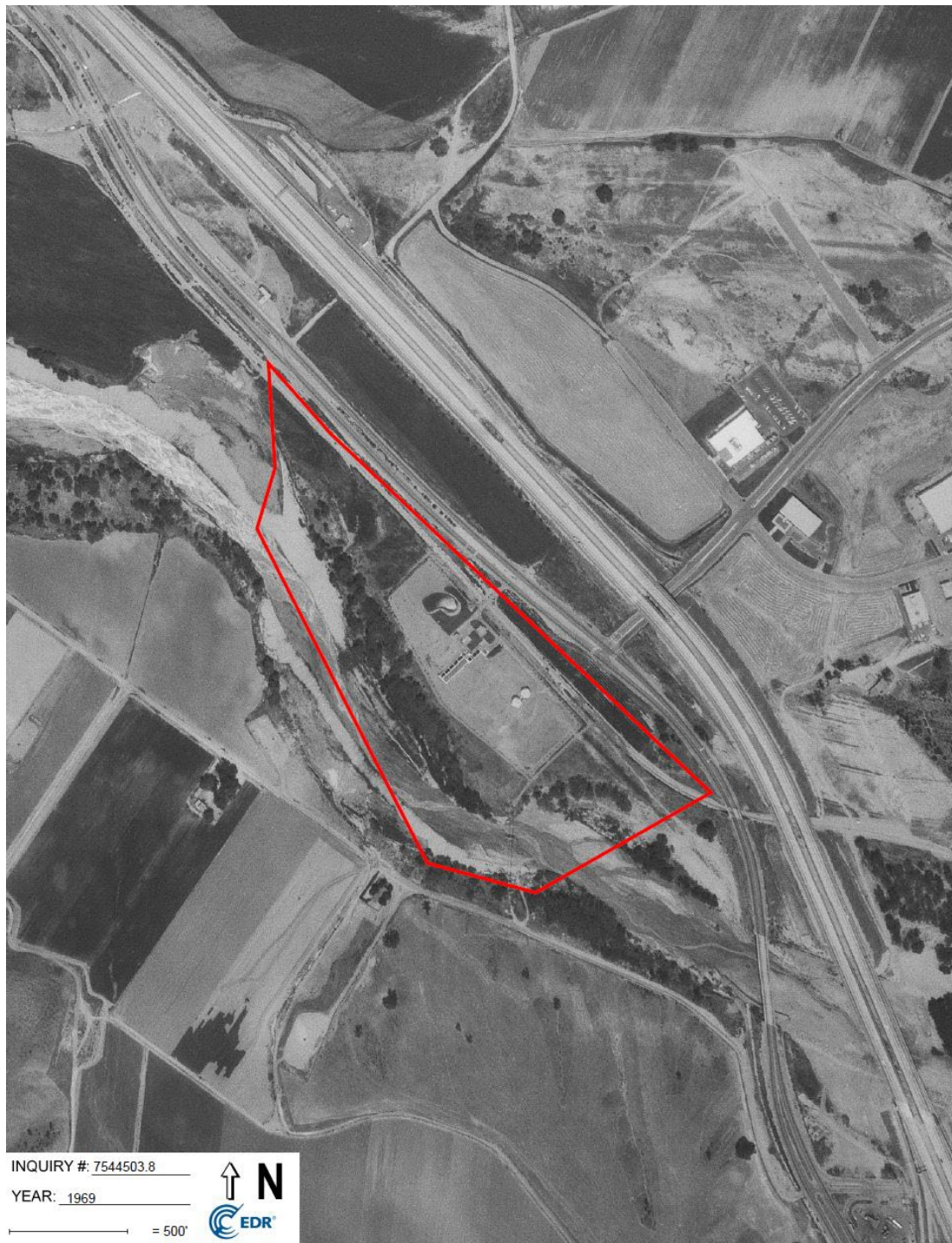
SOURCE: EDR, 1941

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 7
Topographic map of Project Site (red) and the
surrounding area, 1941

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

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SOURCE: EDR, 1969

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 9
Aerial image of the Project Site (red) and the surrounding area, 1969



SOURCE: EDR, 1989

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 10
Aerial image of the Project Site (red) and the
surrounding area, 1989



SOURCE: EDR, 2020

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 11
 Aerial image of the Project Site (red) and the
 surrounding area, 2020

History of the Valencia Water Reclamation Plant (VWRP)

Constructed from 1966-1967, the VWRP is a sprawling industrial complex situated on four irregularly shaped parcels that total approximately 27 acres. The original construction of the VWRP was made possible through a Los Angeles County sewer bond in the amount of \$750,000 and the James E Hoagland Construction Company was hired as the builder. A 1969 aerial image shows the site consisted of one main structure (the Control Building), a few ancillary structures, and two round tanks on the southwest portion of the site. By 1976, additional rectangular processing structures had been constructed on the northern portion of the site with additional tanks to the southwest. The early plant was constructed to be able to process 1.5 million gallons of sewage with sewers located in the industrial area east of I-5. Since the site was large, future expansion could occur, with the capability to eventually process 6 million gallons daily from Valencia, other nearby villages (**Figures 12-13**) (Mello, 2018; EDR 1969, 1976).

Significant changes occurred to the site, including additional structures and tanks between 1981 and 1989 as shown by aerial imagery (**Figures 14-15**) (EDR 1981, 1989). Another major change was a pipeline in 1984 that was constructed from the Saugus Water Reclamation Plant to the VWRP to assist with the sewage volume that was overloading the facilities at the Saugus Water Reclamation Plant (Mello, 2018). In 1991, a project to build a retaining wall on the southwestern portion of the VWRP along the Santa Clara River began, with various phases constructed over the next six to seven years. The *Signal* newspaper detailed that “the retaining wall will help protect the VWRP facilities by stabilizing the plant property through lateral support to the soil, thereby reinforcing the integrity of the foundation of the facilities” (Public Notices, 1991). The wall was constructed along the upper embankment and followed the natural contour of the landscape. The design was to contain a system of concrete reinforcement and a gravity system consisting of concrete modules and geogrids. In 1992, bids were solicited by Los Angeles County for a \$22 million renovation to the plant which included the construction of new structures and the removal/relocation of existing structures (Notice Inviting Bids, 1992). The site expanded to the west as shown in a 1994 aerial image (**Figure 16**) (EDR, 1994). As the site expanded, it was necessary to further protect the embankment along the river from erosion by constructing an additional reinforced soil retaining wall system on the northeast Santa Clara river bank in 1996 (State Water Resources Control Board, 1996).

The upgrades to the site after the initial construction in 1967 included the following facilities: Chlorination Building, Comminutor and Influent Pumping Station, steel digestion tanks, additional backwash equalization tanks, Power Generation Building, Sludge Dewatering Building, Digester and Filtrate Equalization tanks, Maintenance Building, and Flow Equalization Tank and Pump Station (Mello, 2018). The Valencia Reclamation plant underwent structural repairs in 1997 and an additional expansion in 2005, which included the installation of advanced treatment facilities with a cost of approximately \$87.3 million (Mello, 2018; Victaulic, ND). Today, the site contains over fifty processing and storage structures for a variety of purposes (**Figure 17-19**) (EDR 2020). The masonry retaining wall constructed circa 1991-1996 remains along the site creating a barrier between the Plant and the Santa Clara Riverbed and stabilizing the facility (**Figure 20**). As previously detailed, the open space area to the southwest of the Project Site is part of a conservation easement.



SOURCE: EDR, 1969

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 12
Aerial imagery of the VWRP, 1969



SOURCE: EDR 1976

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 13
Aerial imagery of the VWRP, 1976



SOURCE: EDR, 1981

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 14
Aerial imagery of the VWRP, 1981



SOURCE: EDR 1989

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 15
Aerial imagery of the VWRP, 1989



SOURCE: EDR, 1994

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 16
Aerial imagery of the VWRP, 1994



SOURCE: EDR 2020

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 17
Aerial imagery of the VWRP, 2020



SOURCE: ESA, 2023

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 18
The VWRP as it looks today



SOURCE: ESA, 2023

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 19
The VWRP as it looks today



SOURCE: ESA, 2023

VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 20
Aerial imagery of the retaining wall on the southwest portion of the site marked in yellow

Regulatory Framework

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from

determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired” (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

- A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Grimmer, 2017) is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines Section 15064.5[b][3]).

California Register of Historical Resources

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register of Historic Places (National Register) criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to “Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission.” Section 6254.10 specifically exempts from disclosure requests for “records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency.”

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days of receiving the tribe’s request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project’s impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2[b]).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3[d][2] and [3]).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native

American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

County of Los Angeles Historic Preservation Ordinance

Los Angeles County adopted a Historic Preservation Ordinance (HPO) in September of 2015. The HPO establishes criteria and procedures for the nomination, designation, and review of work on landmarks and property associated with historic districts.

The purpose of the HPO is to:

- Enhance and preserve the County's distinctive historic, architectural, and landscape characteristics that are part of the County's cultural, social, economic, political, and architectural history;
- Foster community pride in the beauty and noble accomplishments as represented by the County's historic resources;
- Stabilize and improve property values in and around the County's historic resources, and enhance the aesthetic and visual character and environmental amenities of these historic resources;
- Recognize the County's historic resources as economic assets and encourage and promote the adaptive reuse of these historic resources;
- Further establish the County as a destination for tourists and as a desirable location for business; and
- Specify significance criteria and procedures for the designation of landmarks and historic districts, and provide for the ongoing preservation and maintenance of these landmarks and historic districts.¹

The HPO also established the following criteria for designation of landmarks and historic districts (22.123.070).

Landmarks. A structure, site, object, tree, landscape, or natural land feature may be designated as a landmark if it is 50 years of age or older and satisfied one or more of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of the history of the nation, State, County, or community in which it is located;

¹ LA County, 22.124.020

- It is associated with the lives of persons who are significant in the history of the nation, State, County, or community in which it is located;
- It embodies the distinctive characteristics of a type, architectural style, period, or method of construction, or represents the work of an architect, designer, engineer, or builder whose work is of significance to the nation, State, County, or community in which it is located; or possesses artistic values of significance to the nation, State, County, or community in which it is located;
- It has yielded, or may be likely to yield, significant and important information regarding the prehistory or history of the nation, State, County, or community in which it is located;
- It is listed, or has been formally determined eligible by the United States National Park Service for listing, in the National Register of Historic Places, or is listed, or has been formally determined eligible by the State Historical Resources Commission for listing, on the California Register of Historical Resources;
- If it is a tree, it is one of the largest or oldest trees of the species located in the County; or
- If it is a tree, landscape, or other natural land feature, it has historical significance due to an association with a historic event, person, site, street, or structure, or because it is a defining or significant outstanding feature of a neighborhood.
- Property less than 50 years of age may be designated as a landmark if it meets one or more of the criteria set forth in Subsection A, above, and exhibits exceptional importance.
- The interior space of a property, or other space held open to the general public, including but not limited to a lobby, may be designated as a landmark or included in the landmark designation of a property if the space qualifies for designation as a landmark under Subsection A or B, above.

Historic Districts. A geographic area, including a noncontiguous grouping of related properties, may be designated as a historic district if all of the following requirements are met:

- More than 50 percent of owners in the proposed district consent to the designation;
- The proposed district satisfies one or more of the criteria set forth in Subsections A.1 through A.5, above; and
- The proposed district exhibits either a concentration of historic, scenic, or sites containing common character-defining features, which contribute to each other and are unified aesthetically by plan, physical development, or architectural quality; or significant geographical patterns, associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of parks or community planning.

Archival Research

SCCIC Records Search

A records search for the Project was conducted on November 7, 2023, at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search included a review of all recorded archaeological resources and previous studies within the Project Site and a 0.50-mile radius, and historic architectural resources within the Project Site and a 0.25-mile radius. Additional review of archaeological resources was also conducted for areas in the immediate vicinity of the 0.50-mile radius in order to get a better understanding of the archaeological resources in the area.

Previous Cultural Resources Investigations

The records search results indicate that 28 cultural resources studies have been conducted within a 0.50-mile radius of the Project Site. Approximately 75 percent of the 0.50-mile records search radius has been included in previous cultural resources assessments. Of the 28 previous studies, two (LA-10560, and -11143) have included the entirety or a portion of the Project Site, respectively. Nevertheless, these studies yielded negative results. These studies are discussed below.

LA-10560

Study LA-10560, *Upper Santa Clara River Watershed Arundo and Tamarisk Removal Program Long-Term Implementation Plan*, consisted of a records search, review of historic topographic maps, and Sacred Lands File search. This study included the entirety of the Project Site; however, a pedestrian survey was not part of the assessment. No resources were identified as part of the study (SWCA Environmental Consultants, 2005).

LA-11143

Study LA-11143, *Class III Inventory/Phase I Archaeological Survey of the Six Flags Magic Mountain Parking Lot and Bank Stabilization Project*, consisted of a records search and pedestrian survey. This study included a small portion of the northern Project Site (approximately less than 10 percent) and yielded negative results (W & S Consultants, 2010).

Previously Recorded Cultural Resources

The records search results indicate that six cultural resources have been previously recorded within the 0.50-mile radius. Of the six resources, one is a protohistoric archaeological site/Chumash Native American village with burials and associated artifacts (CA-LAN-823); one is a historic-period archaeological site (P-19-4830) consisting of a building foundation; one is a historical landmark (P-19-186541) commemorating the 1842 gold discovery in Placerita Canyon; and three are historic architectural resources (P-19-190315, -192633, and -192643) consisting of two bridges and the VWRP (**Table 1**).

The additional archaeological review indicates that seven cultural resources are also located in the immediate vicinity of the 0.50-mile radius. Of the seven resources, one is a historic-period archaeological site (CA-LAN-961) consisting of the Newhall Ranch Headquarters built by pioneer Henry Newhall in 1878; and six are prehistoric archaeological resources (CA-LAN-4834, -4837, -4838, -4844, -4898, and -4899) consisting of lithic scatters (**Table 2**).

TABLE 1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 0.50-MILE RADIUS

P-Number (P-19-)	Permanent Trinomial (CA-LAN-)	Description	Date Recorded	Eligibility Status
823	823	Protohistoric archaeological site: late Chumash village with nine burials and associated artifacts	1975; 1989	Unknown
4830	-	Historic-period archaeological site: building foundation from unknown structure	2016	Not Evaluated for the CR
186541	-	Historical Landmark #168: Oak of the Golden Dream Plaque, commemorates the 1842 gold discovery in Placerita Canyon	1959; 1980; 2012; 2018;	6Z
190315	-	Historic architectural resource: The Old Road Bridge over Santa Clara River	2012; 2018	6Z
192633	-	Historic architectural resource: Valencia Water Reclamation Plant	2018	6Z
192643	-	Historic architectural resource: The Old Road Bridge over Southern Pacific Railroad	2018	6Z

Source: SCCIC, 2023

NR = National Register; CR = California Register; 6Z = Found ineligible for NR, CR or local designation through survey evaluation.

TABLE 2
PREVIOUSLY RECORDED CULTURAL RESOURCES IN THE ADJACENT VICINITY OF 0.50-MILE RADIUS

P-Number (P-19-)	Permanent Trinomial (CA-LAN-)	Description	Date Recorded	Eligibility Status
961	961	Historic-period archaeological site: Newhall Ranch Headquarters, built in 1878 by Henry Newhall, pioneer in the area. Site reportedly covered by a paved parking lot	1978; 2010	Unknown
4834	4834	Prehistoric archaeological site: large lithic scatter	2017	Unknown
4837	4837	Prehistoric archaeological site: large lithic scatter	2017	Unknown
4838	4838	Prehistoric archaeological site: large lithic scatter	2017	Unknown
4844	4844	Prehistoric archaeological site: lithic scatter	2017	Unknown
4898	4898	Prehistoric archaeological site: large lithic scatter	2019	Unknown
4899	4899	Prehistoric archaeological site: large lithic scatter	2019	Unknown
Source: SCCIC, 2023				

Sacred Lands File Search

The NAHC maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on November 20, 2023, to request a search of the SLF. The NAHC responded to the request in a letter dated December 12, 2023, indicating that the results were positive and to contact the Fernando Tataviam Band of Mission Indians for information (**Appendix B**).

Geologic Map Review

The Project Site is mapped on the Dibblee and Ehrenspeck (1996) 1:24,000 geological map. The entire Project Site is underlain by Quaternary alluvium, composed of mixed sedimentary rocks of clay, sand and gravels (Dibblee and Ehrenspeck, 1996)

Cultural Resources Survey

Methods

On December 28, 2023, ESA archaeologist Dorian Miller, B.A. and Senior Architectural Historian Shannon Papin, M.A. conducted a cultural resources pedestrian survey of the potential construction impact area. The survey was aimed at identifying surface evidence of archaeological resources and documenting the existing conditions of the VWRP, the two associated outlet structures and retaining wall for evaluation as potential historic resources. ESA conducted research on the subject property's construction and occupancy history and analyzed its history within the context of the development of Valencia, and water reclamation services in Los Angeles County.

Preparation of the Report also involved a review of the National Register of Historic Places and its annual updates, the California Register of Historical Resources, the California Built Environment Resources Database (BERD) maintained by the State Office of Historic Preservation (OHP), and the California Historical Resources Information System South Central Coastal Information Center (SCCIC) housed at University of California, Fullerton. Sources were used to identify previously recorded properties within or near the subject property. In addition, other tasks performed for the study included:

- Conducted field inspections of the subject property and utilized the survey methodology of the State OHP.
- Photographed the subject property and associated landscape features and examined other properties in the vicinity that exhibited potential architectural and/or historical associations.
- Conducted site-specific research on the property utilizing building permits, Sanborn Fire Insurance Maps (Sanborn Maps), City directories, historical photographs, Online Archive of California, Calisphere, University of Southern California (USC) Digital Collections, the historical *Los Angeles Times*, and other published sources.
- Reviewed and analyzed ordinances, statutes, regulations, bulletins, and technical materials relating to federal, state, and local historic preservation, designation assessment processes, and related programs.
- Evaluated potential historical resources based upon criteria used by the National Register, and California Register.

Approximately 70 percent of the potential construction impact area was subject to systematic pedestrian survey using transect intervals spaced between 3 and 5 meters (approximately 9 to 16 feet) apart. Approximately 10 percent was subject to an opportunistic survey to identify any areas of visible ground surface. The remaining 20 percent (located in the northwestern portion of the potential construction impact area) could not be surveyed due to safety hazards (heavy vegetation and riverine environments).

Results

Visual inspection of the wall revealed that it is constructed of high-strength precast concrete wall blocks with textured, exposed aggregate faces. The blocks are coursed in horizontal rows,

forming a wall that contours along the irregularly edged site and graded topography. The wall ranges from a height of four feet to twelve feet. A portion of the wall near the tanks on the south corner of the site is terraced, providing extra stabilization. A metal fence surmounts the concrete block retaining wall. The easternmost portion of the potential construction impact area is characterized by three retaining walls. Flood control measures consisting of riprap/large boulders were identified along some segments of the retaining walls. Undeveloped land is located directly west of the retaining walls and is made up of mostly flat land, some hilly areas, and riverine environments (areas inundated with water). Ground surface visibility ranged from approximately 15 to 90 percent, due to grass coverage, leaf litter, trees, and thick overgrowth. The VWRP discharges treated water into the Santa Clara River via a 48-inch diameter outfall (Discharge Outfall 001) which is located approximately 150 feet west of the exterior wall of the facility. It is a modern concrete channel largely hidden within the undeveloped land, with an active stream of reclaimed water flowing into the Santa Clara River. A second structure located to the south, Discharge Outfall 002, discharges storm water overflow into the Santa Clara River via an 18-inch diameter outfall that may also be used for situational treated water discharges. Discharge Outfall 002 is not visible due to the significant amount of surrounding vegetation. Vegetation in the potential construction impact area is made up of nonnative grasses and plants, Fremont Cottonwood (*Populus fremontii*), various reeds, and other unidentified riverine plant species. Soils observed consist of light to dark brown, moist, soft, silty loam with a minimal gravel content. Higher gravel content and river cobbles are present in areas closest to the riverbed. Modern litter consisting of a variety of plastics was observed throughout. No archaeological resources were observed during the survey. The existing conditions of the potential construction impact area at the time of the pedestrian survey are shown in **Figures 21 - 27**.



SOURCE: ESA

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 21

Retaining wall consisting of precast concrete wall blocks with textured, exposed aggregate faces



SOURCE: ESA

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 22

Detail of the concrete block design of the retaining wall with textured faces created by exposed aggregate



SOURCE: ESA

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 23

Retaining wall with contours and terraced portions along the irregularly edged site



SOURCE: ESA

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 24

View of Discharge Outfall 001 which is located approximately 150 feet west of the exterior wall



SOURCE: ESA

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 25

View of Discharge Outfall 001 which is located approximately 150 feet west of the exterior wall



SOURCE: ESA

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 26

Overview of eastern portion of proposed Project impact area showing brick retaining walls and undeveloped land directly to the west (View Northwest)



SOURCE: ESA

Valencia WRP Middle Section Retaining Wall Ground Improvement Project

Figure 27

Overview of undeveloped land in the proposed Project impact area with limited ground surface visibility (View Southwest)

Archaeological Sensitivity

Prehistoric Archaeological Analysis

The potential for finding buried prehistoric archaeological deposits at the Project Site has been assessed based on the following concepts: 1) age of the underlying soil contemporaneous with period of human occupation of the area; 2) proximity to permanent or semi-permanent water sources capable of supporting long-term or seasonal occupation of the area; and 3) flat or gently sloped topography conducive to human habitation. Previous research conducted elsewhere in California has indicated that the presence of buried archaeological sites is positively correlated with proximity to water, as well as flat to gently sloped landforms (Meyer et al., 2010).

The geologic map review indicates that the entire Project Site is underlain by Quaternary alluvium. These sedimentary deposits date to the late Pleistocene and Holocene (11,700 years ago to present) – the period for which there is widely accepted evidence for human occupation of Southern California. The majority of the Project Site is located on a relatively flat area and immediately adjacent to the Santa Clara River, as observed in historic topographic maps and aerial photographs. The Santa Clara River could have provided a fresh water source to prehistoric inhabitants. A total of one Chumash Native American village with burials and associated artifacts (CA-LAN-823) is recorded within the 0.50-mile radius of the Project Site. Additional resources in the immediate vicinity of the 0.50-mile radius also include lithic scatters. In addition to the preceding information, the NAHC indicated that the SLF search results were positive for Native American cultural resources in the vicinity of the Project Site. Based on all of these factors, the Project Site appears to contain a moderate to high potential for yielding buried prehistoric archaeological resources.

Historic Archaeological Analysis

Two historic-period resources [P-19-4830 consisting of a building foundation and one historical landmark (P-19-186541) commemorating the 1842 gold discovery in Placerita Canyon] are recorded within the 0.50-mile radius of the Project Site. Immediately outside of the 0.50-mile radius is another historic-period archaeological site (CA-LAN-961) consisting of the Newhall Ranch Headquarters built by pioneer Henry Newhall. The review of historic topographic maps and aerial photographs did not show evidence that historic-period structures once existed within the Project Site. The pedestrian survey also did not identify remnants of historic structures within the Project Site. As a result, it appears that there is a low to moderate potential for finding buried historic-period archaeological resources.

Significance Evaluations

An evaluation of the VWRP was conducted in 2018 and the plant was assigned a code of 6Z, meaning it was found ineligible for the National Register, California Register, or Local designation through survey evaluation. The following was described on the evaluation form:

The Valencia Water Reclamation Plant does not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California

Register of Historical Resources (CRHR), nor does it appear to be an historical resource for purposes of the California Environmental Quality Act (CEQA). The property does not retain integrity to its original construction and does not meet any of the significance criteria necessary for eligibility for listing in either the NRHP or CRHR. The property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code (Mello, 2018).

For the purposes of this report, ESA evaluated the retaining wall of the VWRP as an individual resource, as well as a contributing resource to a larger district at the VWRP.

Significance Evaluation of the VWRP Retaining Wall

The masonry retaining wall constructed on the southwest end of the site is directly associated with the VWRP, and a crucial component that provides lateral support and stabilization for the facility. Based on survey and research, ESA confirmed the wall was constructed circa 1991-1996 and therefore does not meet the evaluation threshold for CEQA (45-years) or the California and National Register (50 years). Therefore, the VWRP retaining wall is not a historical resource as defined by CEQA and it does not meet the criteria for individual listing in either the California or National Register. However, it can be reevaluated when enough time has passed.

Significance Evaluation of the VWRP as a Potential District

The VWRP was constructed from 1966-1967 and expanded several times including a large renovation in 1992 and 2005. The need for water treatment services became apparent in the mid-1960s as the population grew in the Santa Clarita Valley area. Two districts in the area were formed: District 26, the Saugus Water Reclamation Plant, and District 32, the VWRP (Project Site). While the VWRP provided key services needed to sustain the growth of the Santa Clarita Valley and is associated with the planned community of Valencia, multiple expansions have resulted in the loss of integrity from the original plant. More importantly, the VWRP is one of many examples of its type in Los Angeles County Sanitation Districts. It is not an early or significant plant in the broader history of water reclamation facilities, nor does it contain any significant or unique technology. The services provided and the equipment used is similar and/or identical to water reclamation plants throughout the United States. In addition, in the Santa Clarita Valley, the VWRP was setup to operate in cooperation with the nearby Saugus Water Reclamation Plant and was not solely responsible for providing this type of service as the valley grew into the suburban area it is today. Research did not identify any important local, state, or national historical events that occurred at the VWRP. The VWRP does not appear to have contributed to the broad social, political, cultural, or economic history of Valencia, the State, or Nation.

Therefore, the VWRP does not appear to meet the significance threshold as a District under National Register and California Register Criterion A/1.

The VWRP was not identified with historic personages or events in national, state, or local history. The VWRP does not appear to show any historical significance in association with individual owners or employees of the plant. There were no found associations with historic personages within the context of the broader Sanitation District of Los Angeles.

Therefore, the VWRP does not appear to meet the thresholds of significance as a District under National Register and California Register Criterion B/2.

The VWRP was designed in a common utilitarian style and does not embody distinctive characteristics of a style, type, period, or construction method. No architect was identified, and it was built by the construction company of James E. Hoagland. The company was not found to be associated with a master builder. While the VWRP is a unified entity linked by a common purpose, it has no historical, architectural, or engineering value other than its daily use as a water reclamation facility for residents of Los Angeles County. Additionally, the site has changed drastically from when construction was completed in 1967 and the renovations over the years drastically altered the original buildings and site plan. Due to numerous alterations, integrity has been lost, including design, workmanship, feeling, and setting that is necessary to convey historic significance from the original construction from 1966-1967.

Therefore, the VWRP does not appear to meet the thresholds of significance as a District under National Register and California Register Criterion C/3.

The VWRP does not appear to yield significant information that would expand our current knowledge or theories of design, methods of construction, operation, or other information that is not already known. They are unlikely to produce any data related to history not previously known.

Therefore, the VWRP does not appear to meet the thresholds of significance as a District under National Register and California Register Criterion D/4.

Significance Evaluation of Outfall Structures 001 and 002

The two outfall structures directly associated with the VWRP are located outside the footprint of the Plant, to the west in a heavily wooded area. They are both crucial components that release treated water and stormwater into the Santa Clara River. Based on survey and research, ESA believes these structures date to the original construction period circa 1966/1967. Despite the significant function these outfall structures perform, the services provided and the equipment used is similar and/or identical to water reclamation plants throughout Southern California and the United States. Outfall Structures 001 and 002 are not unique technology, and even within Los Angeles County alone, there are numerous other water reclamation facilities that contain similar outfall structures to release treated water back into the environment. Additionally, based on associated building permits, Outfall Structures 001 and 002 have been altered, repaired, and had parts replaced since their original construction and no longer retain the required integrity.

Therefore, Outfall Structures 001 and 002 of the VWRP do not meet the significance threshold as an individual historical resource under National Register and California Register Criterion A/1.

Outfall Structures 001 and 002 of the VWRP are not identified with historic personages or events in national, state, or local history. They do not retain historical importance in association with individual owners or employees of the plant. There were no found associations with historic personages within the context of the broader Sanitation District of Los Angeles.

Therefore, Outfall Structures 001 and 002 of the VWRP do not meet the significance threshold as an individual historical resource under National Register and California Register Criterion B/2.

Outfall Structures 001 and 002 VWRP were designed in a common utilitarian style strictly to serve the purpose of releasing reclaimed water back into the environment, and do not embody distinctive characteristics of a style, type, period, or method of construction. While the VWRP is a unified entity linked by a common purpose and the outfall structures are essential for the completion of the purpose, they have no historical, architectural, or engineering value other than their daily use as part of a water reclamation facility for residents of Los Angeles County. Additionally, based on associated building permits, Outfall Structures 001 and 002 have been altered, repaired, and had parts replaced since their original construction and no longer retain the required integrity.

Therefore, Outfall Structures 001 and 002 of the VWRP do not meet the significance threshold as an individual historical resource under National Register and California Register Criterion C/3.

The outfall structures of the VWRP do not appear to yield significant information that would expand our current knowledge or theories of design, methods of construction, operation, or other information that is not already known. They are unlikely to produce any data related to history not previously known.

Therefore, Outfall Structures 001 and 002 of the VWRP do not meet the significance threshold as an individual historical resource under National Register and California Register Criterion D/4.

Evaluation Conclusion

For the reasons listed above, the retaining wall located on the southwest portion of the VWRP does not appear eligible as an individual resource under National Register and California Register Criteria. As detailed in the evaluation above, ESA concurs with the 2018 evaluation that the VWRP is not eligible as a District for listing in the National Register of Historic Places or the California Register of Historic Places. Because the VWRP was not found significant, the retaining wall is not a contributor to a District and does not meet the definition of a historical resource as defined by CEQA. Both the retaining wall and the larger plant are assigned a status code of 6Z, meaning they were found ineligible for the National Register, California Register, or Local designation through survey evaluation.

Conclusions and Recommendations

Archaeological Resources

No archaeological resources were identified within or immediately adjacent to the Project Site, but were found in the vicinity. The archaeological sensitivity assessment concluded that there is a moderate to high potential for encountering subsurface prehistoric archaeological resources and a

low to moderate potential for finding subsurface historic-period archaeological resources. Since the proposed Project includes ground disturbance, the following measures are recommended in order to reduce potential impacts to previously unknown archaeological resources and human remains to less than significant levels under CEQA.

Measure CUL-1: Retain a Qualified Archaeologist and Conduct Construction

Worker Training: The Applicant shall retain a qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards to conduct construction worker cultural resources sensitivity training prior to the start of ground disturbing activities. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of archaeological resources that could be encountered within the Project site, working with on-site cultural resource monitors, and the procedures to be followed if cultural resources are found. Documentation shall be retained demonstrating that all construction personnel attended the training. The qualified archaeologist shall also oversee an archaeological monitor who shall be present during construction excavations such as demolition, clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. The qualified archaeologist shall provide technical and compliance oversight of all work as it relates to archaeological resources, shall attend the Project kick-off meeting and Project progress meetings on a regular basis, and shall report to the site in the event potential archaeological resources are encountered.

Measure CUL-2: Conduct Archaeological Monitoring: The construction contractor will use a qualified archaeological monitor, working under the supervision of a qualified archaeological Principal Investigator during ground disturbing activities including, but not limited to, trenching, grading, demolition of outfall structures and over excavation for secant piles within the Project Site. The archaeological monitor will have the authority to redirect construction equipment in the event potential archaeological resources are encountered. In the event archaeological resources are encountered, SCVSD will be notified immediately and work in the vicinity of the discovery will halt until appropriate treatment of the resource, is determined by the qualified archaeological Principal Investigator in consultation with the City in accordance with the provisions of CEQA.

Measure CUL-3 Final Monitoring Report: The archaeological monitor shall prepare a final report and appropriate California Department of Parks and Recreation Site Forms at the conclusion of archaeological monitoring. The report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. The report and the Site Forms shall be submitted by SCVSD to the City of Los Angeles, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.

Measure CUL-4 (Human Remains): If human remains are encountered unexpectedly during construction demolition and/or grading activities, Section 7050.5 of the California Health and Safety Code (CHSC) requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to California PRC 5097.98. Remains suspected to be Native American are treated under CEQA at CCR 15064.5; PRC 5097.98 illustrates the process to be followed if remains are discovered. If human remains are discovered during excavation activities, the following procedure shall be observed:

Stop immediately and contact the County Coroner:

1104 N. Mission Road
 Los Angeles, CA 90033
 323-343-0512 (8 am to 5 pm Monday through Friday) or
 323-343-0714 (After hours, Saturday, Sunday, and Holidays)

- If the remains are determined to be of Native American descent, the Coroner has 24 hours to notify the NAHC.
- The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the deceased Native American.
- The MLD has 48 hours to make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods.
- If the owner does not accept the MLD's recommendations, the owner or the MLD may request mediation by the NAHC.

Architectural Resources

As detailed in the evaluations above, the retaining wall and outfall structures located on the southwest portion of the VWRP do not appear eligible as an individual resource under National Register and California Register Criteria. In addition, ESA concurs with the 2018 evaluation that the VWRP is not eligible as a District for listing in the National Register of Historic Places or the California Register of Historic Places. Because the VWRP was not found significant, neither the retaining wall nor the outfall structures are contributors to a District and do not meet the definition of a historical resource as defined by CEQA. Therefore, the retaining wall, the outfall structures and the larger plant are assigned a status code of 6Z, meaning they were found ineligible for the National Register, California Register, or Local designation through survey evaluation.

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Appendix A

Personnel

Shannon L. Papin

Cultural Resource Specialist IV



EDUCATION

M.A., in Historic Preservation (American Studies Department)
George Washington University Washington, DC.

B.A., in English (Writing)
Rhodes College Memphis, TN.

25 YEARS' EXPERIENCE

CERTIFICATIONS/REGISTRATION

Approved Consultant,
California Historical Resources Information System Consultant List (History & Architectural History)

Certified Historian & Architectural Historian,
New Mexico SHPO Directory

Approved Historian, City of Santa Fe, NM

PROFESSIONAL AFFILIATIONS

Society of Architectural Historians, Member

National Trust for Historic Preservation and NTHP Forum, Member

Preservation Action, Member

Shannon L. Papin is a Senior Architectural Historian and Cultural Resource Specialist with 25 years of professional experience in architectural history, historic resource management, and historic preservation planning, policy, and economics. Her qualifications meet and exceed the Secretary of the Interior's Professional Qualification Standards in History and Architectural History. Shannon has a proven track record of historic resources management and preservation consultation services for all stages of project development, preparation of required documentation for environmental compliance, project review and permitting, and implementation of mitigation measures. She has authored numerous historic resource assessments, State and National Register Nominations, historic structure reports, CEQA Impacts Analysis, historic resource technical reports, feasibility studies, LAHCM nominations, and HABS/HAER reports. She has managed and conducted planning and technical studies for a broad range of clients and projects throughout Southern California, New Mexico, and South Dakota.

Previous Experience

California Environmental Quality Act

Alhambra Health Center, Historic Resource Assessment and Focused EIR, Alhambra, California. *Project Manager for Historic Resource/Principal Architectural Historian.*

Shannon led the historic resource analysis for the Alhambra Health Center EIR, prepared by ESA for the City of Alhambra. The project would redevelop a 23,000-sf medical facility constructed in 1930 and found eligible for the National Register of Historic Places. ESA's environmental analysis found the project would result in a significant and unavoidable impact. In addition to the initial assessment of the building, Shannon was responsible for developing a range of feasible alternatives to avoid or reduce impacts, authoring architectural studies on the adaptive reuse and rehabilitation of the structure, and assisting in the public review process including conducted several public outreach meetings with community stakeholders and preservation advocates.

College Community Courts, Focused EIR, Ventura, California. *Senior Architectural Historian & Historic Services Manager.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

West San Gabriel Valley Area Plan, San Gabriel Valley, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

3550 Hayden Place Historic Resource Assessment and MND, Culver City, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large

Shannon L. Papin (Continued)

Cultural Resource Specialist IV

industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

615 East Ocean Boulevard, Historic Resource Assessment and MND, Long Beach, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

1715 – 1739 Bronson Avenue, CEQA Impacts Analysis, Los Angeles, CA. *Project Manager.* Shannon analyzed the potential impacts of construction of a 24-story, mixed-use project in Hollywood, adjacent to the historic Lombardi House for compliance with CEQA impacts threshold and for conformance with the SOI Standards.

3623 Hayden Place Historic Resource Assessment and MND, Culver City, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

Related Bristol Historic Resource Assessment and EIR, Santa Ana, California. *Project Manager.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

Culver Crossings Historic Resource Assessment and EIR, Culver City and Los Angeles, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

Silver Lake Reservoir Complex EIR and Impacts Analysis, Los Angeles, CA. *Senior Architectural Historian.* Shannon conducted research on the historic development of the Silver Lake Reservoir Complex and identified all previously identified historic resources within 0.25-mile of the perimeter of the site to conduct a direct, indirect, and cumulative impacts analysis for the Complex's proposed master plan.

1600 Naud and 1635 – 1639 Main Street Historic Resource Assessment and MND, Los Angeles, CA. *Senior Architectural Historian.* Shannon managed cultural portion of CEQA environmental review process, focusing on ten cold-storage facilities as potential historic resources, including eligibility evaluations, analysis of projects impacts and recommendations on adaptive reuse and mitigation.

Section 106 and NEPA

San Manuel Land Exchange, San Bernardino National Forest, Big Bear, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

Shannon L. Papin (Continued)

Cultural Resource Specialist IV

LA River Phase IV Bike Path CEQA/NEPA, Los Angeles, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

EWMP Addendum, Compton Boulevard Historic Survey, Compton, CA. *Project Manager.* Shannon conducted an architectural survey of a including, identification of potentially significant resources for state, local and national eligibility, integrity evaluation, and research and writing of an accompanying historic context. The Report included a CEQA impacts analysis in preparation for a planned redevelopment.

Historic Preservation

Isadore House Significance Evaluation and Historic Structure Report, Isadore House, Los Angeles, CA. *Project Manager.* Shannon prepared a structural assessment, documentation, and evaluation of Isadore House, a historic property owned by the Recreation and Parks of the City of Los Angeles. The Report included a CEQA impacts analysis in preparation for a planned redevelopment.

Sunshine House Historic Structure Report, Los Angeles, CA. *Project Manager.* Shannon prepared a structural assessment, documentation, and evaluation of the Sunshine House, the former caretaker's residence at the Silver Lake Reservoir Complex, owned by LADWP.

Garvanza Pump Station, Historic Structure Report, Los Angeles, CA. *Project Manager.* Shannon prepared a structural assessment, documentation, and evaluation of the Garvanza Pump Station, a historic property associated with the Garvanza Reservoir in northeast Los Angeles, owned by LADWP.

Hermon Park Building Evaluations, Los Angeles, CA. *Project Manager.* Shannon prepared a memorandum that included structural assessments, documentations, and evaluations of two fire-damaged buildings located within Hermon Park, a National Register-eligible property that is part of the Arroyo Seco Park system and owned by the City of Los Angeles.

Seismic Retrofit Project, Lockwood Elementary School, Los Angeles, CA. *Project Manager.* Shannon managed a documentation project for LAUSD campus in Hollywood in preparation for a planned seismic retrofit. Project deliverables includes character-defining matrixes and California DPR forms for multiple historical resources.

Seismic Retrofit Project, First Street Elementary School, Los Angeles, CA. *Project Manager.* Shannon managed a documentation project for LAUSD campuses in Boyle Heights in preparation for a planned seismic retrofit. Project deliverables includes character-defining matrixes and California DPR forms for multiple historical resources.

Historic Resource Assessments

3916 Martin Luther King Jr. Boulevard Historic Resource Assessment, Los Angeles, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

1038 Venice Boulevard Historic Resource Assessment, Los Angeles, California. *Senior Architectural Historian.* Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

Shannon L. Papin (Continued)

Cultural Resource Specialist IV

1000 – 1018 Croft Avenue Historic Resource Assessment, Hollywood, California. *Senior Architectural Historian.*

Shannon authored a historic resource assessment of a large industrial site located on the border of Los Angeles and Culver City for a proposed redevelopment. Work involved research on the property and its history as well as an evaluation of the site's eligibility.

133 Vieudelou Avenue, Historic Resource Assessment, Avalon, CA. *Project Manager.* Shannon prepared a documentation and evaluation of High Desert Hospital and Coroner's Office, a historic property owned by the LADPW. The Report included a CEQA impacts analysis in preparation for a planned redevelopment.

301 Beacon Street, Historic Resource Assessment, Avalon, CA. *Project Manager.* Shannon prepared a documentation and evaluation of High Desert Hospital and Coroner's Office, a historic property owned by the LADPW. The Report included a CEQA impacts analysis in preparation for a planned redevelopment.

High Desert Hospital, Historic Resource Assessment, Lancaster, CA. *Project Manager.* Shannon prepared a documentation and evaluation of High Desert Hospital and Coroner's Office, a historic property owned by the LADPW. The Report included a CEQA impacts analysis in preparation for a planned redevelopment.

On-Call Historic Resources Services, Mayfield Junior School Historic Resource Evaluation, Pasadena, CA. *Project Manager.* Shannon surveyed entire campus and prepared an evaluation of three historic resources, for the City of Pasadena including CEQA impacts analysis for a proposed master plan.

8025 Santa Monica Boulevard Historic Resource Assessment and CEQA Impacts Analysis, West Hollywood, CA. *Project Manager.* Shannon analyzed the potential impacts of construction of a 24-story, mixed-use project in Hollywood, adjacent to the historic Lombardi House for compliance with CEQA impacts threshold and for conformance with the SOI Standards.

910 North Roxbury Drive Historic Resource Assessment, Beverly Hills, CA. *Project Manager* Shannon assessed the eligibility of an American Colonial Revival residence designed by master architect Robert V. Derrah in Beverly Hills. The report involved digital and archival research and an assessment of the home's integrity using historic plans and images.

1707 Tropical Drive Historic Resource Assessment, Beverly Hills, CA. *Architectural Historian.* Claire assessed the eligibility of an American Colonial Revival residence built by Carleton Lyle Burgess and occupied by Edward Paul Dentzel. Research included a construction chronology and identification of alterations, research on the builder and occupants, and analysis of neighborhood integrity.

448 West Cypress Historic Resource Assessment, Glendale, CA. *Project Manager* Shannon authored a Historic Resource Assessment of an industrial warehouse constructed in the Tropico neighborhood of Glendale in 1908. Research included an integrity evaluation, research on Tropico's history as an early agricultural center, and the strawberry industry.

28307 Agoura Road Historic Resource Assessment, Agoura Hills, CA. *Project Manager.* Shannon authored a Historic Resource Assessment for a 1940s commercial property in Agoura Hills. Work involved researching the rural character and history of Agoura Hills, conducting research at the Agoura Hills Library and Building Division, identifying occupants of the structure, and assessing the property's eligibility.

Shannon L. Papin (Continued)

Cultural Resource Specialist IV

Kun House II Los Angeles Historic Cultural Monument Nomination, Los Angeles, CA. *Project Manager.* Shannon prepared LAHCM nomination for the Joseph Kun House II, 1950 residence designed by Richard Neutra and presented the nomination to the Cultural Heritage Commission.

1828 Edgemont Street Los Angeles Historic Cultural Monument Nomination, Hollywood, CA. *Project Manager.* Shannon prepared LAHCM nomination for a 1940 Garden Apartment complex in Hollywood and presented the nomination to the Cultural Heritage Commission.

Pasadena Avenue Historic District, Pasadena, CA. *Project Manager.* Shannon completed re-survey and prepared State and National Register Nomination of historic district that included approximately 130 residential resources.

Historic Structure Report, New Mexico Veteran's Home, Truth or Consequences. *Project Manager.* Shannon served as the Project Manager on the preparation of an Historic Structure Report for a 1937 hospital for crippled children, including historic narrative and context, evaluation of significance, documentation of original construction and later modifications, and historic preservation recommendations.

State & National Register Nomination, Ashley Pond Residence (535 East Palace Avenue), Santa Fe, NM. *Project Manager.* Shannon prepared State and National Register nomination of a 1925 residence and compound designed by John Gaw Meem.

Multiple Property Documentation Form for the Cañon neighborhood, Taos, NM. *Project Manager.* Shannon performed the initial neighborhood survey, individual nominations for three resources, and associated historic context. The properties listed included a residential compound, a guesthouse/hotel and a community chapel.

Architectural Survey of the Sioux Falls Historic District & Pettigrew Heights neighborhood, Sioux Falls, SD. *Project Manager.* Shannon served as the Project Manager on the re-survey of a 1974 National Register district, including approximately 240 residential resources. New survey of an adjoining neighborhood with approximately 120 residential resources. She also prepared survey reports with recommendations on district expansion and new district possibilities.

County-wide Architectural Surveys, South Dakota. *Project Manager.* Shannon served as the Project Manager on four county-wide architectural surveys, including integrity evaluation, identification of potentially significant resources for inclusion in the National Register of Historic Places; research and writing of an accompanying historic context.

- Tripp County: 1,617 square miles, 351 surveyed resources.
- McPherson County: 1,152 square miles, 168 surveyed resources.
- Walworth County: 745 square miles, 211 surveyed resources.
- Moody County: 521 square miles, 204 surveyed resources

Cultural Resource Surveys. Shannon performed cultural resource surveys for a variety of compliance documents including Environmental Impacts Reports, Section 106, Section 4F, and NEPA compliance. Project duties included consultation with states, local municipalities, tribes and planning consultants, as well as overseeing the archaeological portion of the survey.

- Cold War Era Properties Survey, Shaw Air Force Base, Sumter, SC
- Property Surveys for EA, Fort Bliss Army Base, El Paso, TX
- Portales Railroad Depot Focus Area, Portales, NM
- Washington Avenue Pedestrian Improvements, Lovington, NM
- Environmental Assessment, Water Control Facilities, Montezuma, NM
- Interstate 25 Landscape Improvements, Glorieta/Rowe, NM

Shannon L. Papin (Continued)

Cultural Resource Specialist IV

- 12.68-mile Pipeline Expansion, Bosque, NM
- Housing Rehabilitation Project, Santo Domingo Pueblo
- NM Visual Impact Assessment, various Plateau Cell Towers, NM
- Construction at Day School Complex, Picuris Pueblo, Penasco, NM
- Santa Fe County Courthouse, Santa Fe, NM

Historic American Building Surveys, Walker Air Force Base, Roswell, NM. *Project Manager.* Shannon prepared the building documentation (HABS Level III standard) of three buildings at the former Walker Air Force Base as well as the former Roswell Airfield Terminal Building

Historic American Building Surveys, Kirtland Air Force Base, Albuquerque, NM. *Project Manager.* Shannon prepared the building documentation (HABS Level II standard) of the 21st EOD Headquarters at Kirtland Air Force Base.

Historic American Building Surveys, White Sands Missile Range, Alamogordo, New Mexico. *Architectural Historian.* Shannon prepared the building documentation (HABS Level II standards) of the old Officer's Club at White Sands Missile Range.

National Conference of State Historic Preservation Officers, Washington D.C. *Director of Communications and State Services.* Shannon served as the primary liaison and resource for all fifty-nine State Historic Preservation Offices and represented NCSHPO to Congress and the federal government as well as the press, partner organizations and general public. Worked extensively with the National Park Service and the Advisory Council on Historic Preservation and served on task forces dealing with the Section 106 review process, the Secretary of the Interior's Standards for Rehabilitation of Historic Buildings, and National Register Criteria and Processes.

CarrAmerica Urban Development, Inc., Washington, DC. *Development Associate.* Shannon was the assistant for multiple downtown development projects including a mixed-use project of approximately 450,000 square feet combining office, residential, and preferred arts retail in the redevelopment of three historic buildings. Duties included assistance with project approvals, design review, due diligence, acquisition and development documents, pro forma analysis as well as working with public and private groups to garner support and necessary approvals.

Fatima Clark

Archaeologist



EDUCATION

BA, Anthropology,
California State
University, Fullerton

15 YEARS' EXPERIENCE

CERTIFICATIONS/ REGISTRATION

Orange County Certified
Archaeologist

PROFESSIONAL AFFILIATIONS

Society for California
Archaeology

Fatima has 15 years of hands-on archaeological experience and is practiced in project management and client and agency coordination. Her field experience is complimented by the course study and participation in numerous archaeological excavations in California, Arizona, and Peru. Fatima has written California Environmental Quality Act (CEQA)-level technical reports, Environmental Impact Report (EIR) sections, Initial Study sections, archaeological peer reviews, archaeological monitoring reports, and reports pursuant to California Department of Transportation (Caltrans) requirements. She is also experienced in performing archaeological testing, site recordation, laboratory analysis, pedestrian surveys, records searches through several California Historical Resources Information Systems-Information Centers, and monitoring for a wide variety of projects, including mixed-use, residential, and energy, water, and road infrastructure projects. In addition to her archaeology background, Fatima has been cross-trained in conducting paleontological surveys and monitoring and has co-authored and managed associated reports.

Relevant Experience

Hillcrest Real Estate, LLC., Universal Hilton City, Universal City, CA (2020).

Archaeologist. Fatima was in charge of preparing the Cultural Resources Assessment and EIR section for the project pertaining to CEQA. Fatima also coordinated the preparation of the Paleontological Resources Assessment. The project will include a new 20-story Hotel Expansion Building (with 395 guest rooms and a spa limited to guests and 250 non-guest members) with a new single-level lobby connecting to the Existing Hotel Building. The Project is located near the entrance of Universal Studios.

Irvine Ranch Water District, Syphon Reservoir Improvement Project, Orange County, CA (2019-2020).

Archaeological/Paleontological Monitor. The Final Initial Study/Mitigated Negative Declaration concluded that the Project Site was sensitive for archaeological resources (due to the existence of several prehistoric archaeological sites within the Project Site) and paleontological resources [due to the geologic units within the Project Site having high paleontological potential (Silverado, Sespe/Vaqueros Formations)]. Fatima conducted the archaeological and paleontological monitoring for the project and was the main author of the monitoring report. The project proposed geotechnical explorations consisting of exploratory test pits, borings, abutment trenches, and a seismic trench at the Syphon Reservoir to characterize the subsurface conditions of the soil.

Irvine Ranch Water District, Syphon Reservoir Improvement Project, Orange County, CA (2018-2019).

Archaeologist. Fatima was in charge of conducting archival research, pedestrian survey, and served as one of the lead author of the Cultural Resources Assessment Report, pursuant to CEQA and Section 106. The survey for the study led to the relocation of two previously recorded prehistoric archaeological sites and the recordation

Fatima Clark (Continued)

Archaeologist

of five additional resources, including one prehistoric isolate, one historic-period archaeological resource, and three historic architectural resources.

March Joint Powers Authority, Heacock Street Truck Terminal Project, (2019-2020). *Archaeological/Paleontological Monitor.* Fatima conducted archaeological and paleontological monitoring for the project and the preparation of the monitoring report. The project would consist of the construction of a paved trucking facility.

Miramar Hotel Redevelopment EIR, Santa Monica, CA (2019). *Archaeologist.* Fatima was in charge of conducting archival research and preparing the Phase I Archaeological Resources Assessment for the project pertaining to CEQA. Fatima also coordinated the preparation of the Paleontological Resources Assessment. The project includes adaptive reuse of the historic Palisades Building and replacement of other buildings in order to provide a mixed-use luxury hotel with new food and beverage facilities, open space, spa, meeting facilities, and retail space, along with residential units on the upper floors of the new buildings.

Oaks at Monte Nido, Santa Monica Mountains, Unincorporated Los Angeles County, CA (2019-2020). *Archaeologist.* Fatima was in charge of conducting archival research, the archaeological and paleontological pedestrian survey, the preparation of the Phase I Archaeological Resources Assessment pertaining to CEQA, and assisted with the preparation of Paleontological Resources Assessment. The pedestrian survey yielded the identification of a sandstone boulder that contains a fossil impression of the skull of a small-toothed cetacean “dolphin” and the identification of fossilized shells of pelecypods (e.g., bivalves such as clams, mussels, oysters, and cockles) and gastropods (e.g., snails and slugs). The project proposes the development of 15 single-family residences on separate individual recorded parcels within the Monte Nido Community, along the scenic route of Piuma Road.

California Department of Water Resources, Soil Removal at Southern Field Division Overchute, Los Angeles County (2019). *Archaeologist.* Fatima assisted with the archival research and served as a contributor to the Archaeological Resources Survey Report. The project would consist of removing soil and sand around an overchute near Mile Marker (MM) 375.46.

11469 Jefferson Hotel Project, Culver City, CA (2019). *Archaeologist.* Fatima was in charge of conducting the archival research, survey, and subsurface sensitivity assessment for archaeological resources. The project is within an area of archaeological sensitivity, and the study identified those areas with a higher likelihood to contain subsurface resources based on a review of environmental, geologic, and historic data. The project would develop a five-story, 175-room boutique hotel with below-grade parking, and would require demolition of existing commercial structures.

Cross Creek, City of Malibu, CA (2019). Fatima was in charge of conducting archival research, the archaeological pedestrian survey, the preparation of the Phase I Archaeological Resources Assessment. The project would include the construction of a hospitality facility on the approximately 12.82-acre Project Site.

California Water Service Company, Palos Verdes Peninsula Water Reliability Project, Palos Verdes Peninsula, (2019). *Archaeological/Paleontological Monitor.* Fatima conducted the archaeological and paleontological monitoring, which led to the identification and salvage of numerous fossils from the Monterey Formation. The project proposed the construction of new potable water pipelines and a new booster pump station to replace the current water distribution system serving the Palos Verdes Peninsula, which had reached its useful service life, and improve overall system reliability.

Fatima Clark (Continued)

Archaeologist

Culver City General Plan Update, Culver City, CA (2019). *Archaeologist.* Fatima assisted in the preparation of the Cultural Resources Conditions Report for the Culver City General Plan Update.

Esplanade Avenue Widening Project, City of San Jacinto, CA (2019). *Archaeologist.* Fatima conducted the archival research and the Cultural Resources Assessment Report pertaining to CEQA. The project would involve the widening of Esplanade Avenue, which is the main east-west road dividing the cities of San Jacinto and Hemet in western Riverside County.

California Department of Water Resources, Lake Perris Seepage Recovery, Riverside County, CA (2019).

Archaeologist. Fatima was in charge of the following tasks: archival research, survey, subsurface archaeological sensitivity assessment, analysis of direct and indirect effects to the National Register-Colorado River Aqueduct, and preparation of the Cultural Resources Assessment Report in compliance with CEQA. The proposed project would collect water that is currently seeping out of Lake Perris through an integrated recovery well system, and then provide the recovered water to the Metropolitan Water District of Southern California.

Los Angeles Department of Water and Power, Manhattan Wellfield On-Site Hypochlorite Generation Station, Los Angeles, CA (2019). *Archaeologist.* Fatima was in charge of preparing the Cultural Resources Assessment Report

in compliance with CEQA and Section 106. Tasks included delineation of an Area of Potential Effects (APE), archival research, Native American outreach, desktop geoarchaeological review and subsurface sensitivity assessment, survey, reporting. The project would upgrade the existing chlorination station at Manhattan Wellfield to an on-site hypochlorite.

City of Burbank, Avion Project, Burbank, CA (2018). *Archaeologist.* Fatima was the lead author for the Cultural Resources Assessment Report and prepared the Cultural Resources section for the EIR. The project is a mixed-use development consisting of creative offices, creative industrial, retail, and a hotel located within a 61-acre Project area, which was once developed with the Lockheed-Martin B-6 site.

California Department of Water Resources, Los Robles Road Bridge Seismic Retrofit Project, Quail Lake, Los Angeles County (2018). *Archaeologist.* Fatima conducted the archival research, pedestrian survey and was the lead author for the Archaeological Resources Survey Report for the project, which pertains to CEQA. The project consisted of the seismic retrofitting of the existing Los Robles Road Bridge, which crosses the West Branch of the California Aqueduct.

Los Angeles Unified School District, San Pedro High School Comprehensive Modernization Project, Los Angeles, CA (2017-2018). *Archaeologist.* Fatima was the lead author for the Archaeological and Paleontological Resources report for the project pursuant to CEQA. The project is a site-specific school upgrade and modernization project being completed by the Los Angeles Unified School District under the School Upgrade Program. In addition to writing the report, Fatima was also the lead preparer of the Cultural Resources section of the EIR.

Los Angeles Unified School District, Burroughs Middle School Comprehensive Modernization Project, Los Angeles, CA (2018). *Archaeologist.* Fatima was the lead author for the Archaeological and Paleontological Resources report for the project pursuant to CEQA. The project would include: demolition of the Shop Building, Cafeteria/classroom buildings, and approximately 14 classrooms located in portable (relocatable) buildings; and construction of approximately 34 general and specialty classrooms, support spaces, and a new Food Services Building and Lunch Shelter. The proposed project would also include modernization and seismic retrofits to the Administration/auditorium Building, the Classroom Building, and the Gymnasium Building.

Fatima Clark (Continued)

Archaeologist

City of Burbank, Town Center Project, Burbank, CA (2018). *Archaeologist.* Fatima was in charge of preparing the Cultural Resources Assessment Report for the project. The Project is a comprehensive redevelopment of the Burbank Town Center property that would introduce a new mix of uses intended to create an integrated urban community atmosphere promoting live, work and play in Downtown Burbank.

Orange County Sanitation District, Headworks Rehabilitation and Expansion Project (Project No. P1-105), Fountain Valley, CA (2018). *Archaeologist.* Fatima was in charge of preparing the Cultural Resources section of the Initial Study/Mitigated Negative Declaration for the project. The Orange County Sanitation District (OCSD) proposes to implement the Headworks Rehabilitation and Expansion Project at OCSD's Plant 1 wastewater treatment facility located in Fountain Valley, California. The proposed Project includes rehabilitation, demolition, and new construction of headworks structures at Plant 1.

California Water Service Company, Palos Verdes Peninsula Water Reliability Project, Palos Verdes Peninsula, CA (2017). *Archaeologist.* Fatima assisted in the preparation of the Phase I Cultural Resources Assessment report, conducted records searches and conducted the pedestrian survey for this project pursuant to Section 106. The project proposed to construct new potable water pipelines and a new booster pump station to improve overall system reliability in the Palos Verdes Peninsula.

Santa Margarita Water District, San Juan Watershed Project, San Juan Capistrano and Dana Point, CA (2017). *Archaeologist.* Fatima was the lead author for the Phase I Cultural Resources Studies for the project compliant with CEQA and Section 106 of the National Historic Preservation Act. Besides being the lead author for the report, Fatima conducted the records searches, pedestrian survey, prepared the Cultural Resources section of the EIR, and conducted coordination with the Orange County Flood Control District in order to acquire an encroachment permit to conduct the pedestrian survey. The project is to be constructed in multiple phases. The first phase (Phase I) would include installation of three rubber dams and control buildings within San Juan Creek. Subsequent phases include additional dams within San Juan Creek and Arroyo Trabuco, recycled water recharge facilities, and additional upgrades to existing groundwater recovery facilities.

Boething Treeland Farms, Treeland Homes Project, Woodland Hills, CA (2017). *Archaeologist.* Fatima was the lead author for the Phase I Archaeological and Paleontological Resources Assessment pursuant to CEQA. In addition to writing the report, Fatima conducted the records searches and pedestrian survey. The project proposed to replace the existing Boething Treeland Nursery with residential uses.

California Department of Transportation, La Costa Chevron, Encinitas, CA (2013-2017). *Project Manager.* Fatima led the archaeological services for the La Costa Chevron Project in Encinitas, which addressed Chevron-created erosion onto a Caltrans right-of-way. Because of the project site's location within a recognized archaeological site, Caltrans required an Extended Phase I (XPI). ESA conducted an XPI archaeological excavation to determine the presence or absence of archaeological deposits (and their horizontal and vertical extent) where the drainage improvements were expected to occur. Managing the company's role as a subcontractor to a larger engineering firm, Fatima coordinated with the prime consultant, the Native American groups in the area, and Caltrans. She was in charge of conducting archaeological testing, served as the primary author of the XPI, prepared the Environmentally Sensitive Area Action Plan and the Historic Resources Compliance Report. Lastly, Fatima also coordinated with the Caltrans archaeologist and the San Diego Archaeological Center for curation of the artifacts collected from the XPI.

Fatima Clark (Continued)

Archaeologist

Lennar Homes, Aidlin Property Residential Project, Los Angeles County, CA (2016). *Archaeologist.* Fatima was in charge of preparing the Section 106 report for the project. The proposed project would include the development of 102 single-family dwellings, three parks, the widening of Pico Canyon Road, and associated supporting infrastructure including local roadways, water tanks and a pump station, water quality treatment basins, and an emergency secondary fire access road. The project would also require the grading of natural topography, including slopes in order to remediate existing geologic conditions and to create stable building pads and roadways.

Lennar Homes, Aidlin Property Residential Project, Los Angeles County, CA (2014). *Archaeologist.* Fatima conducted the historical records searches through the CHRIS, pedestrian survey, the preparation of the CEQA cultural resources assessment report. The proposed project consists of a residential development on approximately 230 acres of land in an unincorporated area of Los Angeles County, California.

California Department of Transportation, I-10 Freeway/Pepper Avenue Interchange Project, Colton, CA (2014-2015). *Project Manager.* Fatima served as project manager for the Interstate 10 Freeway/Pepper Avenue Interchange Project. The project involved the preparation of an Archaeological Survey Report/Historic Property Survey Report in accordance with Caltrans guidelines for a bridge expansion along Pepper Avenue in Colton. In addition to the technical analysis, Fatima coordinated with the Prime Consultant, San Bernardino Associated Governments, and Caltrans' Environmental Unit.

Southern California Edison, Archaeological Services/Contingent Employee (2008-2013), Southern California, CA. Fatima worked at Southern California Edison (SCE) as a full-time in-house consulting archaeologist in the Deteriorated Poles Program, GO 131-D Program and for the Valley South Subtransmission Project (VSSP). Fatima was in charge of managing work sent to outside consultants for surveys and preparation of archaeological reports and coordinating with consultants and SCE staff. Fatima also conducted over 100 archaeological reviews, including records searches, field surveys, project coordination, report writing for projects subject to the rules and regulations of the California Public Utilities Commission (CPUC) and thus also following CEQA-mandated requirements.

The VSSP was among the larger projects in which Fatima was involved. The VSSP had three alternative routes with a total of approximately 25 miles in length. The VSSP was conducted for the purpose of developing a Proponent's Environmental Assessment (PEA) for the CPUC's review. Fatima was the project manager for the VSSP, and her duties consisted of records searches, creating a scope of work, reviewing PEA bidders' proposals, assessing/developing study corridors, developing suitable access roads to avoid/minimize impact to archaeological sites, and project coordination with SCE team members for the entire project and outside consulting archaeologists.

Shriners Hospital for Children Archaeological and Paleontological Monitoring, Pasadena, CA. *Project Manager.* Fatima served as the project manager and the cross-trained archaeological/paleontological monitor during construction activities at the project site. The project consisted of the construction of three-story medical building and subterranean parking garages for the Shriners Hospital for Children.

Ivy Station Mixed-Use Development MND, Los Angeles/Culver City, CA. *Archaeologist.* Fatima performed historical records searches through CHRIS, conducted the field survey, and provided technical information and recommendations for the Initial Study to support an MND to address the proposed development of a stand-alone five-story office building with ground-level retail. The project also included two interconnected five- and six-story buildings, including a 148-room boutique hotel and a 200-unit residential complex with amenities atop a podium.

Fatima Clark (Continued)

Archaeologist

750 North Edinburg Avenue Project MND, Los Angeles, CA. Archaeologist. Fatima performed historical record searches through CHRIS, conducted the field survey, and provided technical information and recommendations for the Initial Study to support an MND. The proposed project would remove extant uses on the project site, subdivide the parcel into eight lots, and develop on each lot a three-story single-family residence, two covered parking spaces, and private patio/yard areas.

3240 Wilshire Boulevard Project, Los Angeles, CA. Archaeologist. Fatima performed historical record searches through CHRIS, conducted the field survey, and provided technical information and recommendations in the form of a letter report and Initial Study section to support an MND. The proposed project involved the conversion of the I. Magnin department store building (currently known as the Wilshire Galleria) into a hotel and the construction of a mid-rise apartment building, high-rise condominium tower and commercial space, in addition to the existing 138,500-square-foot I. Magnin building.

2nd & Vignes Development, Los Angeles, CA. Archaeologist. Fatima performed historical record searches through CHRIS, conducted the field survey, and provided technical information and recommendations for the Initial Study to support an MND. The project proposes an adaptive reuse of the existing building to develop approximately 120,000 square feet of private event, retail, commercial office, restaurant, residential, and gym/spa uses. To increase interior floor area and maintain the building's footprint, the project would add four floors to the existing two-story building. The building's exterior walls and architectural features are anticipated to be largely retained and/or rehabilitated to reflect the building's original design. The building's interior would be mostly demolished and adaptively redeveloped.

Isla Verde Residential Project, Moreno Valley, CA. Archaeologist. Fatima was in charge of conducting records searches and the pedestrian survey and the preparation of the CEQA report. The project proposed the construction of 142 residential units, a clubhouse, and community pool in the city of Moreno Valley.

Frontier Chino Borba (17.7-Acre) Project, Chino, CA. Archaeologist. Fatima was in charge of conducting records searches and the pedestrian survey and preparation of CEQA report to support an addendum to the City of Chino's General Plan.

Frontier Chino (7.15-Acre) Project, Chino, CA. Archaeologist. Fatima was in charge of conducting records searches and the pedestrian survey and preparation of CEQA report to support an addendum to the City of Chino's General Plan.

SunEdison Cascade Solar Energy Project, San Bernardino County, CA. Archaeologist. Fatima performed the records search, Phase I pedestrian survey, Phase II testing, and monitoring for the SunEdison Cascade Solar Energy Project in the Sunfair Community of unincorporated San Bernardino County. Fatima excavated several Shovel Test Probes within a newly recorded archaeological site. As part of the phase II field investigation, Fatima has also conducted lab analysis of lithic materials recovered at the archaeological site.

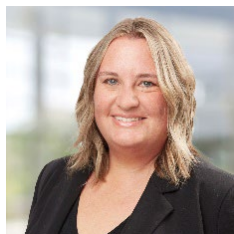
Cucamonga Creek Watershed Regional Water Quality Project, Chino, CA. Archaeologist. Fatima performed the phase II testing for the Mill Creek Wetlands testing at site Ca-SBR-2845 in Chino.

Burbank Reservoir No. 1 Replacement Project, Burbank, CA. Archaeologist. Fatima prepared the Cultural Resources section for the Initial Study to support the MND regarding the reservoir project.

Century Woods Residential Project, Los Angeles, CA. Archaeologist. Fatima prepared the Cultural Resources section for the Initial Study to support the MND regarding the residential project in the Century City community of Los Angeles.

Valerie Smith

Architectural Historian



EDUCATION

MS, Historic Preservation,
Columbia University

Advanced Certificate,
Columbia University

BA, Studio Art, Hope College

4 YEARS' EXPERIENCE (HISTORIC PRESERVATION)

23 YEARS' EXPERIENCE (PHOTOGRAPHY)

18 YEARS' EXPERIENCE (FINANCIAL SERVICES)

PROFESSIONAL AFFILIATIONS

Preservation Alumni,
Columbia University, Board
Member

Columbia University,
Mentorship Committee
Member

California Preservation
Foundation, Member

National Trust for Historic
Preservation, Member

DOCOMOMO US, Member

Association for Preservation
Technology (APT), Member

Valerie is an architectural historian with four years of experience in historic preservation in California and New York. Her work with historic resources and cultural heritage includes extensive and detailed archival research, drafting historic resource assessments, historic preservation consulting such as plan reviews and construction monitoring, feasibility studies, and resource surveys and documentation. She has experience with conservation projects, conditions assessment reports, and materials science. Her studio art background and photography training have proven helpful for onsite documentation and she is currently training to be a HABS photographer. In addition to historic preservation and photography, Valerie has 18 years of professional experience in finance and investor relations with strong client and project management skills, which have been an asset in her role at ESA.

Relevant Experience

3916 Martin Luther King Jr, Historic Resource Assessment, Los Angeles, CA.

Architectural Historian. Valerie co-authored the production of a Historic Resource Evaluation (HRA) to establish the building's historic significance in the Crenshaw neighborhood of Los Angeles. Valerie's research provided context for a 1962 bank building in the International Style that was occupied by a Black-owned savings and loan company for over twenty years. The founder, Peter Dauterive was instrumental in race relations in Los Angeles and provided financial services to underserved communities, served on the board of various foundations, and started a scholarship fund at USC for minority students.

Ventura County Transportation Commission, US 101 Improvement Project, Ventura County, CA.

Architectural Historian. While working for ICF, Valerie assisted with a large-scale Cultural Heritage Survey as part of the US 101 Improvement Project. The project included the survey of over 100 buildings in the study area located throughout San Buenaventura (Ventura), Camarillo and Oxnard, California. As part of this effort, Valerie wrote historic context statements on various property types and architectural styles including manufactured homes, post-war restaurants, commercial buildings, and Mid-Century Modern-style architecture. She researched, documented, and evaluated the individual properties and prepared compliance reports and DPR forms.

Los Angeles Housing Department (LAHD), Section 106 Reviews, Los Angeles County, CA.

Architectural Historian. While working for ICF, Valerie surveyed and researched buildings within areas of potential effect for various projects as part of the Section 106 requirements for the City of Los Angeles. She drafted DPR documents and completed deliverables for development projects. As part of her responsibilities, she wrote building descriptions, conducted site visits, conducted research, and evaluated buildings located in the vicinity of development projects.

Valerie Smith (Continued)

Architectural Historian

City of Los Angeles, Venice Coastal Zone Survey, Los Angeles County, CA. *Architectural Historian.* Valerie expanded on existing research included in SurveyLA to evaluate contributing/non-contributing members of the Millwood Historic district of Venice, CA. Survey, documentation and research was conducted on a large number of bungalow-style homes within the historic district.

1000-1018 N. Croft Avenue, Historic Resource Assessment, Los Angeles, CA. *Architectural Historian.* Valerie provided research, wrote historical contexts, and compiled a Historic Resource Assessment for four multi-family properties in Hollywood. One property was designed in a Mediterranean Style using a house stock plan from the local company Bungalowcraft. Two of the properties are Spanish Colonial Revival duplexes constructed in the 1920s and 1930s. The fourth property was designed in 1940 by a notable Los Angeles architect who became known for his unique window treatment and Minimal Traditional designs. The four properties were found significant as early dwellings in the Hollywood Scenic Tract under Criterion A, and as excellent examples of three different architectural styles applied multi-family properties under Criterion C.

133 Vieudelou Avenue, Historic Resource Assessment, Catalina Island, CA. *Architectural Historian.* Valerie researched the oldest house in Avalon, Catalina Island and compiled a Historic Resource Assessment. The house belonged to a family who settled on the island during the early days of development into a resort town. The house is Folk Victorian style and constructed in 1888. The property was found eligible for the National Register and California Register for its significance under Criterion A, B, and C.

301 Beacon Street, Historic Resource Assessment, Catalina Island, CA. *Architectural Historian.* Valerie researched a multi-family property on Beacon Street in Avalon, Catalina Island and compiled a Historic Resource Assessment. The dwelling has been owned by the same family who constructed it in 1923. The style is vernacular with elements of Italianate and Mediterranean Revival. It was called the White House Apartments and housed the original family and other short-term guests visiting the island. The property was found eligible as a rare example of a multi-family property from the 1920s in Avalon, Catalina Island.

West San Gabriel Valley, Historic Context Statement, Los Angeles County, CA. *Architectural Historian.* Valerie authored the residential section of the West San Gabriel Historic Context Statement which involved extensive research, and the development of architectural context narratives and residential resource registration requirements. Valerie conducted an archival record search at the South Central Coastal Information Center (SCCIC) to determine the presence of cultural resources in eight unincorporated study areas.

211 Emerald Bay, California Register Nomination, Orange County, CA. *Architectural Historian.* Valerie provided architectural historian services which included research, the development of historical contexts, and the preparation of a nomination for the California Register of Historical Resources for a property in Emerald Bay. 211 Emerald Bay is in a planned coastal "garden suburb" that was developed beginning in 1929. The community was designed by renowned landscape architect Mark Daniels and notable Pasadena architects such as Roland Coate and H. Palmer Sabin. The house at 211 Emerald Bay contributed to the early development of the neighborhood and is one of the last remaining intact examples of the Mediterranean Revival aesthetic developed by the architectural review board and original developer.

AGBU Manoogian-Demirdjian School Improvements, Categorical Exemption, Canoga Park, CA. *Architectural Historian.* Valerie provided research, wrote historical contexts, conducted a site visit, and compiled a Department of Parks and Recreation form 523 and Notice of Exemption for an Armenian-American school in Canoga Park. The school is operated by the Armenian General Benevolent Union (AGBU), and the organization purchased the parcel in 1985. The

Valerie Smith (Continued)

Architectural Historian

campus was originally an LAUSD campus, and the AGBU has made improvements to accommodate the Armenian student body occupying the campus. The buildings are a mixture of 1962 Mid-Century Modern and post-1996 buildings.

Modernist house, Peer Review, Laguna Beach, CA. *Architectural Historian.* Valerie peer-reviewed a California Register of Historical Resources nomination that had been drafted by other historians for a house in Laguna Beach. As part of the peer review, Valerie wrote a historic context statement for modernist architecture in Laguna Beach, focusing on 1960s and 1970s expressionist /organic single-family properties. The house was representative of a local, regional, and national trend for the design of houses by architects practicing in a modernist style. Valerie drafted a script and provided guidance to the client and team for the presentation to the California State Historical Resources Commission at the quarterly meeting.

Eastmont Theatre, Historic Resource Evaluation, Oakland, CA. *Architectural Historian.* Valerie provided research, wrote historical contexts, and compiled a Historic Resource Evaluation for the Eastmont Theatre. The Eastmont Theatre was constructed in 1926 during the rise of Art Deco theaters in the United States. The theater is a modest version of the movie palaces of the era and was evaluated for its significance in the city of Oakland and the larger context of Art Deco theaters.

615 E. Ocean Boulevard, Historic Resource Assessment, and Impacts, Long Beach, CA. *Architectural Historian.* Valerie researched and evaluated a 1970s commercial vernacular restaurant that was originally a Copper Penny Family Restaurant. The building design was a modest interpretation of the Late Hollywood Regency style and consisted of a simple box design capped with a mansard roof.

448 West Cypress Street, Historic Resource Evaluation, Glendale, CA. *Architectural Historian.* Valerie provided research, wrote historic contexts, and compiled the Historic Resource Assessment report for the property at 448 West Cypress Street. 448 West Cypress was identified as a historic vernacular warehouse from c. 1907 located in the Tropico section of Glendale, CA.

951 Cliff Drive, Historic Resource Assessment and Impacts, Laguna Beach, CA. *Architectural Historian.* Valerie provided research and updated an existing impact assessment for a 1918 Beach Cottage with a Craftsman-influenced style in Laguna Beach. Valerie evaluated the property using the new Laguna Beach Historic Preservation Ordinance and assessed the impact of a pending addition to the property's historic fabric.

1051 Marine Drive, Historic Resource Assessment and Impacts, Laguna Beach, CA. *Architectural Historian.* Valerie provided research and updated an existing impact assessment for a 1920s Beach Cottage with a Craftsman-influenced style in Laguna Beach. Valerie evaluated the property using the new Laguna Beach Historic Preservation Ordinance and assessed the impact of a pending addition to the property's historic fabric.

Columbia University, The Harlem Renaissance: Preservation, Spatial Encounter, and Anti-Racism, Harlem, NY. *Architectural Historian/Student.* As a graduate student, Valerie contributed to a group research report that examined the legacy of the Harlem Renaissance, its significance in anti-Black racism histories and its place-based associations. This included an in-depth study of the era, Harlem as the Black mecca, and the exploration of preservation through an innovative community lens. The goal of the report was to instrumentalize the heritage of the Harlem Renaissance toward anti-racism and social justice while also identifying and preserving key assets for the Black community.

Columbia University, Historic Paint Sample Analysis, Jay Heritage Center. *Architectural Historian/Student.* As a graduate student, Valerie contributed to a group conservation project that examined the layers of paint in the historic

Valerie Smith (Continued)

Architectural Historian

Jay Estate. The Jay Estate requested that Columbia's Historic Preservation graduate students help date various parts of the 1838 Greek Revival mansion. Paint samples were collected, and the multiple layers of paint and architectural finishes were examined using microscopes in the historic preservation laboratory at the University.

Columbia University, National Register Nomination, Bronx, NY. *Architectural Historian/Student.* As a graduate student Valerie wrote a National Register Nomination for a church in the Bronx. The nomination is in review by the New York State Historic Preservation Office. The nomination detailed the history and significance of Creston Avenue Baptist, a historically black church constructed c. 1905, and designed in a Chateausque style.

Columbia University, Woodlawn Cemetery Research Report, Bronx, NY. *Architectural Historian/Student.* As a graduate student, Valerie wrote a section of a group report for the Woodlawn Cemetery in the Bronx. The report included a detailed evaluation of the materials, stained glass window, and biographical family account of the Livingston mausoleum. One key goal was to determine if the window was created by Louis Comfort Tiffany's company, and the other was to construct a vital historical account needed to create a preservation plan for the historic mausoleum.

Goodman Commerce Center, Historic Resource Assessment and Impacts, Long Beach, CA. *Architectural Historian.* Valerie conducted a site visit and compiled a report for a 1967 Boeing factory in Long Beach. A project for a development plan of the property was created by Goodman and Valerie compiled historic and current information about the building.

Photography

Trained as a photographer, with a B.A. in Studio Art from Hope College, Valerie has 23 years of photography experience. She has a large portfolio of architectural photographs from site visits, college courses and fine art photography exploration. She completed an architectural photography course at UCLA in 2018, and she is currently being trained as a Historic American Buildings Survey (HABS) photographer.

California Historical Resources Information System (CHRIS) – Authorized Researcher

Valerie is authorized to perform record searches to uncover archeological and historic resources at one of the twelve Information Centers managed by the California Office of Historic Preservation. Valerie has been trained to review 7.5 USGS Quadrangle Maps, historical resource records and reports, and computerized data housed at the South Central Coastal Information Center at California State University, Fullerton.

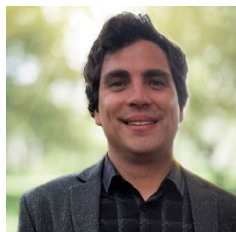
Publications

Preserve Orange County, *Tracts* "Better Homes in America in Anaheim," December 23, 2022.

Columbia University Master's Thesis, "The Small House Movement of the 1920s: Preserving Small 'Better' Houses," 2022.

Dorian Miller

Senior Cultural Resources Specialist



EDUCATION

BA, Anthropology,
California State University
Northridge, 2017

BA, History, California
State University
Northridge, 2017

5 YEARS' EXPERIENCE

CERTIFICATIONS/ REGISTRATION

Advisory Council on Historic
Preservation: Section 106
Agreements Seminar (ACHP)

National Park Service (DOI)
ARPA Focus Series: Field Damage
Assessment (FDA)

National Park Service (DOI)
Wildland Fire Resource Advisor
READ Training (N-9042)

National Park Service (DOI)
Operational Leadership 16-Hour
Course

American Red Cross Training
Services, Certificate of
Completion for First Aid/CPR/AED

PROFESSIONAL AFFILIATIONS

Society for California Archaeology
2018-2019, 2020-2021

Nevada Archaeological
Association 2020-2021

Dorian is a cultural resources specialist with experience working on survey, data recovery, excavations, and archaeological monitoring projects. Dorian has experience planning cultural investigations, conducting archival research, preparing technical reports, post-field data processing, GIS analysis, and laboratory procedures. He has served in a supervisory capacity with large crews and has worked on a variety of Public Lands management projects, energy and water infrastructure projects, and private-sector construction projects. He has worked in Los Angeles, San Bernardino, Inyo, Kern, and San Diego Counties in California. He is knowledgeable with the cultural resources compliance process and has worked on several projects subject to the requirements of the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and implementing Section 106 of the National Historic Preservation Act (NHPA).

Relevant Experience

2023-2024

Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project, Los Angeles County, CA. *Senior Cultural Resources Specialist.*

Environmental Science Associates (ESA) has been retained by the Los Angeles County Sanitation Districts (LACSD) to conduct a cultural resources assessment for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project in support of an Environmental Impact Report (EIR). The Santa Clarita Valley Sanitation District (SCVSD) operates the VWRP located at 28185 The Old Road in the Valencia neighborhood of Santa Clarita. The Project Site would include the construction of a ground retaining wall along the southern boundary of the VWRP on the riverside of the existing retaining wall. The proposed project would also include upgrades to two outfall structures, a 48-inch diameter outfall, and an 18-inch diameter outfall. The LACSD is the lead agency pursuant to the California Environmental Quality Act (CEQA). Dorian completed the archaeological pedestrian survey, as well as the survey results section of the report.

Cultural Resources Assessment for the Storm Hill Lane Project, City of Rolling Hills, CA. *Senior Cultural Resources Specialist.* ESA has been retained by Storm Properties, Inc., to prepare a cultural resource assessment for the proposed Storm Hill Lane Project at the request of the City of Rolling Hills. The Project proposes to expand an existing access road and create a cul-de-sac near Storm Hill Lane in the City of Rolling Hills, California. Dorian conducted onsite archaeological monitoring for the construction work.

5420 Sunset Boulevard Project, Hollywood Community, Los Angeles, CA. *Senior Cultural Resources Specialist.* ESA has been retained by Dreamscape, LLC. to provide archaeological and paleontological construction monitoring services and vibration monitoring services prior to and during construction of the 5420 Sunset Boulevard Project located in the Hollywood Community of the City of Los Angeles, Los Angeles County,

Dorian Miller (Continued)

Senior Cultural Resources Specialist

California. ESA will conduct the monitoring services in compliance with the appropriate City-approved mitigation measures and project design features from the Modified Mitigation Monitoring Program and the City Planning Commission Letter of Determination for the Project. Dorian conducted onsite archaeological monitoring for the construction work.

North Haiwee Dam No. 2 Project, Inyo County, CA. *Field Director.* ESA provides cultural monitoring services for the Los Angeles Department of Water and Power. This project consists of construction including the realignment of Cactus Flats Road, realignment and demolition of the Los Angeles Aqueduct near the Dam, construction of the field laboratory, and construction of the new modern Dam, within a highly sensitive archaeological area. Dorian is responsible for the delegation of fieldwork tasks, staff scheduling, developing field methodologies, attending client meetings, drafting of monthly and yearly technical reports, drafting of archaeological testing and monitoring plans, conducting QA/QC of collected data, and management of the GIS project database. Additionally, Dorian served as a point of contact for tribal representatives, engineers, project management, and construction crews. Completed for the Los Angeles Department of Water and Power (LADWP).

2023

Liberty Island Project- Archival Research Update, Yolo County, CA. *Senior Cultural Resources Specialist.*

Environmental Science Associates (ESA) has been retained by Resource Environmental Solutions, LLC. (RES) to provide an archival research update for the Liberty Island Project, which would involve restoration of multiple project sites. The Project consisted of an update to cultural resource inventories prepared in 2009 and included an expedited records search update at the California Historical Resources Information System- Northwest Information Center (NWIC). Additionally, a Memo Report was completed, which introduced previous cultural resources investigations, provided the NWIC records search results, and included a list of cultural resources within the project site and their NRHP eligibility. Dorian completed the records search request and write-up for this project, as well as the Archival Research Update-Memo Report.

Rancho Jamul Project- Archival Research Update, Yolo County, CA. *Senior Cultural Resources Specialist.*

Environmental Science Associates (ESA) has been retained by Resource Environmental Solutions, LLC. (RES) to provide an archival research update for the Rancho Jamul Project, which would involve restoration of the Project Site. The Project consisted of an update to cultural resource inventories prepared in 2014 and included an expedited records search update at the California Historical Resources Information System- South Coastal Information Center (SCIC). Additionally, a Memo Report was completed, which introduced previous cultural resources investigations, provided the SCIC records search results, and included a list of cultural resources within the project site and their NRHP eligibility. Dorian completed the records search request and write-up for this project, as well as the Archival Research Update-Memo Report.

2022-2023

Avocet Battery Energy Storage System Project, Carson City, CA. *Deputy Project Manager.* Environmental Science Associates (ESA) has been retained by the City of Carson (City) to prepare a cultural resources assessment for the Avocet Energy Storage System Project in support of an Initial Study/Mitigated Negative Declaration (IS/MND). The Project

Dorian Miller (Continued)

Senior Cultural Resources Specialist

includes the development of an approximately 200-megawatt battery energy storage system (BESS). The Project would consist of lithium-ion batteries installed in racks, inverters, medium-voltage (MV) transformers, switchgear, a collector substation, and other associated equipment to interconnect into the Southern California Edison (SCE) Hinson Substation. The Project would also include four generation transmission (gen-tie) lines to interconnect the Project to the SCE Hinson Substation. The City is the lead agency pursuant to the California Environmental Quality Act (CEQA). Dorian served as Deputy Project Manager and assisted the Project Manager in assigning tasks, planning fieldwork, and conducting background research. Additionally, Dorian conducted onsite archaeological testing/excavation as part of the assessment.

681 E. Trimble Road, City of San Jose, Santa Clara County, CA. *Senior Cultural Resources Specialist.* Environmental Science Associates (ESA) prepared an updated archaeological resources assessment to support an analysis of potential impacts to archaeological resources under the California Environmental Quality Act. Dorian completed the records search requests for this project and drafted the record search result portion of the report. Dorian also conducted Tribal outreach using the Native American Heritage Commission Contact List, including phone calls, seeking input on Sacred Lands File resources.

Compton Boulevard Et Al.- East Rancho Dominguez, Low Impact Development, Los Angeles County, CA. *Senior Cultural Resources Specialist.* Environmental Science Associates (ESA) has been retained by the County of Los Angeles Department of Public Works (LACDPW) in coordination with the Los Angeles County Flood Control District (LACFCD). ESA prepared a cultural resources assessment report to assess the potential for the Project to impact cultural resources, including historical resources and archaeological resources. The cultural assessment contributed to an Addendum to the 2015 EWMP PEIR pursuant to CEQA Guidelines Section 15164, evaluating the potential for the Project to result in new significant impacts not previously identified in the 2015 EWMP PEIR. Dorian completed the records search request for this project, as well as background research and the Subsurface Archaeological Review portion of the report.

3855 Watseka Avenue Project, Culver City, CA. *Senior Cultural Resources Specialist.* Environmental Science Associates (ESA) has been retained by Park & Velayos LLP to conduct an archaeological resources assessment in support of a Class 32 for the Project. The Project proposes to develop a new, four-story office building over three levels of subterranean parking in Culver City (City), California. The City is the lead agency for the Project pursuant to the California Environmental Quality Act (CEQA). Dorian completed the records search requests for this project and the Archaeological Sensitivity Assessment portion of the report.

Hilton Universal City Project, City of Los Angeles, CA. *Senior Cultural Resources Specialist.* Environmental Science Associates (ESA) has been retained by Hillcrest Real Estate, LLC to conduct a cultural resources assessment report in support of an Environmental Impact Report (EIR). The Project proposes to expand the existing 7.26-acre Hilton Universal City Hotel property which is developed with a 24-story hotel building with 495 guestrooms, an attached ancillary hotel building providing meeting/banquet rooms and ancillary hotel uses, a three-level subterranean parking garage, circulation facilities, an outdoor pool area, and other related improvements. Dorian completed the Paleontological Records Search request for this project.

City Trunk Line North Project, Los Angeles County, CA. *Senior Cultural Resources Specialist.* ESA provides cultural resource monitoring services for the Los Angeles Department of Water and Power. This project includes the preparation of a CRMMP in compliance with mitigation measure CR-2 to guide monitoring procedures and communication protocols, and to outline procedures to be carried out in the event of potential resource discoveries during construction. Dorian

Dorian Miller (Continued)

Senior Cultural Resources Specialist

conducted onsite archaeological monitoring for the construction work. Completed for the Los Angeles Department of Water and Power (LADWP).

9908 Santa Monica Blvd Project, Los Angeles County, CA. *Senior Cultural Resources Specialist.* ESA provides cultural resource monitoring services for GPI Companies for the construction of a mixed-use building consisting of 17 residential condominium units and a ground floor commercial space. Dorian conducted onsite archaeological monitoring for the construction work. Completed for private real estate developer, GPI Companies.

2021-2022

Road Grade Priority 2, Cultural Resource Inventory Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in survey, mapping, site recording, lab analysis, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Road Grade Priority 5, Cultural Resource Inventory Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in survey, mapping, site recording, lab analysis, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Road Grade Priority 23, Cultural Resource Inventory Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in survey, mapping, site recording, lab analysis, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

2021

Cultural Resources Inventory for the Removal of Off-Highway Vehicle Tracks at the Racetrack, Inyo County, CA (CRP No. 19-040). *Archeological Technician.* As a crew chief, responsible for leading survey crews and the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration, Invasive Species, and NEPA personnel for Section 106 compliance. Completed for the Office of Environmental Compliance, Death Valley National Park.

Grapevine Water Asbestos- Road Monitoring, Inyo County, CA (CRP No. 16-081). *Archeological Technician.* Performed cultural resource monitoring in collaboration with NPS road grading crews, to prevent the disturbance of known cultural resources in a sensitive area, during the maintenance of a Park access road. Completed for the Office of Environmental Compliance, Death Valley National Park.

Natural Spring Fenceline Project, Inyo County, CA (CRP No. 21-058). *Archeological Technician.* As a crew chief, responsible for leading survey crews, mapping, site recording, and the finalizing of cultural resource survey reports for Section 106 compliance, for multiple large-scale burro exclusion fenceline surveys in remote, Butte Valley. Completed for the Office of Environmental Compliance, Death Valley National Park.

West Side Road North ORV Hot Spot, Inyo County, CA (CRP No. 21-060). *Archeological Technician.* As a crew chief, responsible for leading survey crews and the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration, Invasive Species, and NEPA

Dorian Miller (Continued)

Senior Cultural Resources Specialist

personnel for Section 106 compliance. Completed for the Office of Environmental Compliance, Death Valley National Park.

Furnace Creek Day-Use Excavator Damage, Inyo County, CA (CRP No. 21-061). *Archeological Technician.* Conducted survey and a damage assessment for a trespassing instance involving a federal contractor heavy equipment operator traversing over NPS lands, leaving a two-track disturbance on hardened soils. Completed for the Office of Environmental Compliance, Death Valley National Park.

Devils Cornfield ORV Tracks, Inyo County, CA (CRP No. 21-068). *Archeological Technician.* As a crew chief responsible for leading survey crews and the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration, Invasive Species, NEPA personnel, and Law Enforcement for Section 106 compliance. Conducted a damage assessment to determine if citations issued to off-road enthusiasts could be charged under SURPA. Completed for the Office of Environmental Compliance, Death Valley National Park.

FY 2021 Research Permits, Nyborg 2021, Inyo County, CA (CRP No. 21-001-12). *Archeological Technician.* Evaluated research permit applications, drafted Assessment of Effects documentation, and created GIS maps, to ensure “No Adverse Effect” to cultural resources, for independent field studies in the Park. Completed for the Office of Environmental Compliance, Death Valley National Park.

FY 2021 Research Permits, Stauffer 2021, Inyo County, CA (CRP No. 21-001-15). *Archeological Technician.* Evaluated research permit applications, drafted Assessment of Effects documentation, and created GIS maps, to ensure “No Adverse Effect” to cultural resources, for independent field studies in the Park. Completed for the Office of Environmental Compliance, Death Valley National Park.

FY 2021 Research Permits, Zapata 2021, Inyo County, CA (CRP No. 21-001-14). *Archeological Technician.* Evaluated research permit applications, drafted Assessment of Effects documentation, and created GIS maps, to ensure “No Adverse Effect” to cultural resources, for independent field studies in the Park. Completed for the Office of Environmental Compliance, Death Valley National Park.

FY 2021 Research Permits, Schwartz 2021, Inyo County, CA (CRP No. 21-001-04). *Archeological Technician.* Evaluated research permit applications, drafted Assessment of Effects documentation, and created GIS maps, to ensure “No Adverse Effect” to cultural resources, for independent field studies in the Park. Completed for the Office of Environmental Compliance, Death Valley National Park.

FY 2021 Research Permit, Calzia 2021, Inyo County, CA (CRP No. 21-031). *Archeological Technician.* Provided multi-day, cultural monitoring services for a geological research permit led by a USGS Professor Emeritus. Assisted in planning field work, evaluating rock sample locations, and monitoring/mitigating the extraction of field specimens, in order to protect known and previously unidentified cultural resources. Completed for the Office of Environmental Compliance, Death Valley National Park.

Dorian Miller (Continued)

Senior Cultural Resources Specialist

FY 2021 Research Permits, Hodges 2021, Inyo County, CA (CRP No. 21-001-11). *Archeological Technician.* Provided survey, ground-truthing, and mapping for a proposed in-Park geological research permit. Helped ensure “No Adverse Effect” to cultural resources, in accordance with Section 106 compliance. Completed for the Office of Environmental Compliance, Death Valley National Park.

Badwater SURPA OHV Case, Inyo County, CA (CRP No. 21-032). *Archeological Technician.* As a crew chief responsible for leading survey crews and the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration, Invasive Species, NEPA personnel, and Law Enforcement for Section 106 compliance. Conducted a damage assessment to determine if OHV disturbances impacted any cultural resources. Completed for the Office of Environmental Compliance, Death Valley National Park.

2021 Fuels Reduction, Rogers Peak Fuels, Inyo County, CA (CRP No. 21-041-02). *Archeological Technician.* In advance of a proposed fuels reduction project, evaluated the project guidelines and the potential effects to cultural resources to ensure No-Adverse Effect. Completed Assessment of Effects documentation for Section 106 Compliance. Completed for the Office of Environmental Compliance, Death Valley National Park.

2021 Fuels Reduction, Mahogany Flat Fuels, Inyo County, CA (CRP No. 21-041-04). *Archeological Technician.* In advance of a proposed fuels reduction project, evaluated the project guidelines and the potential effects to cultural resources to ensure No-Adverse Effect. Completed Assessment of Effects documentation for Section 106 Compliance. Completed for the Office of Environmental Compliance, Death Valley National Park.

Tortoise Crossing Signs Project, San Bernardino and Inyo Counties, CA (CRP No. 19-041). *Archeological Technician.* Performed cultural resource monitoring in collaboration with NPS Volunteer-in-Park (VIP's), to prevent the disturbance of unidentified cultural resources during the installation of roadside tortoise crossing signs involving minimal ground disturbance. Completed for the Office of Environmental Compliance, Death Valley National Park.

2020-2021

Post-Burn Survey of the Bobcat Fire (2020), Los Angeles Gateway District, Angeles National Forest, CA. *Archeology Technician.* As a field technician, conducted survey, mapping, and technical writing for a post-fire survey and assessment. Completed for the National Forest- ANF Heritage Program (Region 5 PA).

Post-Burn Survey of the Lake Fire (2020), Los Angeles Gateway District, Angeles National Forest, CA. *Archeology Technician.* As a field technician, conducted survey, mapping, and technical writing for a post-fire survey and assessment. Completed for the National Forest- ANF Heritage Program (Region 5 PA).

Copper Fire Chaparral Reforestation Project, Los Angeles Gateway District, Angeles National Forest, CA. *Archeology Technician.* As a field technician, conducted survey, mapping, and technical writing for a volunteer post-fire reforestation project (Copper Fire 2012). Completed for the National Forest- ANF Heritage Program (Region 5 PA).

Powerhouse Fire Sawmill-Liebre Reforestation Plantations Project, Los Angeles Gateway District, Angeles National Forest, CA. *Archeology Technician.* As a field technician, conducted survey, mapping, and technical writing for a

Dorian Miller (Continued)

Senior Cultural Resources Specialist

volunteer post-fire reforestation project (Powerhouse Fire 2013). Completed for the National Forest- ANF Heritage Program (Region 5 PA).

Mountain High Resort New Conveyor Installation and Yurt Relocation, Los Angeles Gateway District, Angeles National Forest, CA. *Cultural Resource Technical Writer.* As a field technician, determined the APE and drafted a Section 106 Clearance report with included maps. Completed for the National Forest- ANF Heritage Program (Region 5 PA).

2020

Butte Valley Burro Exclusion Fence Survey, Inyo County, CA. *Archaeology Research Associate.* As a crew chief, helped plan fieldwork and led survey with two technicians for a large-scale fence line installation within the site boundaries of three historic backcountry cabins listed on the NRHP. Responsible for site updates and boundaries, the recordation of newly identified resources, and mapping; collaborated with NPS archaeologist and NEPA managers. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Cultural Resource Assessment for the Removal of Off-Highway Vehicle Tracks at Mud Canyon, Inyo County, CA. *Archaeology Research Associate.* As a research associate, involved in prefield review, survey, mapping, and finalizing of cultural resource assessment reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration and Invasive Species crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Cultural Resource Assessment for the Removal of Off-Highway Vehicle Tracks at Badwater Basin, Inyo County, CA. *Archaeology Research Associate.* As a research associate, involved in prefield review, survey, mapping, and finalizing of cultural resource assessment reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration and Invasive Species crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Cultural Resource Assessment for the Removal of Off-Highway Vehicle Tracks at Greenwater Valley, Inyo County, CA. *Archaeology Research Associate.* As a research associate, involved in prefield review, survey, mapping, and finalizing of cultural resource assessment reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration and Invasive Species crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Archaeology Compliance Monitoring for the Scotty's Castle Reparation Project, Inyo County, CA. *Archaeological Monitor.* Performed cultural resource compliance monitoring overseeing the trenching and laying of pipe for a new septic line installation and the digging of a 300-foot water well. Coordinated with multiple heavy equipment construction crews to prevent any impact to known historic locations and the potential disturbance of newly identified prehistoric sites. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Cultural Resource Assessment for the Titus Canyon Graffiti Removal Project, Inyo County, CA. *Archaeology Research Associate.* As a research associate, involved in prefield review, survey, and mitigation for the removal of vandalism.

Dorian Miller (Continued)

Senior Cultural Resources Specialist

Coordinated with NPS Law Enforcement and OHV Restoration crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

2019-2020

Cultural Resources Inventory for the Removal of Off-Highway Vehicle Tracks in Panamint Valley, Inyo County, CA.

Archaeology Research Associate. As a research associate, involved in the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration and Invasive Species crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Cultural Resources Inventory for the Removal of Off-Highway Vehicle Tracks at Devil's Cornfield, Inyo County, CA.

Archaeology Research Associate. As a research associate, involved in the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration and Invasive Species crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Cultural Resources Inventory for the Removal of Off-Highway Vehicle Tracks at Ubehebe Crater, Inyo County, CA.

Archaeology Research Associate. As a research associate, involved in the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration and Invasive Species crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

Cultural Resources Inventory for the Removal of Off-Highway Vehicle Tracks Off of North Highway, Inyo County, CA.

Archaeology Research Associate. As a research associate, involved in the finalizing of cultural resource survey reports for the mitigation and restoration of recreational off-road incursions in collaboration with OHV Restoration and Invasive Species crews for Section 106 compliance. Completed for the National Park Service- Death Valley National Park (Great Basin Institute contractor).

2019

Cultural Resource Inventory of the Graded Roads Priorities Maintenance Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Cultural Resource Inventory of the Cuddeback Fenceline Phase II Project, San Bernardino County, CA.

Archaeological Technician. As a field technician, involved in fieldwork, inclusive of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Cultural Resource Inventory & Monitoring for the Snow White Mine Phase II Project, Kern County, CA.

Archaeological Monitor. Performed cultural resource monitoring services in collaboration with construction crews, to

Dorian Miller (Continued)

Senior Cultural Resources Specialist

prevent the disturbance of known cultural resources during the maintenance of a mine access road. Completed for the Vanderbilt Mining Company.

Cultural Resource Inventory of the G-4 Track Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Cultural Resources Survey of the Bounce Strip Improvement Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, and the mapping, recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Cultural Resources Survey of the CT-6 Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, and the mapping, recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

2018- 2019

West Mojave Travel Management Area Project (WEMO), Inyo, Kern, Los Angeles, and San Bernardino Counties, CA. *Archaeological Technician.* As a field technician, responsible for 4,000 acres of survey, site recordation, ArcGIS mapping/inventory, the evaluation of cultural resources, and determining NRHP site eligibility. Completed in support of the Bureau of Land Management- Ridgecrest Field Office. (Epsilon Systems Solutions contractor).

2018

Cultural Resource Inventory of the Snow White Mine Phase I Project, Kern County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of 46.7 acres of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for the Bureau of Land Management- Ridgecrest Field Office.

Cultural Resources Survey and Monitoring for the Camp Matthews Study Area Munitions Response Site (MRS) 02 Remedial Investigation/Feasibility Study (RI/FS) Project, San Diego County, CA. *Archaeological Monitor.* Performed cultural resource monitoring services in collaboration with unexploded ordnance technicians to prevent the disturbance of known cultural resources. Completed in support of Bristol Environmental Remediation Services LLC.

Cultural Resource Inventory of the Chukar Point Road Maintenance Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Cultural Resource Inventory of the Airport Lake Project, Kern County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, and the mapping, recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).



Dorian Miller (Continued)

Senior Cultural Resources Specialist

Cultural Resource Inventory of the Cuddeback Phase I Project, San Bernardino County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Cultural Resource Inventory of the C-1 Target Area Project, Kern County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of 488 acres of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for the Department of Defense- Navy (China Lake).

Cultural Resource Inventory for the Panamint Valley Drill Sites Project, Inyo County, CA. *Archaeological Technician.* As a field technician, involved in fieldwork, inclusive of survey, mapping, site recording, and testing of newly identified and previously recorded cultural resources. Completed for private mining company.

Appendix B

Sacred Lands File Search

**NATIVE AMERICAN HERITAGE COMMISSION**

December 12, 2023

Fatima Clark
ESAVia Email to: fclark@esassoc.comCHAIRPERSON
Reginald Pagaling
ChumashVICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki,
NomlakiSECRETARY
Sara Dutschke
MiwokPARLIAMENTARIAN
Wayne Nelson
LuiseñoCOMMISSIONER
Isaac Bojorquez
Ohlone-CostanoanCOMMISSIONER
Stanley Rodriguez
KumeyaayCOMMISSIONER
Laurena Bolden
SerranoCOMMISSIONER
Reid Milanovich
CahuillaCOMMISSIONER
VacantEXECUTIVE SECRETARY
**Raymond C.
Hitchcock**
Miwok, Nisenan**NAHC HEADQUARTERS**
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov**Re: Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project, Los Angeles County**

Dear Ms. Clark:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the Fernandeno Tataviam Band of Mission Indians on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Los Angeles County
12/12/2023

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Barbareño/Ventureño Band of Mission Indians	N	Cultural Resource Committee,	P.O. Box 364 Ojai, CA, 93024	(805) 746-6685		CR@bvbmi.com	Chumash	Los Angeles,San Luis Obispo,Santa Barbara,Ventura	6/19/2023
Chumash Council of Bakersfield	N	Julio Quair, Chairperson	729 Texas Street Bakersfield, CA, 93307	(661) 322-0121		chumashtribe@sbcglobal.net	Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	
Coastal Band of the Chumash Nation	N	Gabe Frausto, Chairman	P.O. Box 40653 Santa Barbara, CA, 93140	(805) 568-8063		fraustogabriel28@gmail.com	Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	8/28/2023
Fernandeno Tataviam Band of Mission Indians	N	Sarah Brunzell, CRM Manager	1019 Second Street San Fernando, CA, 91340	(818) 837-0794		CRM@tataviam-nsn.us	Tataviam	Kern,Los Angeles,Ventura	5/25/2023
Gabrieleno Band of Mission Indians - Kizh Nation	N	Andrew Salas, Chairperson	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno Band of Mission Indians - Kizh Nation	N	Christina Swindall Martinez, Secretary	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno/Tongva San Gabriel Band of Mission Indians	N	Anthony Morales, Chairperson	P.O. Box 693 San Gabriel, CA, 91778	(626) 483-3564	(626) 286-1262	GTTribalcouncil@aol.com	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Ventura	12/4/2023
Gabrielino /Tongva Nation	N	Sandonne Goad, Chairperson	106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012	(951) 807-0479		sgoad@gabrielino-tongva.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Ventura	3/28/2023
Gabrielino Tongva Indians of California Tribal Council	N	Christina Conley, Cultural Resource Administrator	P.O. Box 941078 Simi Valley, CA, 93094	(626) 407-8761		christina.marsden@alumni.usc.edu	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino Tongva Indians of California Tribal Council	N	Robert Dorame, Chairperson	P.O. Box 490 Bellflower, CA, 90707	(562) 761-6417	(562) 761-6417	gtongva@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino-Tongva Tribe	N	Sam Dunlap, Cultural Resource Director	P.O. Box 3919 Seal Beach, CA, 90740	(909) 262-9351		tongvatcr@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Ventura	5/30/2023
Gabrielino-Tongva Tribe	N	Charles Alvarez, Chairperson	23454 Vanowen Street West Hills, CA, 91307	(310) 403-6048		Chavez1956metro@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Ventura	5/30/2023
Northern Chumash Tribal Council	N	Violet Walker, Chairperson	P.O. Box 6533 Los Osos, CA, 93412	(760) 549-3532		violetsgewalker@gmail.com	Chumash	Los Angeles,San Luis Obispo,Santa Barbara,Ventura	6/5/2023
San Fernando Band of Mission Indians	N	Donna Yocum, Chairperson	P.O. Box 221838 Newhall, CA, 91322	(503) 539-0933	(503) 574-3308	dyocum@sfbmi.org	Kitanemuk Vanyume Tataviam	Kern,Los Angeles,San Bernardino,Ventura	5/8/2023
Santa Ynez Band of Chumash Indians	F	Kelsie Shroll, Elders' Council Administrative Assistant	100 Via Juana Road Santa Ynez, CA, 93460	(805) 245-5403		kshroll@chumash.gov	Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023
Santa Ynez Band of Chumash Indians	F	Nakia Zavalla, Tribal Historic Preservation Officer	100 Via Juana Road Santa Ynez, CA, 93460			nzavalla@chumash.gov	Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023
Santa Ynez Band of Chumash Indians	F	Sam Cohen, Government & Legal Affairs Director	100 Via Juana Road Santa Ynez, CA, 93460			scohen@chumash.gov	Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023
Santa Ynez Band of Chumash Indians	F	Wendy Teeter, Cultural Resources Archaeologist	100 Via Juana Road Santa Ynez, CA, 93460	(805) 325-8630		wteeter@chumash.gov	Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project, Los Angeles County.

Record: PROJ-2023-006080
Report Type: List of Tribes
Counties: Los Angeles
NAHC Group: All

Appendix E
**Paleontological Resources
Assessment Report**

Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project - Paleontological Resources Assessment Report

Paleontological Resources Assessment Report

Prepared for
Santa Clarita Valley Sanitation District

June 2024



Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project - Paleontological Resources Assessment Report

Paleontological Resources Assessment Report

Prepared for:
Santa Clarita Valley Sanitation District

June 2024

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Principal Investigator and Author:
Russell Shapiro, Ph.D.

Project Location:
Newhall (CA) USGS 7.5-minute Topographic Quad
Township 4 North, Range 16 West, Unsectioned

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300
esassoc.com



Atlanta	Palm Beach County	San Diego
Bend	Pasadena	San Francisco
Irvine	Pensacola	San Jose
Los Angeles	Petaluma	Sarasota
Mobile	Portland	Seattle
Oakland	Rancho Cucamonga	Tampa
Orlando	Sacramento	Thousand Oaks

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EXECUTIVE SUMMARY

Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project - Paleontological Resources Assessment Report

Environmental Science Associates (ESA) has been retained by the Santa Clarita Valley Sanitation District (SCVWD or District) to conduct a cultural resources assessment for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (proposed project) in support of an Environmental Impact Report (EIR). The SCVSD operates the VWRP located at 28185 The Old Road in the Valencia neighborhood of Santa Clarita. The proposed project would include the construction of a ground retaining wall along the southern boundary of the VWRP on the riverside of the existing retaining wall. The proposed project would also include upgrades to two outfall structures; a 48-inch diameter outfall (Discharge Outfall 001) and an 18-inch diameter outfall (Discharge Outfall 002). Lastly, excavation would also be required approximately 15 feet north of the existing Outfall 001 in order to create trenches for a temporary bypass pipe alignment. The SCVSD is the lead agency pursuant to the California Environmental Quality Act (CEQA).

Geologic mapping by Dibblee and Ehrenspeck (2016) and Morton (1976) shows that the Project Site is located on the valley floor of young, Holocene-age alluvial sediments (Qa) that overlie Pliocene-Pleistocene Saugus Formation (QTs). The QTs is exposed in low hills around the Project Site, typically eroded and capped by older alluvium (Qog). This geology is typical of the piedmont of the Transverse Ranges.

A database search from the Natural History Museum of Los Angeles County (LACM) for records of fossil localities in and around the Project Site (Bell, 2023) noted that there are no records of fossils previously identified within the Project Site. However, significant fossils from the Saugus Formation have been collected within several miles of the Project Site. In addition, a search of the published literature revealed a number of significant vertebrate and plant fossils from the Saugus Formation, establishing it as having “High Potential” for significant fossil resources. The older alluvium (Qog) is considered “Low Significance” due to its coarse nature and location proximal to the mountain front. The dominant young alluvium (Qal) is too young to host significant paleontological resources.

Ground disturbing activities associated with the proposed project should not impact fossil resources as the units at the surface are too young to host fossils. It is possible that deep

excavations may strike the older Saugus Formation. To best mitigate against unanticipated fossils, the following measures are recommended: the retention of a qualified paleontologist, paleontological resources sensitivity training, and inadvertent discovery protocols. Details of these recommendations can be found in the *Conclusions and Recommendation* section at the close of this report.

VALENCIA WATER RECLAMATION PLANT MIDDLE SECTION RETAINING WALL GROUND IMPROVEMENT PROJECT - PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT

Paleontological Resources Assessment Report

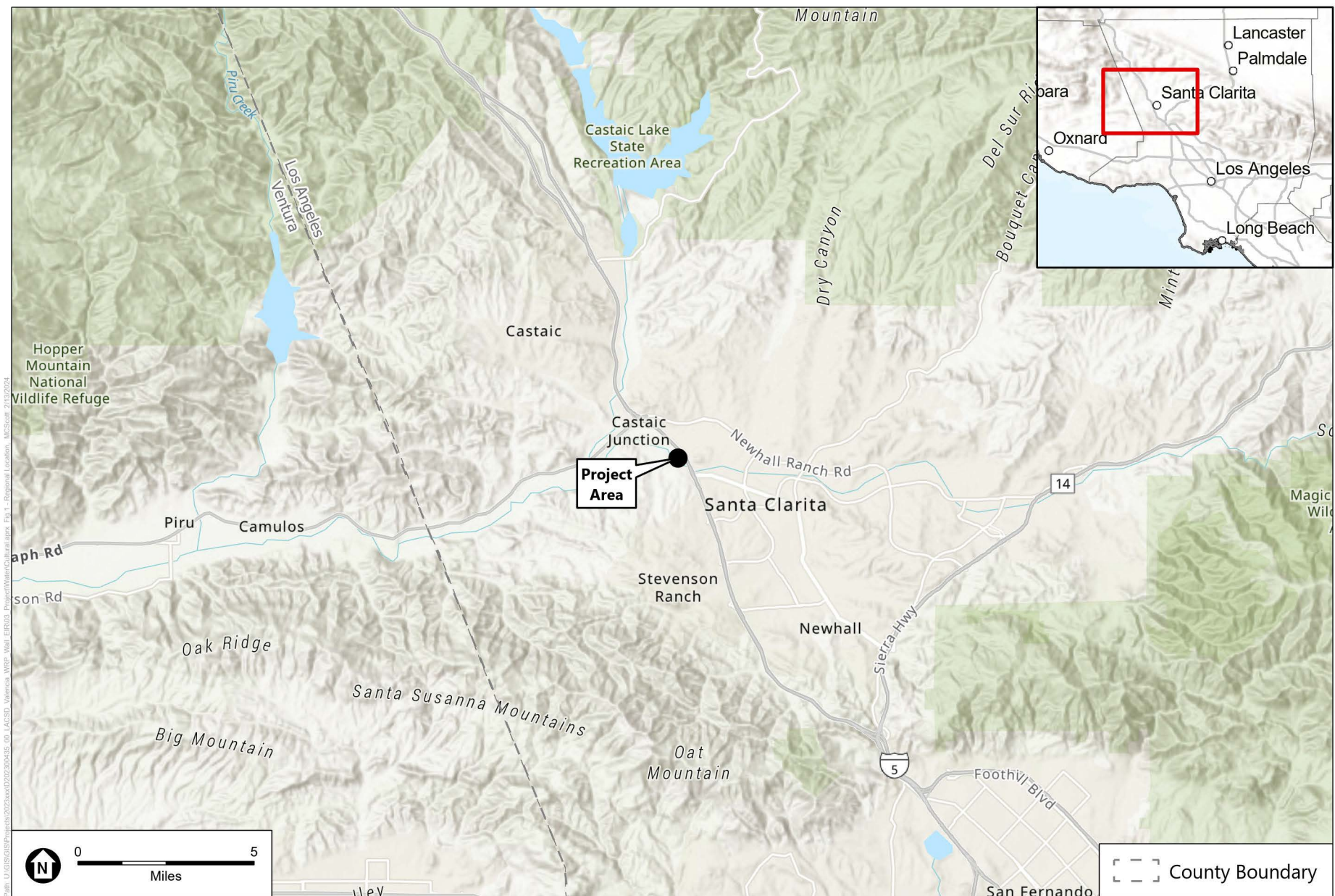
Introduction

Environmental Science Associates (ESA) has been retained by the Santa Clarita Valley Sanitation District (SCVWD or District) to conduct a cultural resources assessment for the Valencia Water Reclamation Plant (VWRP) Middle Section Retaining Wall Ground Improvement Project (proposed project) in support of an Environmental Impact Report (EIR). The SCVSD operates the VWRP located at 28185 The Old Road in the Valencia neighborhood of Santa Clarita. SCVSD has determined through previous studies that under a Capital Storm event, the VWRP has the potential to be exposed to erosion along approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary after flooding due to scour. The proposed project would include a new ground retaining wall structure and upgrades to the outfall structures.. The SCVSD is the lead agency pursuant to the California Environmental Quality Act (CEQA).

ESA personnel involved in the preparation of this report are as follows: Sara Dietler, B.A., Project Manager; Russell Shapiro, Ph.D., Principal Investigator of paleontology and report author; Fatima Clark, B.A., report contributor; and Chance Scott, GIS specialist. Resumes of key personnel are included in **Appendix A**.

Project Location

As previously mentioned the VRWP is located at 28185 The Old Road in the Valencia neighborhood of Santa Clarita, in unincorporated Los Angeles County (**Figure 1**). The VWRP is bound by The Old Road to the north and adjacent commercial businesses to the northeast, the Santa Clara River and Santa Clara River Significant Ecological Area to the west and south, and Six Flags Magic Mountain amusement park to the southwest beyond the Santa Clara River. The proposed project is situated in an unsectioned portion of Township 4 North, Range 16 West, of the Newhall, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (**Figure 2**).



SOURCE: ESA, 2023

Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project

Figure 1
Regional Location

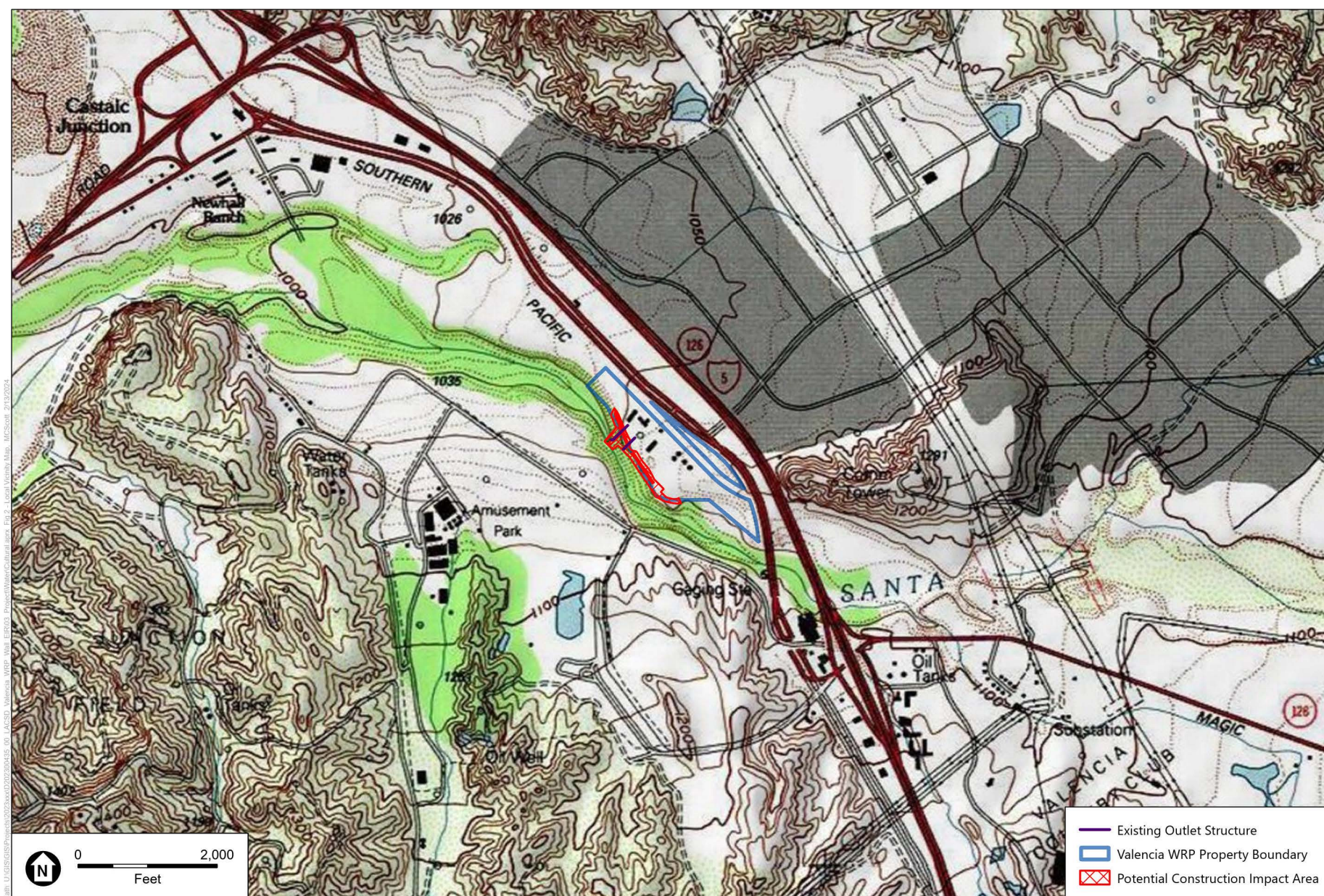


Figure 2
Local Vicinity Map

Project Description

The proposed project would include a new ground retaining wall structure to fortify approximately 1,000 feet of the middle section of the existing retaining wall and along the VWRP boundary to protect the VWRP during a flood scour event and design-level earthquake. In addition, the proposed project would include updates to two existing outfall structures: a 48-inch diameter outfall (Discharge Outfall 001) and an 18-inch diameter outfall (Discharge Outfall 002). An operations and maintenance area would be cleared around the existing outfall easements for continued use during long-term maintenance of the structures. Lastly, excavation would also be required approximately 15 feet north of the existing Outfall 001 in order to create trenches for a temporary bypass pipe alignment. The temporary bypass pipe would be connected to an existing, buried portion of Discharge Outfall 001 and redirected towards the riverbank to discharge into an existing concrete channel. Excavation depth would be approximately 10 feet below grade towards the discharge location and approximately 10 feet wide, with the total length of the bypass pipe alignment at 251 feet.

Regulatory Framework

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value that are afforded protection under state laws and regulations. The following section summarizes the applicable state laws and regulations, as well as professional standards provided by the Society of Vertebrate Paleontology (SVP, 2010).

State Regulations

California Environmental Quality Act

The CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations, Section 15000 *et seq.*), are prescribed by the Secretary of Resources to be followed by state and local agencies in California in their implementation of the CEQA. Appendix G of the CEQA Guidelines includes an Environmental Checklist Form with questions that may be used by public agencies in their assessment of impacts on the environment. The question within Appendix G that relates to paleontological resources states: “Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?” The City of Burbank uses this question as its threshold of significance for determining whether impacts of paleontological resources are significant. CEQA protects paleontological resources by requiring an assessment of a project’s potential paleontological impacts.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in PRC Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Society for Vertebrate Paleontology

The SVP has established standard guidelines (SVP, 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific Laws, Ordinances, Regulations, and Standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP (2010:11), significant nonrenewable paleontological resources are:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).

Based on the significance definitions of the SVP (2010), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be “sensitive” to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case (SVP, 2010).

Fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. Therefore, without natural erosion or human-caused exposure, paleontologists cannot know either the quality or quantity of fossils. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that

fossils will be discovered during ground-disturbing activities and that, if the fossils are significant, that successful mitigation and salvage efforts may be undertaken.

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its “Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources,” the SVP (2010:1-2) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcanoclastic formations (e. g., ashes or tephra), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.).
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.
- **Undetermined Potential.** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.
- **No Potential.** Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

For geologic units with high potential, full-time monitoring is generally recommended during any Project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field

surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontologic potential of the rock units present within the study area.

Paleontological Resources Significance Criteria

Numerous paleontological studies have developed criteria for the assessment of significance for fossil discoveries (e.g. Eisentraut and Cooper, 2002; Murphey and Daitch, 2007; Scott and Springer, 2003, etc.). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In summary, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important (Eisentraut and Cooper, 2002; Murphey and Daitch, 2007; Scott and Springer, 2003). Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer, 2003; Scott et al., 2004).

Methods and Results

The Project Site was the subject of thorough background research and analysis to assess its paleontological sensitivity. The research included a paleontological records search conducted by the Natural History Museum of Los Angeles County (LACM), as well as geologic map and literature reviews conducted by ESA Principal Paleontologist, Russell Shapiro, Ph.D.

Geologic Setting

The Project Site lies within the San Gabriel Mountains of the Transverse Ranges (Yerkes et al., 1965; Sylvester and O-Black Gans, 2016). The Transverse Ranges spans from Point Conception in Santa Barbara County eastward to the San Bernardino Mountains in San Bernardino County and consists of a complex series of young, east-west-trending mountain ranges and basins that contradict the general north-south orientation of California's other mountain ranges. The bedrock

mountain ranges are separated by alluviated, broadly synclinal (i.e., folded) valleys, narrow stream canyons, and prominent faults (Norris and Webb 1990; Sylvester and O’Black Gans 2016). Structurally, the distribution and folding of the geologic units in the region has been widely influenced by movement and forces associated with the San Andreas Fault, as well as its former strands, resulting in the translation and rotation of the Transverse Ranges during the Miocene to Pleistocene (Campbell et al. 2014; Devine et al. 2022).

Bedrock in the mountains around the Project Site is crystalline Proterozoic metamorphic rocks intruded by Mesozoic plutons and overlain by terrestrial and some marine Neogene sedimentary deposits (Sylvester and O’Black Gans 2016). These units have been folded into parallel synclines and anticlines during the Miocene due to movement along the San Gabriel and San Andreas faults. At the end of the Pliocene, the sea had withdrawn, and terrestrial clastic sediments derived from the erosion of the neighboring ranges and tributaries of the Santa Clara River filled the basins during the Pleistocene and Holocene.

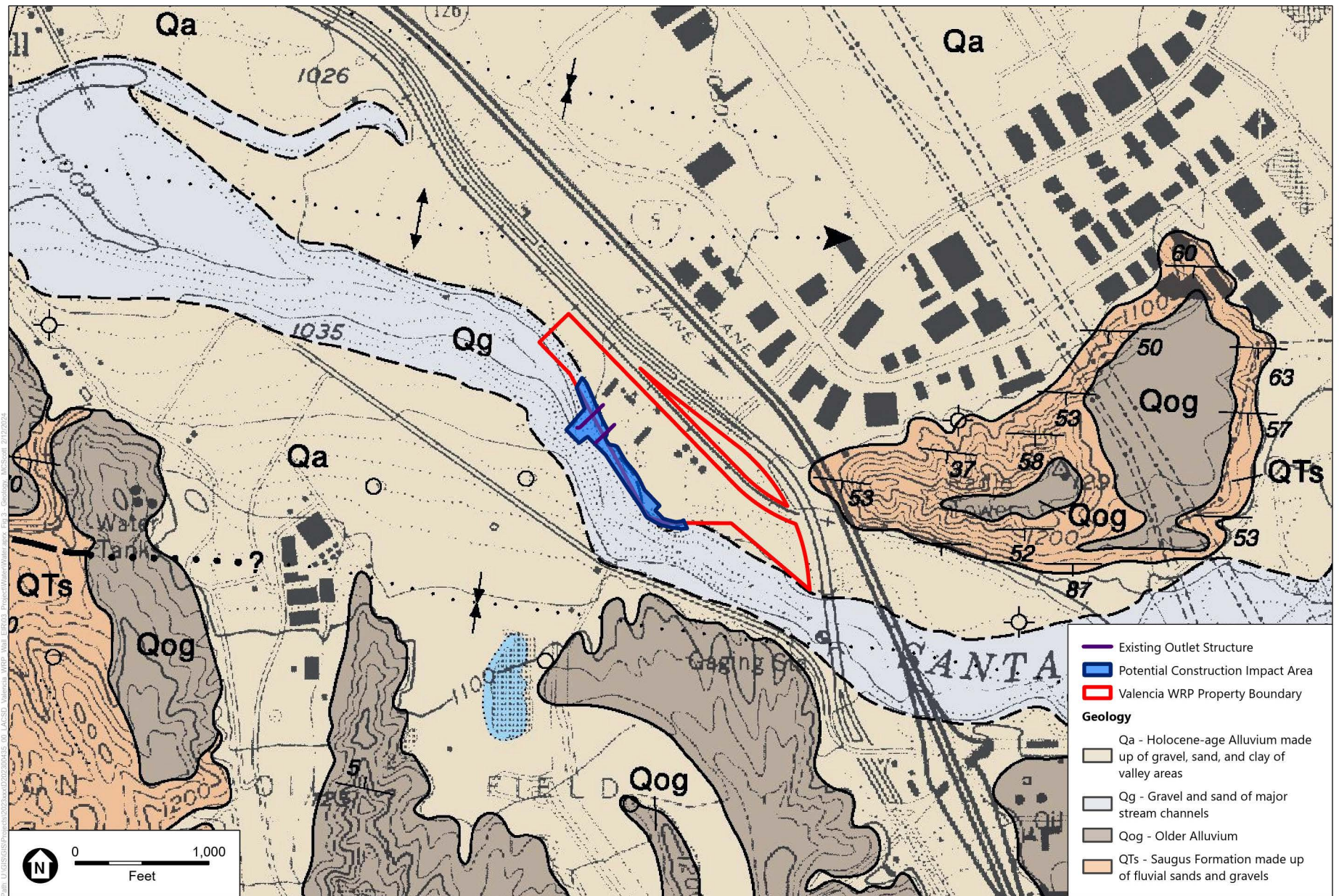
Geologic Map and Literature Review

The Project Site is mapped on the Dibblee and Ehrenspeck (2016) 1:24,000 geological map (**Table 1** and **Figure 3**). The entire Project Site is underlain by Quaternary alluvium, composed of mixed sedimentary rocks of clay, sand and gravels. Uplifted areas of older Saugus Formation (QTs) are found as low hills around the Project Site. The Saugus Formation here is composed of light grey to light reddish brown pebble cobble conglomerate with minor sandstone and siltstone. These sediments are believed to have been deposited by streams (Dibblee and Ehrenspeck 2016). The depth to the QTs below the alluvium is unknown. Older alluvial gravels (Qog) cap the exposed hills of QTs but may not exist in the subsurface. A similar assessment of Quaternary units was also published in the map by Morton (1976).

TABLE 1
SUMMARY OF GEOLOGIC UNITS WITHIN AND IMMEDIATELY ADJACENT TO PROPOSED PROJECT

Geologic Unit	Map Unit Symbol	Age	Description	Depth	Paleo Sensitivity
Holocene-age Alluvium	Qa	Holocene (1,000-10,000 years ago)	Alluvial gravel, sand, and clay of valley areas.	Est. >25’.	Low
Older Alluvium	Qog	Early Holocene-Late Pleistocene (~10,000-100,000 years ago)	Alluvial fan and high terrace deposits of sand and gravel.	Unknown.	Low
Saugus Formation	QTs	Early Pleistocene-Pliocene (~2 Ma)	Fluvial sands and gravels.	Unknown.	Moderate

SOURCE: Dibblee and Ehrenspeck, 2016



SOURCE: ESA, 2023; USGS, 2012

Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project

Figure 3
Geologic Map

Quaternary Alluvium (Qa): The youngest unit in the area is the alluvium filling the valley floors. Dibblee and Ehrenspeck (2016) do not provide much information but alluvium in the Transverse Ranges is dominantly coarse gravel to sandstone derived from the rapidly uplifting mountains adjacent to the valleys. In many areas in the larger Los Angeles Basin, younger alluvium may overly deposits of older alluvium. However, based on the regional geology of the Project Site, it is unlikely that older alluvium exists within the projected excavation depths.

Older Alluvium (Qog): While not exposed directly in the Project Site, mesas capped by older Quaternary alluvium are found immediately outside the Project Site. These regions of older alluvial fans and high terrace deposits are dominated by gravel and sand of mostly crystalline basement rocks (Dibblee and Ehrenspeck, 2016).

Saugus Formation (QTs): The Saugus Formation underlies the ridges surrounding the Project Site. The QTs is composed of fluvial sediments of late Pliocene to Pleistocene age. Oxidation is common as the sands and gravels are typically reddish-orange in outcrop. While not exposed in the Project Site, it is believed that the QTs underlies the Qa at a shallow depth.

Paleontological Resources Record Search

A paleontological resources database search was conducted by the Natural History Museum of Los Angeles County (LACM) on November 19, 2023 (**Appendix B**). The search entailed an examination of current geologic maps and known fossil localities within the Project Site and vicinity. The purpose of the records search was to: (1) determine whether any previously recorded fossil localities occur in the Project Site or vicinity; (2) assess the potential for disturbance of these localities during construction; and (3) assist in evaluating the paleontological sensitivity of the Project Site.

Results of the paleontological resources records search conducted by the LACM indicated that no fossil localities lie directly within the Project Site; however, several macro- and micro-vertebrate fossil localities (LACM VP 6062, 6063, and 6804) were identified nearby from the Saugus Formation. As the Saugus Formation likely underlies the Quaternary alluvium at a shallow depth, the findings are relevant to the Project Site (**Table 2**) (Bell, 2023).

LACM VP 6063 is located approximately 2 miles from the Project Site and produced fossil specimens of horse (*Plesippus*) at an unknown depth. LACM VP 6804 is located approximately 1.25 miles from the Project Site and produced a fossil specimen of Equidae at surface. LACM VP 6062 is situated approximately 2.8 miles from the Project Site and yielded specimens of anguid lizard (*Gerrhonotus*), rabbit (*Leporidae*), pocket gopher (*Thomomys*), and pocket mouse (*Perognathus*) at unknown depths.

TABLE 2
LACM FOSSIL LOCALITIES

Locality Number	Formation	Taxa	Depth
LACM VP 6063	Saugus Formation	Horse (Plesippus)	Unknown (collected during grading work)
LACM VP 6804	Saugus Formation	Equidae	surface
LACM VP 6062	Saugus Formation (fine-grained sandy siltstone)	Anguid lizard (Gerrhonotus); rabbit (Leporidae); pocket gopher (Thomomys); pocket mouse (Perognathus)	Unknown (flood control channel being excavated)

NOTE:

VP: Vertebrate Paleontology

SOURCE: LACM, 2023

Literature Review

Geologists consider the Saugus Formation was deposited mostly in a nonmarine depositional environment, with local shallow marine interbeds near its base (Winterer and Durham 1962). Clasts within the Saugus Formation, undivided consist of plutonic, metamorphic, and volcanic rock fragments originating from the San Gabriel Mountains on the south, as well as metamorphic schist fragments originating from the Sierra Peloma on the northeast (Campbell et al. 2014; Norris and Webb 1990).

The Saugus Formation contains numerous fossil localities yielding horse, tapir, deer, camel, canine, rabbit, rodent, bird, lizard, invertebrate, and plant fossils (Axelrod and Cota 1993; Geiger and Groves 1999; Groves 1991; Oakeshott 1950; Winterer and Durham 1962; Yeats and McLaughlin 1970).

Paleontological Sensitivity Analysis

The literature and geologic mapping review, as well as the LACM records search results, were used to assign paleontological sensitivity to the geologic units at surface and underlying the Project Site, following the guidelines of the SVP (2010):

Qa: Holocene alluvium is found across the entire Project Site to an unknown depth. As alluvium in the valleys of the Transverse Ranges is likely less than 5,000 years old, the Qa is considered too young to contain fossils. Therefore, this unit is assigned a **Low Potential** to contain paleontological resources.

Qog: The older alluvium exposed around the Project Site is of an age to contain significant Ice Age fossils. However, all the exposures are dominated by coarse gravels eroded from the adjacent mountains. Coarse sedimentary facies are not as likely to host fossils due to the original

environment. Therefore, the Qog is assigned a **Low Potential** to contain paleontological resources.

QTs: The Saugus Formation likely occurs below the Quaternary alluvium in the Project Site at an unknown depth. The Saugus Formation has yielded significant fossils near the Project Site and throughout the greater Transverse Ranges as demonstrated in museum records and the published literature. Based on the standards of the Society of Vertebrate Paleontology (2010), the QTs is assigned a **High Potential** to contain paleontological resources.

Conclusions and Recommendations

Excavation for the proposed project may impact paleontological resources at depth if excavation exceed the thickness of the young, Quaternary alluvium and intersect the Saugus Formation. Because the depth to the base of the alluvium is unknown, the following mitigation measures are recommended to reduce potential impacts to paleontological resources. These recommendations are based on the SVP (2010) procedural guidelines:

GEO-1: Prior to any Project ground disturbance activities, a qualified paleontologist shall be retained by the Applicant to prepare a Worker's Environmental Awareness Program (WEAP) and train all construction personnel prior to the start of any construction activities. The WEAP training shall include, at a minimum, the following information:

- Review of local and State laws and regulations pertaining to paleontological resources;
- Types of fossils that could be encountered during ground disturbing activity in the Saugus Formation;
- Photos of example fossils based on the regional LACM collections that could occur on site for reference; and
- Instructions on the procedures to be implemented should unanticipated fossils be encountered during construction, including stopping work in the vicinity of the find and contacting a qualified professional paleontologist.

GEO-2: In the event an unanticipated fossil discovery is made during ground disturbing activities, construction activities shall halt in the immediate vicinity of the fossil, and the qualified professional paleontologist retained by the Applicant shall be notified to evaluate the discovery, determine its significance, and evaluate whether additional mitigation or treatment is warranted. Work in the area of the discovery shall resume once the find is properly documented and authorization is given by the qualified paleontologist to resume construction work. Any significant paleontological resources found shall be prepared, identified, analyzed, and permanently curated in an approved regional museum repository.

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Appendix A

Personnel



Sara Dietler

Senior Archaeologist

EDUCATION

BA. Anthropology,
San Diego State
University

20 YEARS OF EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit,
Principal Investigator,
Statewide

Nevada BLM Permit,
Paleontology, Field
Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American
Archaeology (SAA)

Society for California
Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

San Pedro Plaza Park, San Pedro, Los Angeles, CA. Senior Cultural Resources Project Manager. Provided archaeological and paleontological monitoring support for the San Pedro Plaza Park Project. The project area is located in the City of Los Angeles port district of San Pedro, approximately 26 miles south of downtown Los Angeles for the City of Los Angeles, Bureau of Engineering, Environmental Management Group. Sara provided quality control oversight for the archaeological and paleontological mitigation. During monitoring on the project, archaeological materials were recovered include refuse associated with park use since it opened in 1889, and historic building debris likely associated with the Carnegie Library which formerly stood on site. Provided recommendations for commemoration and protection of the find.

City of Los Angeles Department of Public Works BOE, Gaffey Street Pool Construction Monitoring, San Pedro, Los Angeles, CA. Project Manager. Sara oversaw the data recovery of a World War I slit trench discovered during project excavation for an ADA compliant sidewalk. Provided mitigation recommendations and immediate response to the find. Served as project manager and senior archaeologist on the project.

Warner Grand Theatre, Historic Resources Technical Report and Conditions Assessment, San Pedro, Los Angeles, CA. Project Manager, Report Co-Author. The City of Los Angeles Bureau of Engineering, Environmental Management Group requested a Cultural Resources Surveys to inform and guide future rehabilitation or redevelopment efforts of the Warner Grand Theatre. The Warner Grand Theatre designed in the Art Deco-Modern style by master architect B. Marcus Priteca in 1931, and is listed on the National Register of Historic Places, and is designated a Los Angeles Historic-Cultural Monument. ESA prepared a historical resources technical report and conditions assessment report, which provided a comprehensive table of character-defining features along with a conditions

assessment of each feature located within the interior and exterior of the Warner Grand Theatre.

City of Los Angeles Department of Public Works BOE, Alameda Street Widening Between Harry Bridges Boulevard and Anaheim Street Project, Los Angeles, CA. *Project Manager.* The project included upgrades to Alameda Street and adjoining streets with improved infrastructure to accept increased traffic from existing and proposed projects located primarily within the Port of Los Angeles and the Wilmington Industrial Park and to adequately deal with storm flows. Conducted a CHRIS record search of the project area for archaeological and paleontological resources and produced technical documents regarding the findings and recommendations for construction activities during the proposed project. In addition, provided archaeological/paleontological monitoring for geotechnical testing and further recommendations based on the results of the testing. Sara provided senior oversight of the reporting and survey and served as project manager.

670 Mesquit Street and Seventh Street Bridge Evaluation, Los Angeles, CA. *Project Manager and Report Co-author.* ESA prepared an EIR for the 670 Mesquit Street project in Los Angeles. As part of the EIR, a Cultural Resources Technical Report was prepared to determine if the project site was eligible for listing as a historical resource. The project site, originally occupied by the Los Angeles Ice and Cold Storage Company, was determined to lack integrity and therefore, ineligible for listing. Although the core of the building on the project site retained elements of the historic cold storage building, the facility was seismically upgraded resulting in significant alterations to its exterior. In its current condition, the facility does not convey its historical associations. The project was also evaluated to determine if it would result in any potential impacts to nearby historic resources, including the Seventh Street Bridge and adjacent railroad tracts. Located south of the project site is the Seventh Street Bridge, which is listed on the California Register of Historical Resources, and eligible for the National Register of Historic Places. Sara provided oversight and analysis for the preparation of Cultural Resources Technical Report.

Long Beach Courthouse Project; Long Beach, CA. *Senior Project Archaeologist and Project Manager.* Under contract to Clark Construction Sara directed the paleontological and archaeological monitoring for the construction of the New Long Beach Courthouse. She supervised monitors inspecting excavations up to 25 feet in depth. Nine archaeological features were recovered. Sara completed an assessment of the artifacts and fossil localities in a technical report at the completion of the project.

Venice Dual Force Main Project, Venice, CA. *Cultural Resources Lead.* The Venice Dual Force Main Project is an \$88 million sewer force main construction project spanning 2 miles within Venice, Marina del Rey, and Playa del Rey. Contracted to Vadnais Trenchless Services and reporting to the City of Los Angeles, Bureau of Engineering, Environmental Management Group, ESA is serving as the project's environmental resource manager. Sara provides quality control oversight for the archaeological and paleontological mitigation.

Advanced Water Treatment Facility Project Groundwater Reliability Improvement Project, Pico Rivera, CA. *Project Manager.* ESA is providing environmental compliance monitoring for the Water Replenishment District to

ensure compliance with the conditions contained in the Mitigation and Monitoring Reporting Programs associated with three environmental documents, including the Final EIR, a Mitigated Negative Declaration, and a Supplemental EIR, pertaining to three infrastructure components associated with the project. ESA provides general compliance monitoring at varying rates of frequency depending on the nature of the activities and is sometimes on-site for 4-hour spot checks and other times for full 24-hour rotations. The project is located near a residential neighborhood and adjacent the San Gabriel River. Issues of concern include noise, vibration, night lighting, biological resources, cultural resources, and air quality. Sara provides quality assurance and oversight of the field monitoring, and day-to-day response to issues. She oversees archaeological and Native American monitoring for ground disturbance and coordinates all sub-consultants for the project. She provides daily, weekly, and quarterly reporting on project compliance to support permitting and agency oversight.

Southern California Edison On-Call Master Services Agreement for Natural and Cultural Resources Services; *Cultural Resources Task Manager.* Sara provides project management and senior archaeological support for an on-call Master Services Agreement with Southern California Edison for cultural and natural resources consulting services. This contract has included numerous surveys and monitoring projects for pole replacements and small- to mid-size reconductoring projects, substation maintenance, and construction projects. Sara has served as project manager for more than 25 projects under this contract. She is the go-to person for all water, gas, and power projects occurring in the city of Avalon on Santa Catalina Island. Sara is responsible for oversight of archaeological and paleontological monitors, serving as report author and report manager.

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager.* Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, "Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery."

Scattergood Olympic Transmission Line, Los Angeles, CA. *Report Author.* The Los Angeles Department of Water and Power is proposing to construct and operate approximately 11.4 miles of new 230 kilovolt (kv) underground transmission line that would connect the Scattergood Generation Station and Olympic Receiving Station. The project includes monitoring of construction activities occurring in street rights-of-way. Sara is providing final reporting for the long-term monitoring and QA/QC of the field data.

Veterans Administration Long Beach, Long Beach, CA. *Senior Project Manager.* Sara managed a long term monitoring project which also includes implementation of a Memorandum of Agreement, a Plan of Action, and Historic Properties Treatment plan for the mitigation of disturbance to a prehistoric site on the campus.

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager.* Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Sara was responsible for Caltrans coordination, serving as contributing author and report manager for the required Archaeological Survey Report, Historic Properties Survey Report, and Historical Resources Evaluation Report prepared for the project.

Hellman Ranch Project, Orange County, CA. *Lab Director.* Sara served as the lab director for the final monitoring phase of the John Laing Homes development project, cataloging and analyzing artifacts recovered from salvage monitoring and test units placed in relation to recovered intact burials. She conducted microscopic analysis of small items such as bone tools and shell and stone beads, directed lab assistants, and oversaw special studies, including the photo-documentation of the entire collection. Sara completed a section reporting on the results of the bead and ornament analysis in the final report, which was published as part of a technical series.

Hansen Dam Golf Course Water Recycling Project, Los Angeles, CA. *Senior Archaeologist and Project Manager.* Sara directed a phase I historical assessment for the Hansen Dam Golf Course Water Recycling Project located in the San Fernando Valley, City of Los Angeles, California. The project included the construction of an outdoor pumping station adjacent to the existing Hansen Tank located at the Los Angeles Department of Water and Power's (LADWP's) Valley Generating Station. In addition, a pipeline or distribution line was planned to be installed from the pumping station to the Hansen Dam Golf Course along the Tujunga Wash. The phase I study of this project included mitigation for the effects of the project on the portion of the golf course falling within the area of potential effects, which was potentially sensitive for buried cultural resources as the result of a complex of World War II housing units placed on the site between the 1940s and the 1960s. Sara conducted consultation with the USACE regarding the project.



Russell S. Shapiro, PhD

Principal Investigator

EDUCATION

Ph.D., Geological Sciences, University of California, Santa Barbara, 1998
B.S., Geology, Humboldt State University, 1992

25 YEARS EXPERIENCE

CERTIFICATIONS/REGISTRATION

U.S. Fish and Wildlife Cultural Resources Use Permit
U.S. Forest Service Cultural Resources Use Permit
Bureau of Land Management Cultural Resources Use Permit
Wilderness and Remote First Aid (Red Cross Certified)

PROFESSIONAL AFFILIATIONS

Geobiology Society; Treasurer
Society for Sedimentary Geology (SEPM); Vice-President
Society for Vertebrate Paleontology

As a Principal Investigator, Dr. Shapiro has been involved in review of paleontological resource reports and evaluating proposed mitigation plans. Dr. Shapiro researches and prepares environmental impact reports regarding cultural resources (fossils), conducts field (geological and paleontological) surveys, and oversees ground disturbance at construction sites for Environmental Quality compliance (CEQA, NEPA, and the Paleontological Resources Preservation Act). As a Qualified Paleontologist, Dr. Shapiro has also reviewed resource planning documents for several counties in California and was the lead on the Bureau of Land Management's assessment of fossil resources of Northern California.

In his academic role as Professor of Geology, Dr. Shapiro teaches several paleontology courses including "Applied Paleontology" which is a modified "Cultural Resources" course, focusing on budgeting, CEQA and NEPA regulations, field surveys, GIS projections, fossil recovery, and curation. He also teaches in the annual Field Camp courses and manages the rock preparation lab and maintains the microscopes.

Relevant Experience

ReneSola Gentry Solar Project, Paleontological Resource Assessment Report, Lincoln, California. *Principal Investigator, Mapping.* Literature, geological map, and museum review for fossil resources. Field mapping of entire property. Final product included a mitigation and monitoring plan.

Paleontological Sensitivity Analysis Report, Elk Grove, California; Pacific Gas and Electric. *Principal Investigator.* Literature, geological map, and air photo archival report on the potential fossil yield for a proposed pipeline. Recommendations based on searches of museum collections of relevant geological formations. Deliverables consisted of a sensitivity report and appendix of known fossil occurrences by taxa and location.

Mojave Solar Project Cultural Services; San Bernardino County, California; CH2M Hill. *Principal Investigator.* Reviewed technical report; advised on scientific analyses.

El Camino Real Bridge Replacement Environmental Services; San Luis Obispo County, California, Quincy Engineering. *Principal Investigator.* Reviewed technical report for CEQA/NEPA documentation, technical studies, and permitting, for the replacement of the El Camino Real bridge over Santa Margarita Creek in Atascadero.

San Bernardino County General Plan Update: Paleontological Resources

Technical Report. Primary Reviewer. External reviewer for general plan update. Involved assessing all geological formations in San Bernardino County and museum records of significant fossils.

Recent Significant Excavations

Miocene Vertebrates of the Sheldon Wildlife National Refuge. Oversaw operations to conduct significant collection of Miocene-age fossils from volcanic sediments for the U.S. Fish and Wildlife Service. Duties included field collection and high-resolution GPS mapping, fossil preparation and identification, curation at the Gateway Science Museum.

Eocene Horses from Black Butte Lake Reservoir. Field jacketing and preparation of fossil horse skull material from the reservoir under the direction of the U.S. Army Corps of Engineers. Fossils were prepared, identified, and returned to the Army Corps for public display.

Pleistocene Camelid from Nevada. This project grew out of a paleontological resource assessment field survey. During the survey, a semi-articulated rear leg of a late Pleistocene camelid was collected and prepared. A manuscript was published in 2016.

Publications and Presentations

Shapiro, R. S., 2016, Camelid record of Mesquite Lake, California: impact of earliest Holocene climate change in Reynolds, R. E., ed., *Going LOCO investigations along the Lower Colorado River*, 2016 Desert Symposium Field Guide and Proceedings, p 41-47.

Shapiro, R. S. and Konhauser, K. O., 2014, Hematite-coated microfossils: Ecological fingerprint or taphonomic oddity of the Paleoproterozoic? *Geobiology*, v. 13, p. 209-224.

Shapiro, R. S. and Spangler, E., 2009, Bacterial fossil record in whale falls: relation of taphonomy and paleoecology to depositional environment: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 274, p. 196-203.

Shapiro, R. S., Fricke, H., and Fox, K., 2009, Dinosaur-bearing oncoids from ephemeral lakes of the Lower Cretaceous Cedar Mountain Formation, Utah: *PALAIOS*, v. 24, p. 51-58.

Shapiro, R. S., and Rowland, S. M., 2002, Fossil collecting in southern Nevada in Rowland, S. M. and Orndorff, R. L., eds., *Geology of the Southern Nevada Region: National Association of Geoscience Teachers, Far Western Section Spring Field Conference Guidebook*, p. 96-99.

Shapiro, R. S., 1998, Paleogene-Early Neogene macrofossils of southwestern Santa Cruz Island in Weigand, P. W., ed., *Contributions to the Geology of the Northern Channel Islands, Southern California: Pacific Section, American Association of Petroleum Geologists*, MP-45, p. 123-132.

Appendix B

LACM Records Search

Appendix F

Noise Data and Calculations

Exhibit A

Ambient Noise Data

Summary

File Name on Meter

File Name on PC

Serial Number

Model

Firmware Version

User

Location

Job Description

Note

LxT_Data.021.s

LxT_0007058-20240101 165312-LxT_Data.021.ldbin

0007058

SoundTrack LxT*

2.404

Measurement

Description

Start

Stop

Duration

Run Time

Pause

Pre-Calibration

Post-Calibration

Calibration Deviation

2024-01-01 16:53:12

2024-01-01 17:08:12

00:15:00.0

00:15:00.0

00:00:00.0

2024-01-01 15:11:45

None

Overall Settings

RMS Weight

Peak Weight

Detector

Preamplifier

Microphone Correction

Integration Method

Overload

Under Range Peak

Under Range Limit

Noise Floor

A Weighting

A Weighting

Slow

PRMLxT1

Off

Exponential

143.6 dB

A

99.6

36.8

27.7

C

96.6

36.4

27.3

Z

101.6 dB

43.5 dB

34.3 dB

Instrument Identification

First

Second

Third

Results

LASeq

LASE

EAS

EAS8

EAS40

LAPeak (max)

LASmax

LASmin

SEA

LAS > 85.0 dB

LAS > 115.0 dB

LAPeak > 135.0 dB

LAPeak > 137.0 dB

LAPeak > 140.0 dB

LCSeq

LASEq

LCSeq - LASEq

LALeq

LAeq

LALeq - LAeq

63.8

93.3

238.633 µPa²h

7.636 mPa²h

38.181 mPa²h

2024-01-01 16:53:12

2024-01-01 16:53:12

2024-01-01 16:54:39

-99.9 dB

Exceedance Counts

0

0

0

0

0

Duration

0.0 s

0.0 s

0.0 s

0.0 s

0.0 s

72.5 dB

63.8 dB

8.7 dB

64.5 dB

63.8 dB

0.7 dB

A		C		Z	
dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	63.8				
Ls(max)	68.5	2024/01/01 16:53:12			
Ls(min)	62.1	2024/01/01 16:54:39			
LPeak(max)	89.6	2024/01/01 16:53:12			

Overload Count

Overload Duration

0

0.0 s

Dose Settings

Dose Name

Exchange Rate

Threshold

Criterion Level

Criterion Duration

OSHA-1

5

90

90

8

OSHA-2

5 dB

80 dB

90 dB

8 h

Results

Dose

Projected Dose

TWA (Projected)

TWA (t)

Lep (t)

-99.94

-99.94

-99.9

-99.9

48.7

%

%

dB

dB

dB

Statistics

LAS 5.00

LAS 10.00

LAS 33.30

LAS 50.00

LAS 66.60

LAS 90.00

64.6 dB

64.4 dB

64.0 dB

63.8 dB

63.5 dB

63.0 dB

Summary

File Name on Meter

File Name on PC

Serial Number

Model

Firmware Version

User

Location

Job Description

Note

LxT_Data.022.s

LxT_0007058-20240101 171146-LxT_Data.022.ldbin

0007058

SoundTrack LxT*

2.404

Measurement

Description

Start

Stop

Duration

Run Time

Pause

Pre-Calibration

Post-Calibration

Calibration Deviation

2024-01-01 17:11:46

2024-01-01 17:27:20

00:15:10.0

00:15:08.1

00:00:01.9

2024-01-01 15:11:43

None

Overall Settings

RMS Weight

Peak Weight

Detector

Preamplifier

Microphone Correction

Integration Method

Overload

Under Range Peak

Under Range Limit

Noise Floor

A Weighting

A Weighting

Slow

PRMLxT1

Off

Exponential

143.6 dB

A

C

Z

99.6

96.6

101.6 dB

36.8

36.4

43.5 dB

27.7

27.3

34.3 dB

Instrument Identification

First

Second

Third

Results

LASeq

LASE

EAS

EAS8

EAS40

LApeak (max)

LASmax

LASmin

SEA

Exceedance Counts

Duration

LAS > 85.0 dB

LAS > 115.0 dB

LApeak > 135.0 dB

LApeak > 137.0 dB

LApeak > 140.0 dB

LCSeq

LASEq

LCSeq - LASEq

LALeq

LAeq

LALeq - LAeq

59.7

89.3

94.135 µPa²h

2.985 mPa²h

14.927 mPa²h

2024-01-01 17:16:56

2024-01-01 17:16:56

2024-01-01 17:20:31

-99.9 dB

0

0.0 s

0

0.0 s

0

0.0 s

0

0.0 s

67.0 dB

59.7 dB

7.3 dB

61.9 dB

59.7 dB

2.2 dB

A		C		Z	
dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	59.7				
Ls(max)	74.5	2024/01/01 17:16:56			
Ls(min)	54.0	2024/01/01 17:20:31			
LPeak(max)	88.6	2024/01/01 17:16:56			

Overload Count

Overload Duration

0

0.0 s

Dose Settings

Dose Name

Exchange Rate

Threshold

Criterion Level

Criterion Duration

OSHA-1

5

90

90

8

OSHA-2

5 dB

80 dB

90 dB

8 h

Results

Dose

Projected Dose

TWA (Projected)

TWA (t)

Lep (t)

-99.94

-99.94

-99.9

-99.9

44.7

-99.94 %

-99.94 %

-99.9 dB

-99.9 dB

44.7 dB

Statistics

LAS 5.00

LAS 10.00

LAS 33.30

LAS 50.00

LAS 66.60

LAS 90.00

65.3 dB

58.0 dB

55.9 dB

55.5 dB

55.2 dB

54.7 dB

Summary			
File Name on Meter	LxT_Data.023.s		
File Name on PC	LxT_0007058-20240101 173134-LxT_Data.023.ldbin		
Serial Number	0007058		
Model	SoundTrack LxT*		
Firmware Version	2.404		
User			
Location			
Job Description			
Note			

Measurement	
Description	
Start	2024-01-01 17:31:34
Stop	2024-01-01 17:46:34
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2024-01-01 15:11:43
Post-Calibration	None
Calibration Deviation	---

Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Exponential		
Overload	143.6 dB		
	A	C	Z
Under Range Peak	99.6	96.6	101.6 dB
Under Range Limit	36.8	36.4	43.5 dB
Noise Floor	27.7	27.3	34.3 dB
	First	Second	Third
Instrument Identification			

Results						
LASeq	68.2					
LASE	97.8					
EAS	662.818 μPa²h					
EAS8	21.210 mPa²h					
EAS40	106.051 mPa²h					
LApesk (max)	2024-01-01 17:31:50	84.7 dB				
LASmax	2024-01-01 17:43:00	70.9 dB				
LASmin	2024-01-01 17:41:40	66.5 dB				
SEA	-99.9 dB					
	Exceedance Counts	Duration				
LAS > 85.0 dB	0	0.0 s				
LAS > 115.0 dB	0	0.0 s				
LApesk > 135.0 dB	0	0.0 s				
LApesk > 137.0 dB	0	0.0 s				
LApesk > 140.0 dB	0	0.0 s				
LCSeq	72.9 dB					
LASeq	68.2 dB					
LCSeq - LASeq	4.7 dB					
LALeq	68.6 dB					
LAeq	68.2 dB					
LALeq - LAeq	0.4 dB					
	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	68.2					
Ls(max)	70.9	2024/01/01 17:43:00				
Ls(min)	66.5	2024/01/01 17:41:40				
LPeak(max)	84.7	2024/01/01 17:31:50				
Overload Count	0					
Overload Duration	0.0 s					

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	

Results	
Dose	-99.94
Projected Dose	-99.94 %
TWA (Projected)	-99.9 dB
TWA (t)	-99.9 dB
Lep (t)	53.2
Lep (t)	53.2 dB

Statistics	
LAS 5.00	69.4 dB
LAS 10.00	69.0 dB
LAS 33.30	68.4 dB
LAS 50.00	68.1 dB
LAS 66.60	67.8 dB
LAS 90.00	67.4 dB

Exhibit B

**Construction and
Vibration Noise
Calculations**

Project: Valencia Water Plant

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8 Daytime hours (7 am to 7 pm) 0 Evening hours (7 pm to 10 pm) 0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

				R4- Habitat along Project Site Boundary				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L11	Estimated Noise Shielding, dBA
Demolition					94	89		
Dozer	1	80	40%	55	79	75	78	0
Dozer	1	80	40%	60	78	74	77	0
Tractor/Loader/Backhoe	1	80	40%	60	78	74	77	0
Jackhammer	1	85	20%	60	83	76	79	0
Concrete Saw	1	85	20%	60	83	76	79	0
Concrete Saw	1	85	20%	60	83	76	79	0
Excavator	1	90	40%	60	88	84	87	0
Excavator	1	90	40%	60	88	84	87	0
Grading/Excavation					92	87		
Excavator	1	85	40%	55	84	80	83	0
Excavator	1	85	40%	55	84	80	83	0
Excavator	1	85	40%	55	84	80	83	0
Grader	1	85	40%	60	83	79	82	0
Crane	1	85	16%	55	84	76	79	0
Crane	1	85	16%	60	83	75	78	0
Dump Truck	1	85	40%	60	83	79	82	0
Tractor/Loader/Backhoe	1	80	40%	60	78	74	77	0
Retaining Wall/Outfall					91	86		
Drill Rig Truck	1	84	20%	55	83	76	79	0
Drill Rig Truck	1	84	20%	55	83	76	79	0
Concrete Batch Plant	1	83	15%	60	81	73	76	0
Crane	1	85	16%	60	83	75	78	0
Excavator	1	85	40%	60	83	79	82	0
Grader	1	85	40%	60	83	79	82	0
Dump Truck	1	85	40%	60	83	79	82	0
Tractor/Loader/Backhoe	2	80	40%	60	81	77	80	0
Maximum Combined Noise Levels				88.9		88.9		88.9
Ambient Noise Level				63.8		59.7		68.2
Threshold (Ambient +5 dBA)				71.8		67.7		76.2
Significant Impact?				Yes		Yes		Yes

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005



Project: Valencia Water Plant

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8 Daytime hours (7 am to 7 pm) 0 Evening hours (7 pm to 10 pm) 0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

				R4- Habitat along Project Site Boundary				
Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance (ft)	Lmax	Leq	L11	Estimated Noise Shielding, dBA
Demolition					94	89		
Dozer	1	80	40%	55	79	75	78	0
Dozer	1	80	40%	60	78	74	77	0
Tractor/Loader/Backhoe	1	80	40%	60	78	74	77	0
Jackhammer	1	85	20%	60	83	76	79	0
Concrete Saw	1	85	20%	60	83	76	79	0
Concrete Saw	1	85	20%	60	83	76	79	0
Excavator	1	90	40%	60	88	84	87	0
Excavator	1	90	40%	60	88	84	87	0
Grading/Excavation					92	87		
Excavator	1	85	40%	55	84	80	83	0
Excavator	1	85	40%	55	84	80	83	0
Excavator	1	85	40%	55	84	80	83	0
Grader	1	85	40%	60	83	79	82	0
Crane	1	85	16%	55	84	76	79	0
Crane	1	85	16%	60	83	75	78	0
Dump Truck	1	85	40%	60	83	79	82	0
Tractor/Loader/Backhoe	1	80	40%	60	78	74	77	0
Retaining Wall/Outfall					91	86		
Drill Rig Truck	1	84	20%	55	83	76	79	0
Drill Rig Truck	1	84	20%	55	83	76	79	0
Concrete Batch Plant	1	83	15%	60	81	73	76	0
Crane	1	85	16%	60	83	75	78	0
Excavator	1	85	40%	60	83	79	82	0
Grader	1	85	40%	60	83	79	82	0
Dump Truck	1	85	40%	60	83	79	82	0
Tractor/Loader/Backhoe	2	80	40%	60	81	77	80	0
Maximum Combined Noise Levels				88.9		88.9		88.9
Maximum Combined Noise Level w/ Mitigation				66.9		66.9		66.9
Ambient Noise Level				63.8		59.7		68.2
Threshold (Ambient +5 dBA)				71.8		67.7		76.2
Significant Impact?				No		No		No

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005



Table I. Off-Site Structural Vibration Impacts

Receptor	Type of Building	Equipment	Reference Distance	Reference Level ^a	Distance to Receptor (ft) ^b	Impact Level	Threshold	Exceeds Threshold?
				PPV (in/sec)		PPV (in/sec)	PPV (in/sec)	
Historic Buildings to the west	Category IV	Bulldozer or Bore/D	25	0.089	800	0.00	0.12	No
		Loaded Trucks	25	0.076	800	0.00	0.12	No
		Jackhammer	25	0.035	800	0.00	0.12	No
		Small Bulldozer	25	0.003	800	0.00	0.12	No
Non-historic building to the north	Category I	Bulldozer or Bore/D	25	0.089	80	0.016	0.5	No
		Loaded Trucks	25	0.076	72	0.016	0.5	No
		Jackhammer	25	0.035	43	0.016	0.5	No
		Small Bulldozer	25	0.003	9	0.014	0.5	No

Notes:
a. Vibration reference levels and impact criteria taken from FTA Noise and Vibration Impact Assessment (2006), Tables 8-1, 12-2, and 12-3
b. Distances represent the closest measurement from project building footprint to closest building footprint in each direction

VWD WRP4 Project

Vibration Level Calculations

Based on Federal Transit Administration, Office of Planning and Environment

N =

1.5

Construction Equipment	Project Equipment	Equipment Peak Particle Velocity @ 25 Feet* (inches/second)	Distance to Receptor for < 0.5 PPV (Feet)	Estimated Velocity Decibels @ Distance** (VdB)	Estimated Peak Particle Velocity @ Distance*** (inches/second)
Unmitigated Vibration Levels					
R1					
Large Bulldozer or Bore/Drill Rig	Yes	0.089	800	41.8	0.000
Loaded Trucks	Yes	0.076	800	40.4	0.000
Jackhammer	Yes	0.035	800	33.7	0.000
Small Bulldozer	Yes	0.003	800	12.3	0.0000

Source:

Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Notes:

* Values taken from Table 7-4.

** Based on the formula $VdB = 20 \times \log_{10}(v/v_{ref})$, where v_{ref} is equal to 1×10^{-6} in/sec (see page 111).

The approximate rms vibration velocity level (v) is calculated from PPV using a crest factor of 4 (see page 184).

*** Based on the formula $PPV(D) = PPV(25 \text{ ft}) \times (25/D)^N$, where D is equal to the distance (see page 185).

N = soil type classification factor (typically ranges from 1 to 1.5)

Appendix G

Tribal Cultural Resources Consultation



**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: jtumamait@hotmail.com

Julie Tumamait-Stenslie, Chairperson
Barbareno/Ventureno Band of Mission Indians
365 North Poli Avenue
Ojai, CA 93023

Dear Chairperson Tumamait-Stenslie:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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The Proposed Project is located at 28185 The Old Road in Valencia, in an urbanized area in unincorporated Los Angeles County. The project site is bound by The Old Road to the north and adjacent commercial businesses to the northeast, the Santa Clara River (SCR) and Santa Clara River Significant Ecological Area to the west and south, and Six Flags Magic Mountain amusement park to the southwest beyond the SCR (**Figure 1**).

If you wish to begin processing a formal consultation under AB 52, the deadline to request consultation with the Santa Clarita Valley Sanitation District is set by State law (California Public Resources Code Section 21080.3.1[d]) and requires that you send a written request for consultation to the address below within 30 days of the receipt of this notice.

Please send written responses for the proposed project to:

Santa Clarita Valley Sanitation District
Attn.: Mandy Huffman, Environmental Planner
1955 Workman Mill Road
Whittier, CA 90607-4998

If you have any questions, please contact Mandy Huffman, Santa Clarita Valley Sanitation District, via email at mandyhuffman@lacsdsd.org or 562-908-4288 ext. 2743 as an alternative.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Ziad El Jack', with a stylized flourish at the end.

Ziad El Jack
Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

Attachment:
Figure 1: Proposed Project



**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

January 2, 2024

VIA ELECTRONIC MAIL: CR@bvbmi.com

Cultural Resource Committee
Barbareño/Ventureño Band of Mission Indians
P.O. Box 364
Ojai, CA 93024

Dear Cultural Resource Committee:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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**LOS ANGELES COUNTY
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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: chumashtribe@sbcglobal.net

Julio Quair, Chairperson
Chumash Council of Bakersfield
729 Texas Street
Bakersfield, CA 93307

Dear Chairperson Quair:

Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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SANITATION DISTRICTS**
Converting Waste Into Resources

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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: cbtribalchair@gmail.com

Mariza Sullivan, Chairperson
Coastal Band of the Chumash Nation
P.O. Box 4464
Santa Barbara, CA 93140

Dear Chairperson Sullivan:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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Whittier, CA 90607-4998

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Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

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**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

January 2, 2024

VIA ELECTRONIC MAIL: fraustogabriel28@gmail.com

Gabe Frausto, Chairman
Coastal Band of the Chumash Nation
P.O. Box 40653
Santa Barbara, CA 93140

Dear Chairman Frausto:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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Supervising Engineer, Wastewater Planning
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**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

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Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: jairo.avila@tataviam-nsn.us

Jairo Avila, Tribal Historic and Cultural Preservation Officer
Fernandeno Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, CA 91340

Dear Mr. Avila:

Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project

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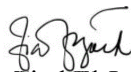
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Ziad El Jack

Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

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**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

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Chief Engineer and General Manager

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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: rortega@tataviam-nsn.us

Rudy Ortega, Tribal President
Fernandeno Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, CA 91340

Dear Tribal President:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

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Figure 1: Proposed Project



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1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: admin@gabrielenoindians.org

Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians – Kizh Nation
P.O. Box 393
Covina, CA 91723

Dear Chairperson Salas:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

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1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: GTTribalcouncil@aol.com

Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA 91778

Dear Chairperson Morales:

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Middle Section Retaining Wall Ground Improvement Project**

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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: gtongva@gmail.com

Robert Dorame, Chairperson
Gabrieleno Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, CA 90707

Dear Chairperson, Mr. Dorame:

Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project

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Figure 1: Proposed Project



**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: sgoad@gabrielino-tongva.com

Sandonne Goad, Chairperson
Gabrielino/Tongva Nation
106 ½ Judge John Aiso Street #231
Los Angeles, CA 90012

Dear Chairperson Goad:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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Please send written responses for the proposed project to:

Santa Clarita Valley Sanitation District
Attn.: Mandy Huffman, Environmental Planner
1955 Workman Mill Road
Whittier, CA 90607-4998

If you have any questions, please contact Mandy Huffman, Santa Clarita Valley Sanitation District, via email at mandyhuffman@lacsdsd.org or 562-908-4288 ext. 2743 as an alternative.

Very truly yours,



Ziad El Jack

Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

Attachment:

Figure 1: Proposed Project



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(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: roadkingcharles@aol.com

Charles Alvarez
Gabrieleno-Tongva Tribe
23454 Vanowen Street
West Hills, CA 91307

Dear Mr. Alvarez:

Valencia Water Reclamation Plant Middle Section Retaining Wall Ground Improvement Project

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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Ziad El Jack

Supervising Engineer, Wastewater Planning
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SANITATION DISTRICTS**
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(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: fcollins@northernchumash.org

Fred Collins, Spokesperson
Northern Chumash Tribal Council
P.O. Box 6533
Los Osos, CA 93412

Dear Mr. Collins:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

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Ziad El Jack

Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

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Converting Waste Into Resources

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Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

January 2, 2024

VIA ELECTRONIC MAIL: violetsagewalker@gmail.com

Violet Walker, Chairperson
Northern Chumash Tribal Council
P.O. Box 6533
Los Osos, CA 93412

Dear Chairperson Walker:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

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Very truly yours,



Ziad El Jack
Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

Attachment:
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**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: ddyocum@comcast.net

Donna Yocum, Chairperson
San Fernando Band of Mission Indians
P.O. Box 221838
Newhall, CA 91322

Dear Chairperson Yocum:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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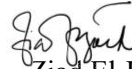
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Very truly yours,



Ziad El Jack

Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

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Figure 1: Proposed Project



**LOS ANGELES COUNTY
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Converting Waste Into Resources

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Chief Engineer and General Manager

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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

January 2, 2024

VIA ELECTRONIC MAIL: dyocum@sfbmi.org

Donna Yocum, Chairperson
San Fernando Band of Mission Indians
P.O. Box 221838
Newhall, CA 91322

Dear Chairperson Yocum:

Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project

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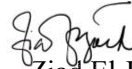
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Converting Waste Into Resources

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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

Mark Vigil, Chief
San Luis Obispo County Chumash Council
1030 Ritchie Road
Grover Beach, CA 93433

Dear Chief, Mr. Vigil:

Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project

The Santa Clarita Valley Sanitation District is contacting you in compliance with the California Assembly Bill (AB) 52 (including the California Public Resources Code Section 21080.3.1) because you are listed as the contact person in a tribal request for notice of proposed projects in this geographic area for which the Santa Clarita Valley Sanitation District is the lead agency in compliance with the California Environmental Quality Act. In compliance with formal notification requirements, we are providing the following proposed project notification:

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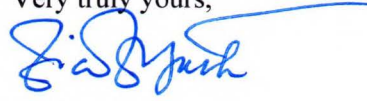
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Very truly yours,



Ziad El Jack
Supervising Engineer, Wastewater Planning
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1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: kkahn@santaynezhumash.org

Kenneth Kahn, Chairperson
Santa Ynez Band of Chumash Indians
P.O. Box 517
Santa Ynez, CA 93460

Dear Chairperson, Mr. Kahn:

**Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project**

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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

January 2, 2024

VIA ELECTRONIC MAIL

Santa Ynez Band of Chumash Indians
100 Via Juana Road
Santa Ynez, CA 93460

Dear Santa Ynez Band of Chumash Indians:

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Middle Section Retaining Wall Ground Improvement Project**

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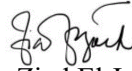
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Ziad El Jack

Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

Attachment:

Figure 1: Proposed Project

cc: Wendy Teeter wteeter@chumash.gov
Kelsie Shroll kshroll@chumash.gov
Sam Cohen scohen@chumash.gov
Nakia Zavalla nzavalla@chumash.gov



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Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

November 27, 2023

VIA ELECTRONIC MAIL: mmirelez@tmdci.org

Michael Mirelez, Cultural Resource Coordinator
Torres Martinez Desert Cahuilla Indians
P.O. Box 1160
Thermal, CA 92274

Dear Mr. Mirelez:

Valencia Water Reclamation Plant
Middle Section Retaining Wall Ground Improvement Project

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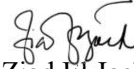
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A handwritten signature in black ink, appearing to read 'Ziad El Jack', is positioned above the printed name.

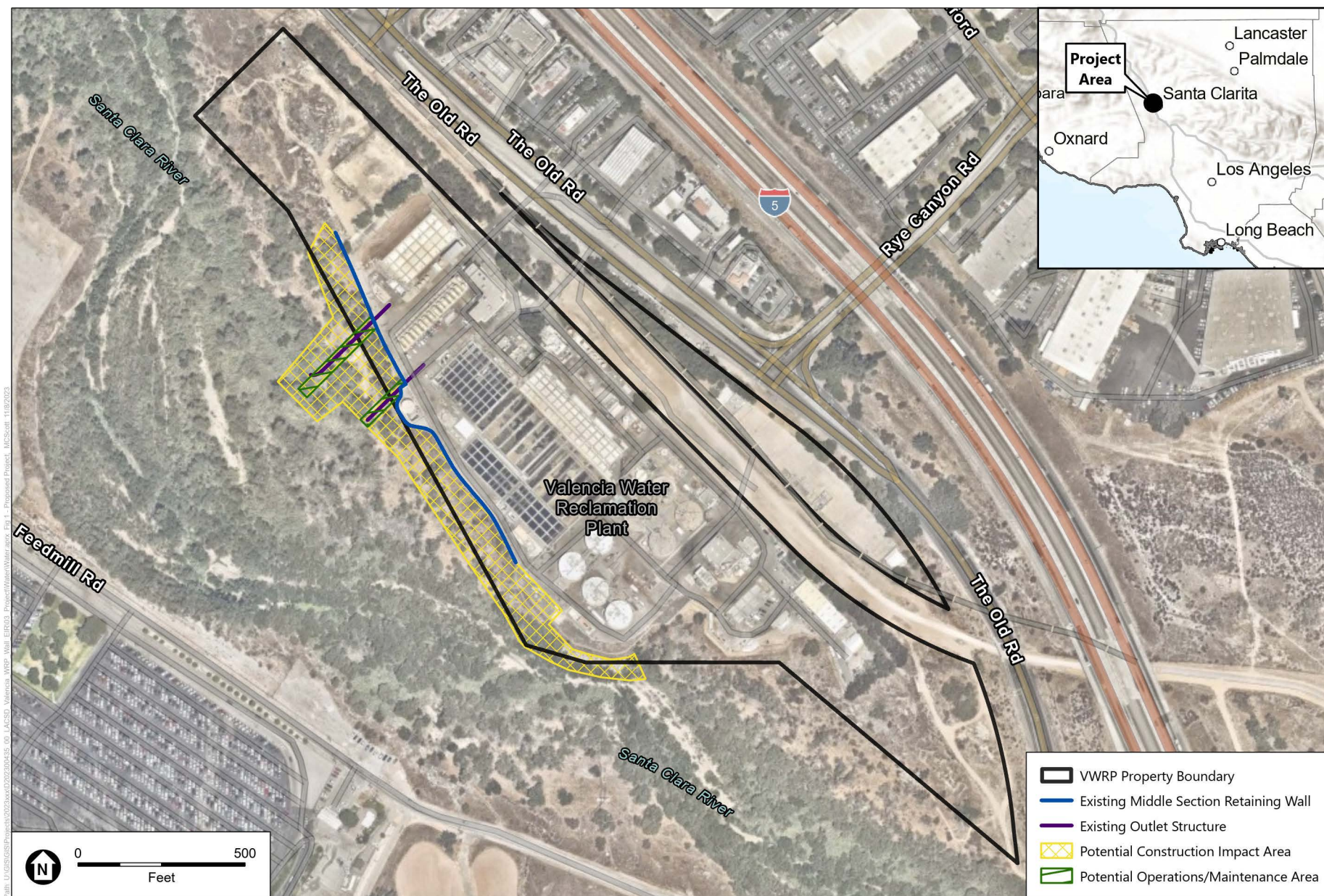
Ziad El Jack

Supervising Engineer, Wastewater Planning
Facilities Planning Department

ZEL:MNH:pb

Attachment:

Figure 1: Proposed Project



VWRP Middle Section Retaining Wall Ground Improvement Project

Figure 1
Proposed Project

Appendix H

Alternative Selection Report

Prepared for:

County Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, CA 90601

ALTERNATIVE SELECTION REPORT

SCOUR PROTECTION STRUCTURE MIDDLE SECTION AT VALENCIA WATER RECLAMATION PLANT (VWRP) VALENCIA, CALIFORNIA

Prepared by:

Geosyntec 
consultants

engineers | scientists | innovators

1031 S Broadway Suite 300
Los Angeles, CA 90015

Project Number: GST8006-06

January 6, 2023

ALTERNATIVE SELECTION REPORT

SCOUR PROTECTION STRUCTURE MIDDLE SECTION AT VALENCIA WATER RECLAMATION PLANT (VWRP) VALENCIA, CALIFORNIA

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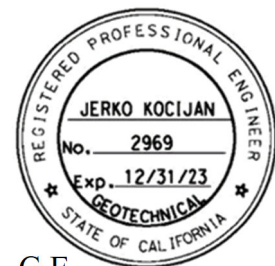
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1. EXECUTIVE SUMMARY

The Valencia Water Reclamation Plant (Plant) is one of two reclamation plants owned by the Santa Clarita Valley Sanitation District (District) and serving the City of Santa Clarita and a portion of unincorporated Los Angeles County. Continuous operations of the Plant are critical for the ability of the District to provide service to the customers. Previous studies identified that scour of the Santa Clara River under a Capital Flood may erode materials to the point that facilities of the Plant may be damaged or destroyed. Specifically, an approximately 1000-foot-long middle section of the facility boundary along the river has been assessed to provide inadequate scour protection, to the point that the existing property edge retaining wall may be undermined by as much as 25 to 35 feet.

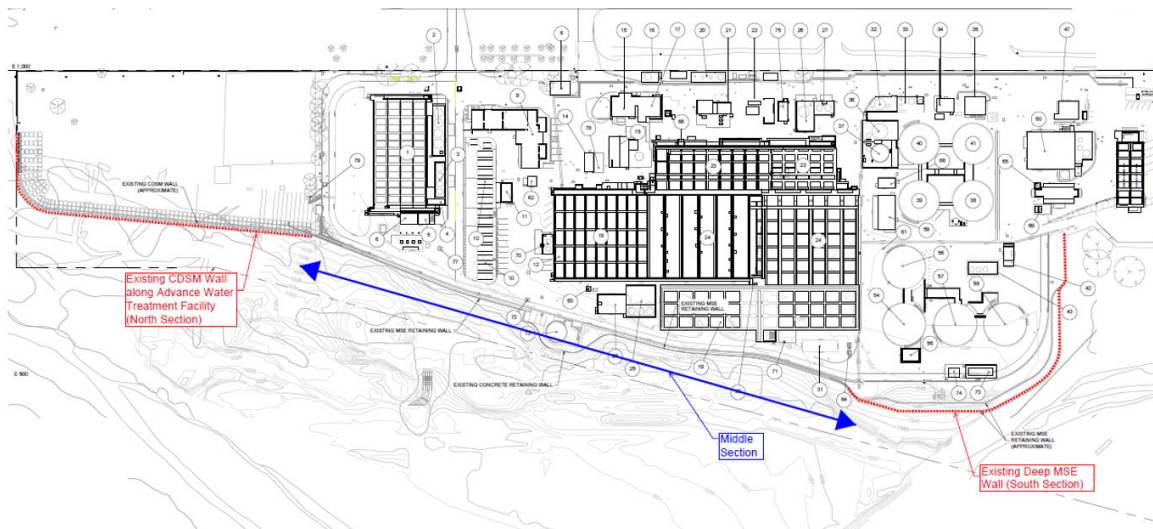


Image ES-1 – Site Layout

The current study looked into possible alternatives for a new structure that can protect the Plant during Capital Flood scour levels and a design level earthquake for the Middle Section (see Image ES-1). The main challenges to the proposed objective are the space limitations within the Plant area and the District's goal to protect as much as possible of the existing vegetation in the zone adjacent to the existing Plant wall. If some of the vegetation must be impacted, the California Department of Fish and Wildlife must be consulted and, to the extent feasible and practical, a solution that will allow vegetation recovery in the impacted area will be developed.

The existing wall along the Middle Section is primarily a Mechanically Stabilized Earth (MSE)



Image ES-2 –MSE wall and cast-in-place wall in the Middle Section, looking northwest

wall with geogrid reinforcement, with a cast-in-place wall in the central portion where the Filter Backwash Equalization Tank protrudes outside of the otherwise relatively straight wall alignment. This central portion where both MSE and cast-in-place wall are visible is shown in Image ES-2.

The Capital Flood level was estimated to rise as high as two to three feet below the top of the wall shown in Image ES-2. The top of the wall ranges from approximately Elevation 1050 to 1060 feet, rising in the southward direction. As the result of the Capital Flood, the scour was projected down to about Elevation 1003 to 1010 feet.

There are three primary locations where proposed structure could be constructed: Location 1) along the existing MSE wall alignment; Location 2) on the Plant side of the existing wall; or Location 3) on the riverside of the existing wall. Careful review indicates that the Locations 1 and 2 would have a significant impact to the ability of the Plant to provide continuous operations during construction, which is not a feasible solution. The Location 1 is especially problematic because that portion of the Plant contains one of the key utility corridors. Review of the potential impact of Locations 1 and 2 in coordination with the Plant facility management identified about 15 structures that would be impacted and would require modification or relocation, which would impact the ability of the Plant to continue providing the rated capacity of the water treatment service.

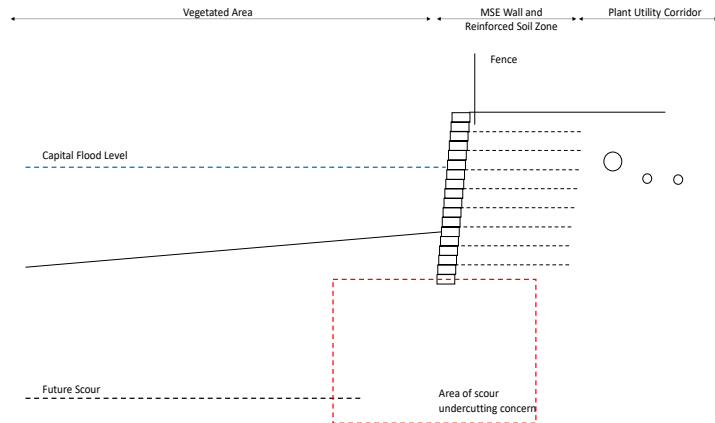


Image ES-3 – Schematic of the MSE Wall along the Plant

The area riverside of the existing Plant wall is the optimum location for the proposed structure, with the understanding that vegetation will be impacted. However, the impacted vegetation can be reestablished, similar to what was done following the construction of retaining wall along the Advance Water Treatment Facility (AWTF) at the north portion of the site. Furthermore, the structure can be constructed to be fully below ground once completed and only exposed in case of future scour. If constructed in this manner, the cover soils will provide a zone for vegetation to be established.

The preliminary design, including layout and typical sections, was prepared for three different structure options:

- Cement Deep Soil Mixing (CDSM) Gravity Structure (Option 1)
- Secant Pile Wall with Anchors (Option 2)
- CDSM Anchored Structure (Options 3A)
- CDSM Anchored Structure combined with Anchored Secant Pile Wall (Option 3B)

alignment where using CDSM anchored structures is not feasible due to limits of work area, or it would result in crossing the property line.

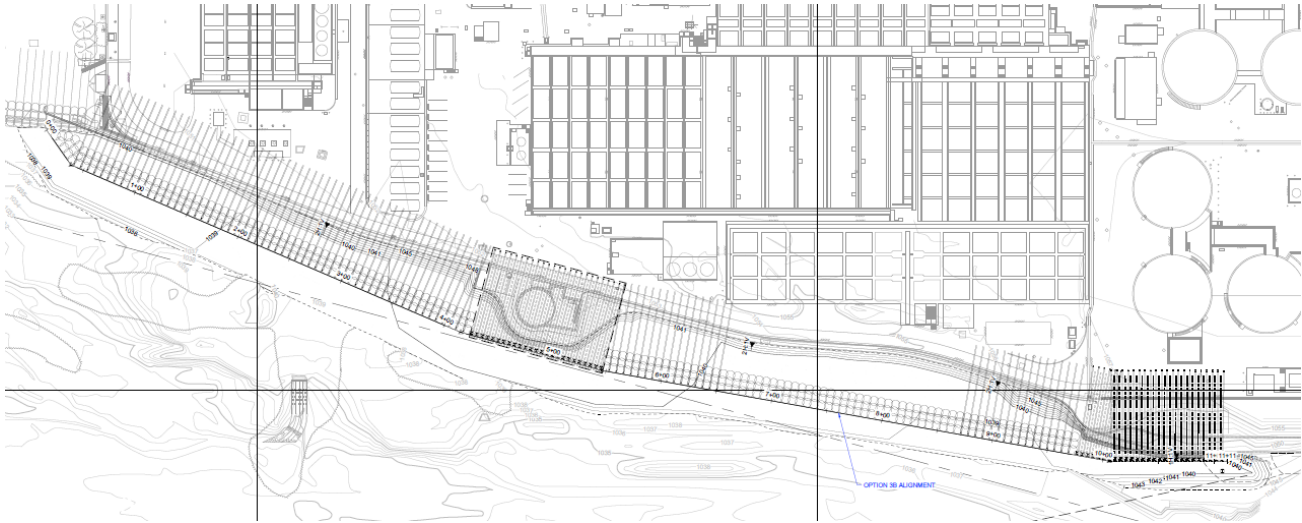


Image ES-6 – Preferred Option - Option 3B – CDSM Anchored Structure combined with Anchored Secant Piles

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2. INTRODUCTION

2.1 General

Geosyntec Consultants, Inc. (Geosyntec), is pleased to submit this Alternative Selection Report (Report) to County Sanitation Districts of Los Angeles County (the Districts). This report outlines the possible alternative approaches in support of the Scour Protection Structure for Middle Section of Valencia Water Reclamation Plant (VWRP), in Valencia, California (Site), and is intended to support the Districts' decision-making process and coordination with various stakeholders in the selection of the optimum improvement approach.

The services documented in this report were performed in accordance with Task Agreement Form (TAF) No. 6 executed by the Districts on January 4, 2022, and under Blanket Agreement No. 1703676, issued to Geosyntec on June 24, 2020.

2.2 Project Description

The VWRP (the Plant) is located at 28185 The Old Road in Valencia, California (Figure 1). The 27-acre site is bounded by The Old Road to the northeast and by the Santa Clara River to the south and west (see Image 1 below). The river flows generally from the south to north direction in this portion.



Image 1 – Aerial view of the Valencia Water Reclamation Plant looking south

The VWRP is one of two reclamation plants owned by the Santa Clarita Valley Sanitation Districts of Los Angeles County and serving the City of Santa Clarita and a portion of unincorporated Los Angeles County. Continuous operations of the Plant are critical for the ability of the Districts to provide service to the customers, and a review of geologic hazards impacts and the development of appropriate mitigation measures has been an ongoing process at the Plant. Previous studies identified that scour of the Santa Clara River under a Capital Flood may erode materials to the point that facilities of the Plant may be damaged or destroyed. Specifically, an approximately 1000-foot-long middle section of the facility boundary along the river has been assessed to provide inadequate scour protection, to the point that the existing property edge retaining wall may be undermined by as much as 25 to 35 feet. The current project addresses the development of improvements to address this hazard.

2.3 Project Objectives

The main objective of the current project is to achieve long-term protection of the middle section of the Plant boundary along the Santa Clara River in case of future Capital Flood scour event. However, a number of other important objectives should also be considered as part of the project solution development. The objectives, in an approximate order of importance, are as follows:

- Construct a structure that can withstand Capital Flood scour levels (PACE, 2016¹), with limited impact to the Plant area;
- Construct a structure that can withstand a design level earthquake following the Capital Flood scour levels with limited impact to the Plant area;
- Allow uninterrupted plant operation with controlled impact from construction activities;
- Achieve effective tie-ins of a new wall with the existing deep-scour protection retaining wall on the south and north ends of the proposed construction;
- Maintain permanent improvements within the property limits of the Plant;
- Minimize permanent impacts to the vegetated area to the riverside of the existing retaining wall;
- Minimize temporary construction impacts to the existing vegetated area riverside of the existing retaining wall;

¹ Technical Memorandum, Valencia WRP Overall Floodplain Hydraulics and Streambed Stability Assessment #A862E, prepared by PACE Advanced Water Engineering, dated July 12, 2016.

- Avoid disturbing the recently revegetated area alongside the Advance Water Treatment Facility retaining wall; and
- Develop a cost-effective solution.

3. SITE CONDITIONS

The surface, geological, and geotechnical characterization of the Site is based on a review of topographic information provided by the Districts, publicly available information from the California Geological Survey (CGS), and site-specific information provided by the Districts and obtained from the site exploration activities performed by others.

3.1 Surface Conditions

The VWRP is situated on a relatively level plateau to the north and east of the Santa Clara River bounded by The Old Road Street on the east side. The ground surface elevations along the plateau range from about Elevation (El.) 1,060 to 1,045 feet over about a 1,700-foot distance (about 1 percent average grade), with elevation increasing in the south-southeast direction. The plan view of the site presented in Figure 2 shows the existing surface conditions and the demarks the middle section area for improvement.

A series of retaining walls is located at the Plant boundary along the Santa Clara River, which include the following from north to south:

- North Section / Advance Water Treatment Facility (AWTF) Section:
 - Reinforced earth wall, also referred to as mechanically stabilized earth (MSE) wall, on top of an anchored Cement Deep Soil Mixing (CDSM) Wall, with the bottom of the wall extending about 60 to 70 feet below existing grade.

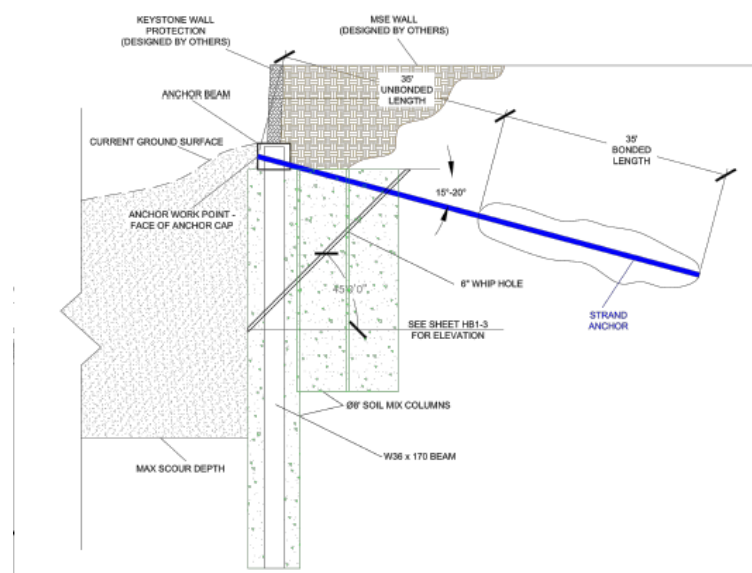


Image 2 – Typical section of recently constructed CDSM wall with ground anchor topped with MSE wall.

- Middle Section:

- Shorter MSE wall with concrete block facing with wall height of about 12 to 17 feet, of which about 5 to 7 feet is buried.
- Cast-in-place concrete wall in the area of the Filter Backwash Equalization Tank, with a key extending about 10 feet below grade.
- Shorter MSE wall with concrete block facing with wall height of about 15 to 21 feet, of which about 5 to 10 feet is buried.



Image 3 – Transition from MSE wall to Cast-in-place wall, looking northwest

- South Section

- Taller two-tier MSE wall with concrete block facing with wall heights ranging from about 15 to 55 feet. This portion of the wall, in addition to rock protection placed in front of the wall, protects the southwest corner of the Plant, where the Santa Clara River flows directly against the wall.

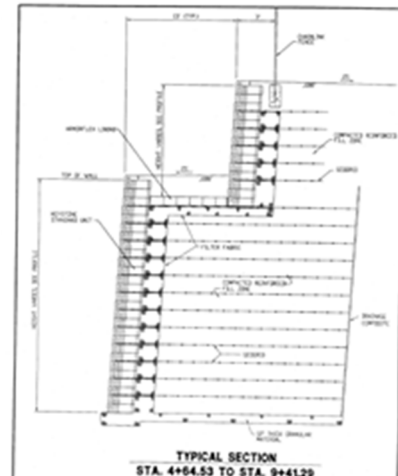


Image 4 – Existing two-tier MSE wall on southern end of the project area, left – aboveground visible portion; right – typical section;

- The south end of the project area is also near an area where erosion of the soils has occurred in front of the deep MSE wall, taking out some of the

soils placed there during the MSE wall construction, following which additional rip-rap protection was placed (Images 5 and 6).



Image 5 – Large size rip-rap protection of the south end.

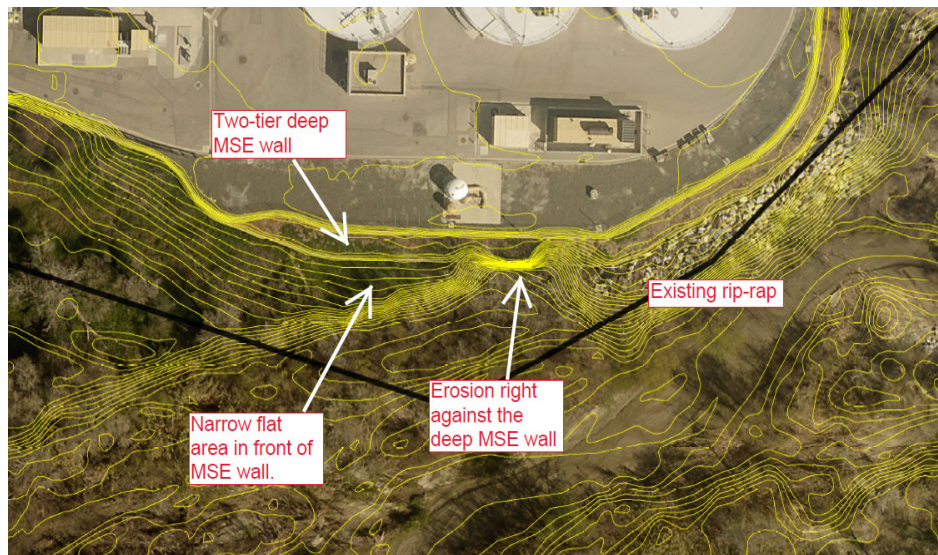
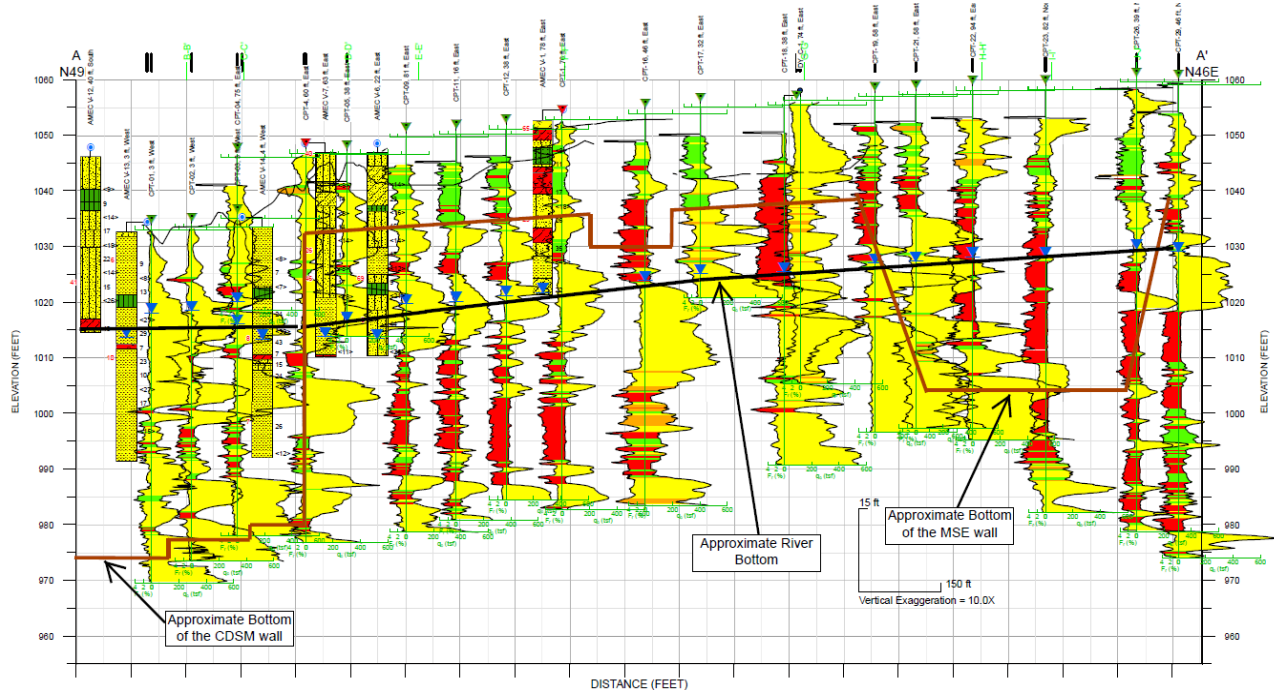


Image 6 – Key features on the south end of the project area.

3.2 Subsurface Conditions

The relevant borings and cone penetration tests (CPT) sounding locations were presented in Fugro (2017)². The most recent data by Fugro provide the most detail on the subsurface conditions along the area of planned improvement, although it should be noted that all data are from locations within the Plant (i.e., east of the existing retaining wall).

Subsurface Section A-A, reproduced from Fugro (2017) and shown in Image 7, follows the existing retaining wall's alignment along the riverside of the Plant. As shown in the Image 7, while there is some lateral continuity of different soil units along the section at the adjacent exploration, there are significant changes that have occurred over larger distances. Therefore, variable soil conditions need to be assumed for design and construction considerations. Given the relative variability of subsurface conditions, generalized soil unit thickness and behaviors were selected to provide a generally conservative stability assessment for the proposed improvements at this stage of the alternative assessment. The generalized soil profile consists of multiple soil layers.



**Image 7 – Subsurface profile of soil conditions along the western edge of the Plant (Fugro, 2017).
The yellow color indicates sand, the red color clay, and the green color silt materials.**

² Geotechnical Assessment Report, Seismic Performance of Valencia Water Reclamation Plant (VWRP), Report prepared by Fugro, Fugro Job No. 04.61150008, dated August 1, 2017.

The shallow layer is mostly composed of sandy and silty materials and is found between the ground surface and about elevation 1,030 ft. A clayey non-continuous unit underlies the top unit, characterized as medium stiff with an approximate thickness of 5 ft. Underlying this clay unit, a clean and mostly granular material is found between about El. 1,025 and 1,013 ft, consisting of medium-dense sands. Beneath, a 28-ft thick and lightly overconsolidated clay unit transitions near El. 985 ft into a dense sand unit.

3.3 Groundwater

The groundwater level summary data presented in Fugro (2017) and presented here in Image 8 were observed to be generally parallel with the bottom of the river, approximately 30 feet below grade. Groundwater elevation sources presented in Fugro (2017) included results from dissipation tests, groundwater level measurements in two piezometers installed by others in the past, and the groundwater levels observed during historic boring excavations, as noted in the reports by others. In general, groundwater levels mostly remained within 20 and 30 ft below grade during the periods between 1980 and 2017. The groundwater levels impact both design considerations, with respect to maximum loading on the proposed improvements, as well as constructability considerations, with respect to the construction steps that may require excavation near or below groundwater level.

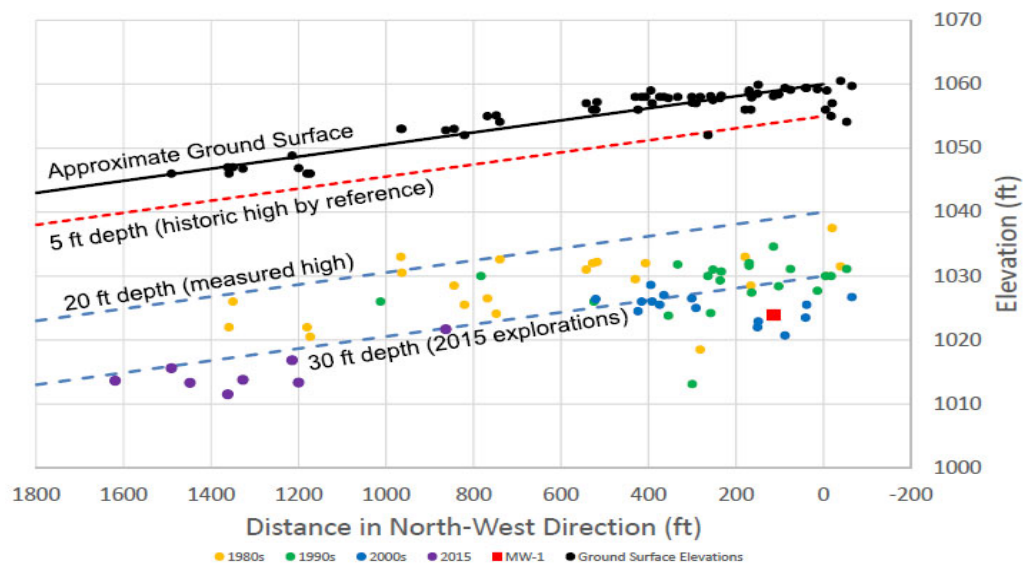


Image 8 – Groundwater level summary (Fugro, 2017)

3.4 Other Improvements

3.4.1 Subsurface Infrastructure / Utilities

The VWRP's continuous operations are supported by a number of utilities running in the access road immediately behind the existing MSE walls. As seen in Image 10, developed based on information provided by the Districts, the subsurface infrastructures / utilities are extensive. Any improvement alternatives will need to consider this, as significant disturbances to this utility corridor area would have extensive implications to the ability to continuously operate the Plant.

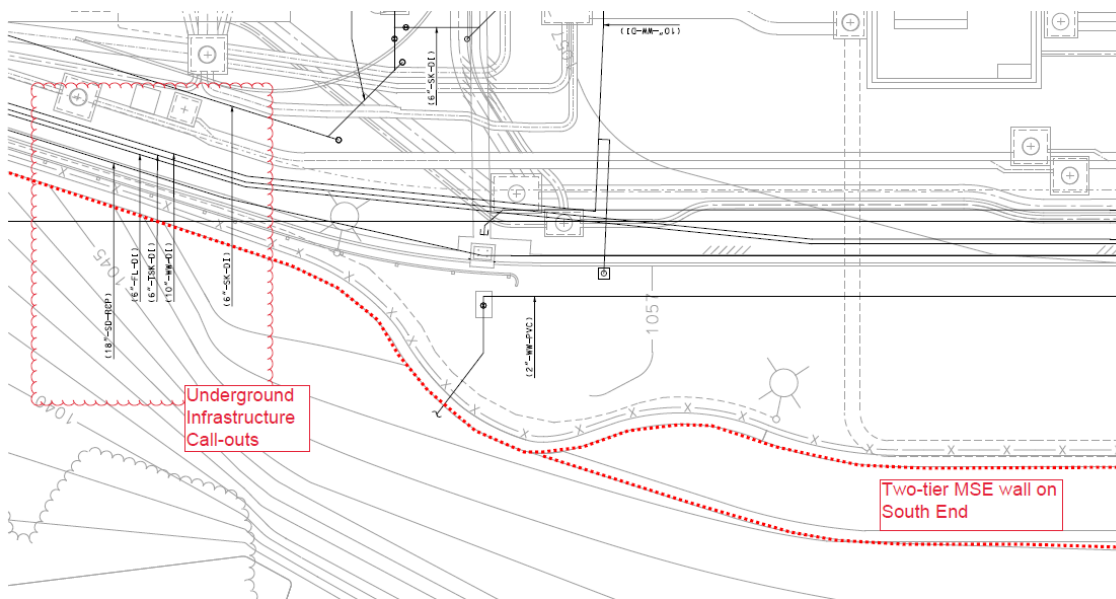


Image 10 – Plan excerpt showing crowded subsurface infrastructure just behind existing MSE wall.

3.4.2 Santa Clara River Outfall

The VWRP discharges treated water into the Santa Clara River via an outfall that penetrates the existing MSE wall. This feature will need to be integrated into any future scour protection wall alternative. Most likely, a temporary diversion will be required during construction.

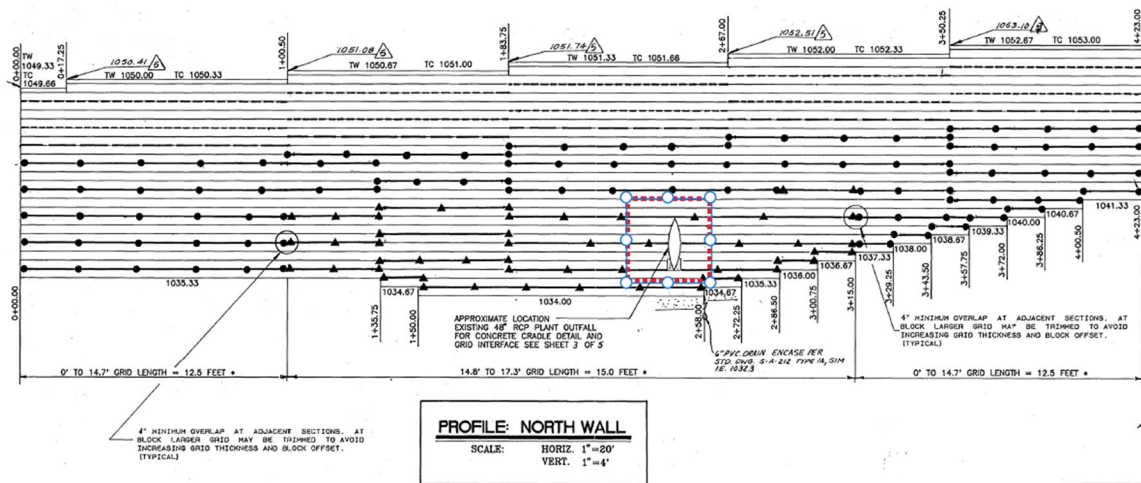


Image 11 – Historic as-built showing approximate penetration of MSE wall for 48-inch outfall pipe.



Image 12 – Outfall outlet about 150 feet from the MSE wall

4. DESIGN BASIS

The proposed structure should consider the following conditions that may occur during the life of the structure:

- Post-Construction Conditions with Buried Wall – long-term condition;
- Capital Storm Event and Associated Scour – temporary condition;
- Post Scour Event with Exposed Wall – long-term condition; and
- Earthquake Loading – short-term condition, which may occur prior or post scour.

The key summary of the design basis for each condition is briefly discussed in the section below. The target performance of the Plant area under different loading conditions is summarized at the end of the chapter.

4.1 Post-Construction Conditions with Buried Wall

During this long-term condition, starting immediately following the construction, the new structure will effectively be buried below grade and will not experience significant differential loading. Some differential loading may occur as the result of the differential groundwater levels present at the two sides of the wall. The differential groundwater levels may occur as because the new structure will be relatively impermeable, thus significant inflow of water on the plant side may result in water level rise. Similarly, seasonal high water levels in the river may result on higher water levels on the river side. Because the differential hydrostatic loads are significantly lower than the passive resistance provided by the soil, the differential water levels on the fully buried wall are not expected to have an impact on the structure integrity, and as such, the analysis of this condition is not considered to be required.

4.2 Capital Storm Event and Associated Scour

The PACE (2016) study provides an assessment of Capital Storm Event flood levels and associated scour depth. Key information is summarized in the table below, with the reference river station shown in the image below. As summarized in the table, the estimated flood levels would come to about 2 to 3 feet below the top of the existing walls. Furthermore, the scour would undermine the existing middle section walls by about 25 to 35 feet below the wall toe.

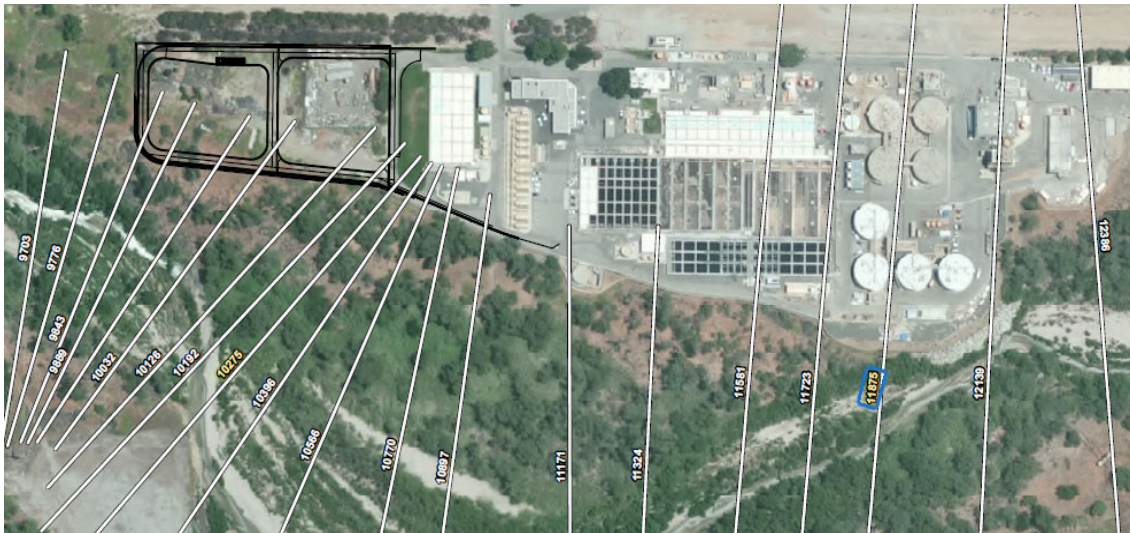


Image 13 – Santa Clara River Station (PACE, 2016) for which flood level and scour is provided.

**Table 1 – Summary of Capital Storm Water Level and Scour (PACE, 2016)
(Information from South to North)**

River Station	Exist Wall Top Elevation (ft)	Exist Wall Toe Elevation (ft)	Exist Streambed Thalweg Elev. (ft)	Flood Water Surface (ft)	Available Freeboard (ft)	Maximum Scour Elev. (ft)
11875	1057.72	1000.38	1026	1055.2	2.52	1008.7
11723	1056.39	1040.72	1026	1054.2	2.19	1005
11581	1055.72	1039.05	1026	1053.3	2.42	1005
11324	1053.72	1034.39	1024	1050.7	3.02	1003
11171	1052.67	1041.33	1022.9	1050.1	2.57	1007.9
10897	1052	1034.67	1022	1049.3	2.7	1010
10770	1051.33	1034	1020	1049	2.33	1008
10566	1050.67	1034.67	1020	1048.4	2.27	1008
10396	1050	1035.33	1018	1047.4	2.6	1003
10275	1049.33	1035.33	1018	1046.3	3.03	1003

The flood and scour are expected to occur relatively rapidly, and the following elements were considered in the design:

- The scour in front of the structure will occur to the elevation estimated in PACE (2016).
- The temporary flood level would be higher than the proposed structure. Although it is unlikely that the ground behind the structure would have time to equalize to

the same hydrostatic pressures, a uniform groundwater level was assumed on both sides of the structure, which is a conservative assumption.

- The portion between the new structure and the existing retaining wall would be subject to scour because the flood level exceeds the top of the proposed structure. Therefore, surface scour protection will be required in this zone.

Because this condition is considered to be temporary, the target minimum factor of safety of 1.3 is considered satisfactory.

4.3 Post Scour Event with Exposed Wall

As the flood level recedes, the wall will be exposed. The PACE (2016) study does not provide any guidance as to whether the scour level will be permanent or temporary. Because the Capital Flood event assumes significant disturbance of the watershed at large, there will be some redeposition of the material as the flood level subsides and the associated water velocity decreases. Consistent with the assumption used for the design of the AWTF retaining wall (AMEC, 2015), the redeposition of the material is expected to occur up to the level of the existing river bottom. The redeposited material is expected to be loose coarse-grained material. The water level in the river is assumed to be at the river bottom level, and the water level on the landside of the proposed structure may be higher, because the structure provides a low-permeability zone. For design purposes, the groundwater level was assumed at about 20 feet below the Plant surface level behind the wall, and at the river bottom level in front of the wall.

Because this condition is considered to be long term, the target minimum factor of safety of 1.5 is considered satisfactory.

4.4 Earthquake Loading

The project area is an active seismic zone and has experienced strong ground shaking in the past (e.g., 1994 Northridge Earthquake). Ground motions were assessed using the USGS online Uniform Hazard Tool (<https://earthquake.usgs.gov/hazards/interactive/>) and are summarized in Table 2. The 475-year return period event was selected by the Districts as the design level. The lower return period events intensities are also included, as the Districts are also expected to evaluate the performance of the lower-level events that are more likely to occur.

Table 2 – Peak Ground Accelerations for Range of Return Periods

Return Period	PGA (g)	Mean Magnitude
72 years	0.25	6.5
225 years	0.44	6.6
475 years	0.59	6.7

Limited liquefaction potential is expected in the native soils behind the existing retaining walls and proposed structure (Fugro, 2017). However, the redeposited soil in a post-scour condition is expected to be in a loose state and will be very sensitive to liquefaction. As such, it is expected to provide very limited passive resistance in front of the wall.

4.5 Target Performance

The target performance for different loading conditions is summarized in Table 3. The key performance indicator is the settlement behind the existing retaining walls, where the existing plant improvement may be impacted.

Table 3 – Target Performance

Conditions	Horizontal Structure Displacement	Vertical Settlement Behind Existing Retaining Wall due to Wall Lateral Movement
Post-Construction Conditions with Buried Wall	No Impact	No Impact
Capital Storm Event and Associated Scour	1.5 inch	1 inch
Post Scour Event with Exposed Wall	2 inches	1.5 inch
Earthquake Loading (475-year return period)	2 to 4 inches	1 to 2 inches
Earthquake Loading (225-year return period)	1 to 2 inches	< 1 inch
Earthquake Loading (72-year return period)	< 1 inch	< 1 inch

5. PROPOSED IMPROVEMENT ALTERNATIVES

The primary goal of the proposed improvement is to achieve scour protection for the middle section of the Plant boundary towards the Santa Clara River. Additionally, the proposed improvements should result in satisfactory performance under a possible seismic event prior to or following the scour. The following key considerations were taken into account in developing possible improvement alternatives:

- The existing plant structures should be protected as much as possible. The plant is a 24/7 operation that does not allow significant shutting down of systems.
- The roadway behind the existing retaining wall along the middle section is a heavy utility corridor, thus any subsurface work in that area is effectively impossible without major impacts to the Plant operation.
- The improvements should try to minimize the impact to the vegetated area between the retaining wall and the river, both in their permanent form and impact during construction.
- The footprint of permanent improvements should be restricted to the District's property line as much as possible.
- The improvements, once completed, should be buried as much as possible, with soil cover consideration for revegetation of the area impacted by improvements.
- The improvements will need to tie into the existing deep-buried MSE wall on the southwest corner of the Plant and the more recently cement deep-soil mixing buried retaining wall along the Advance Water Treatment Facility at the north end of the improvement area.
- Construction access for improvement work should be achieved through the middle section and not rely on access around the north end of the Plant.
- The post-scour geometry of the improved area should allow a level of access to the bottom of the existing MSE wall for maintenance.

5.1 Structure Location

There are three primary locations where proposed improvements could be constructed: 1) along the existing MSE wall; 2) on the Plant side of the existing wall; or 3) on the riverside of the existing wall.

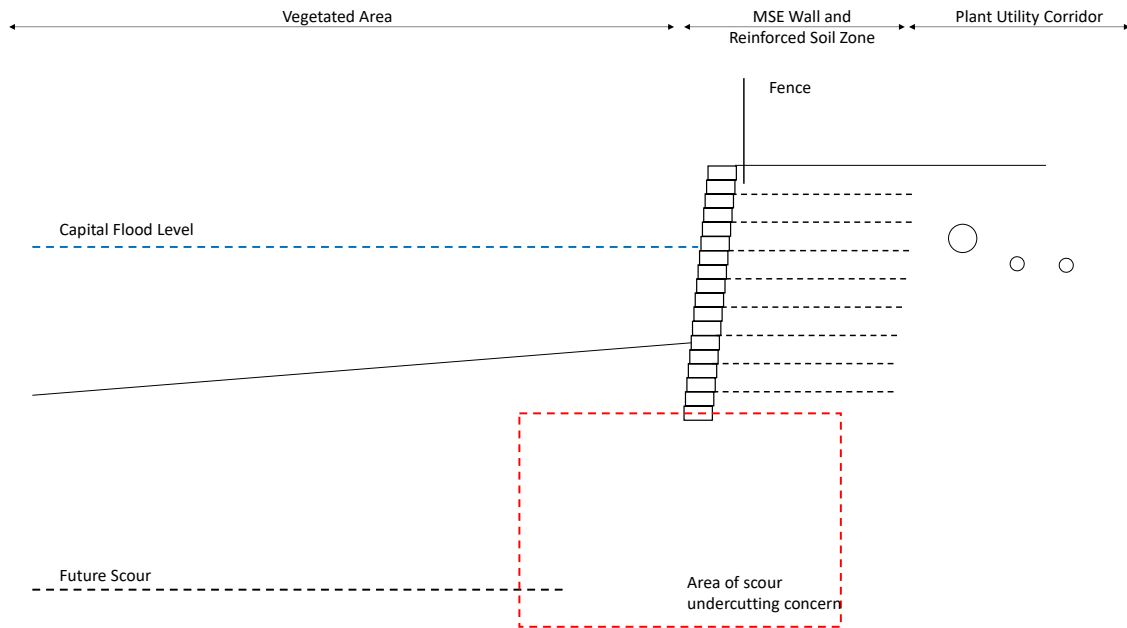


Image 14 – Schematic of the MSE Wall along the Plant riverbank edge

Image 14 provides a schematic depiction of the MSE wall and the area behind (i.e., Plant Utility Corridor) and in front (i.e., Vegetated Area). Each location has challenges associated with it for installing new improvements, as discussed below:

- New wall alignment coinciding with the alignment of the existing MSE wall – This solution would result in the final structure similar to what was constructed recently for the Advance Water Treatment Facility at the north end of the Plant. While it would be an ideal solution if the MSE wall were not already in place, deconstructing the existing wall to build a deeper scour-resisting structure would be a significant undertaking. The work would need to include extensive temporary shoring to protect the existing utility corridor behind the MSE-reinforced soil zone. Furthermore, the work would result in the disturbance of the vegetated area riverside of the MSE wall, which would be needed for construction access. Finally, this approach could be even more complex to execute in the center portion where a cast-in-place wall was built around the Equalization Pump station and Tank, where complete reconstruction of the area would likely be necessary. Other facilities would be impacted as well, as summarized in Table 4.
- Behind the existing MSE wall within the Plant area – This solution would require a massive undertaking in utility relocation. The area behind the MSE-reinforced soil zone is used extensively as a utility corridor along the full length of the

proposed improvement length. Utility relocation and creating sufficient space for construction activities would have a significant impact on plant operations, as summarized in Table 4. Effectively, the full length of the Plant access road along the riverside edge would need to be dedicated to construction, effectively precluding plant maintenance access to a number of facilities. Finally, with this solution, the scour protection wall would be set back from the existing edge of the Plant plateau (i.e., edge of MSE wall) and future scour could damage or destroy the MSE wall. A complex solution would need to be developed to tie in the new scour protection wall into the existing wall on the south and north ends of the project area, which are aligned with the MSE wall face. This solution would minimize the impact to the vegetated area riverside of the wall, but at tremendous cost, resulting in probably the least efficient scour protection approach, from an engineering perspective.

- In front of the existing MSE wall in the vegetated area – While this solution has the largest impact on the vegetated area, it does allow for development of a more optimized scour protection structure and for better transition into the existing scour protection structures on the south and north ends. Additionally, the proposed structure, when completed, will be completely buried, and the area can be revegetated with the understanding that some time will be required to re-establish the existing level of vegetation, especially the taller trees. Finally, this approach has an almost negligible impact on the operations of the Plant, allowing continuing operations during construction.

Based on the above discussion on the possible locations for the proposed improvements, further review of structure options was focused on the Location 3, the area riverside of the existing MSE wall.

Table 4 – Summary of Plant Structure Expected to be Impacted by Construction of Locations 1 and 2

Structure	Preliminary Impact Assessment from Locations 1 and 2
Backwash Recovery Equalization Tank	Complete removal and replacement at yet to be identified space within the plant
Chlorine Contact Tanks	Three out of four tanks would be impacted by Location 2, likely one tank would be impacted by Location 1.
Secondary Clarifiers	All fourteen clarifiers would be impacted by Location 2, at least seven clarifiers would be impacted by Location 1
Tertiary Filters	Four of the fourteen filters would be impacted.
Plant Outfall	Complete reconstruction of the outfall in the impacted area.
Digester #5	One of the eight digesters would be impacted.
Switchboard 41 and 42 and associated major duct banks and conduits	Partial or full relocation/reconstruction
Secondary Effluent line	Partial or full relocation/reconstruction
Secondary Polymer Station	Partial or full relocation/reconstruction
Storm Drain Pump Station	Partial or full relocation/reconstruction
Washwater Pump Station	Partial or full relocation/reconstruction
Backwash Pump Station	Partial or full relocation/reconstruction
Recycled Water Pump Station	Partial or full relocation/reconstruction
Emergency Generator 2	Partial or full relocation/reconstruction

5.2 Considered Structure Types

Generally speaking, the scour protection structure can be developed as a retaining structure or as a slope revetment using rip-rap. Construction of large-scale rip-rap protection was considered in the past as a possible scour protection alternative for the existing wall (Fugro, 2017). While this approach would minimize the introduction of concrete and cement into the vegetated area, the scale of earthwork required to achieve the necessary improvement was deemed overly intrusive to the existing vegetation. The footprint impact on the vegetated area would be about two to three times larger than the other alternatives discussed below, and as such, this approach was not considered in the further alternative selection. Therefore, the alternatives further discussed are focused on a retaining structure approach. The two main types of retaining structures considered are gravity structures, which resist the loading by the sheer weight of the structure and its inertia against movement, and restrained structures, which are structures laterally supported by anchors to balance the loading.

5.2.1 Cement Deep Soil Mixing (CDSM) Gravity Structure

Cement deep soil mixing (CDSM), also referred to as deep mass mixing (DMM), is a process where in-situ soil is mixed with an admixture of cement and water. In the process, the soils are transformed into a solidified mass, with a strength of about 50 to 250 psi.



Image 15 – Examples of exposed Cement Deep Soil Mixing columns

CDSM can be constructed as a single column or overlapping column (see Image 16). The ratio of the improved to the total area is referred to as the improvement ratio, which can range up to 100 percent (i.e., full improvement). Full improvement is typically reserved for rare applications with high performance criteria and very poor soils. Improved ratios in the range of 30 to 80 percent are more likely when constructing a gravity structure using CDSM.

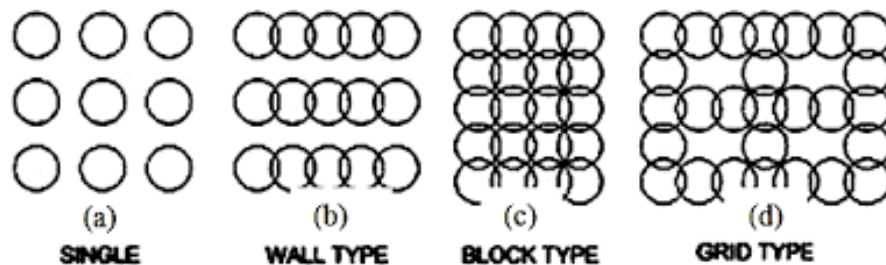


Image 16 – Examples of Deep Soil Mixing Patterns

Installing a grid of CDSM will result in a gravity-type retaining wall, as shown on a typical section in Image 17. If scour occurs, the gravity structure will provide stability by its weight, which will provide resistance to both sliding and overturning. The width and depth of the CDSM zone is designed such to result in adequate factors of safety and displacements under the range of expected loading conditions. The improvement ratio and pattern of CDSM columns is designed such to provide adequate internal stability and prevent potential failure through the improved zone.

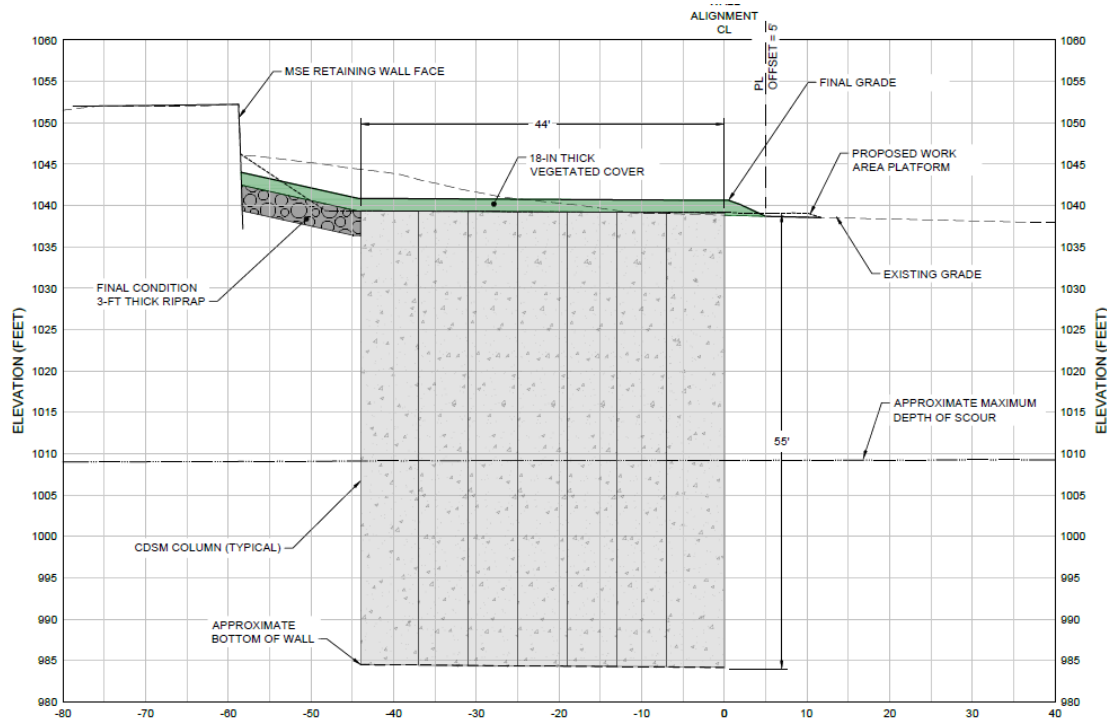


Image 17 – Gravity CDSM structure for scour protection

5.2.2 Anchored Secant-Pile Wall Systems

An alternative to a gravity-type structure is an anchored wall system constructed in a top-down sequence. Non-anchored systems were not considered because the structural demands and deflections would be too large. Examples of anchored wall systems include secant pile walls, CDSM wall with anchors, sheet pile walls, and reinforced-concrete diaphragm walls. A sheet pile wall was excluded from consideration due to the system's relative flexibility, potential challenges for installation to the required depth, and susceptibility to corrosion. A diaphragm wall was not specifically analyzed because the construction and cost implication may be more significant, although it would have similar performance as the secant pile wall.

An anchored secant pile wall was selected as a viable alternative due to its rigidity, resistance to long-term degradation, and ability to be installed within ground conditions and access limitations present in the Project area. The secant pile wall is installed in a sequence of primary and secondary piles, as shown in the example layout in Image 18. The primary piles are drilled and filled with concrete without reinforcement. In the next step, the secondary piles are drilled partially through soil and partially through primary piles, such to achieve sufficient overlap to provide wall continuity. Reinforcement in the form of a steel rebar cage (shown in the image) or a steel beam (when higher steel capacity is needed) is installed in secondary piles to achieve target structural performance. The overlap distance also should account for possible vertical deviation of the pile installation (typically about 1 percent), where wall continuity is critical for wall performance. The finished surface of the secant pile wall is generally smoother and more consistent than CDSM, as seen in Image 19.

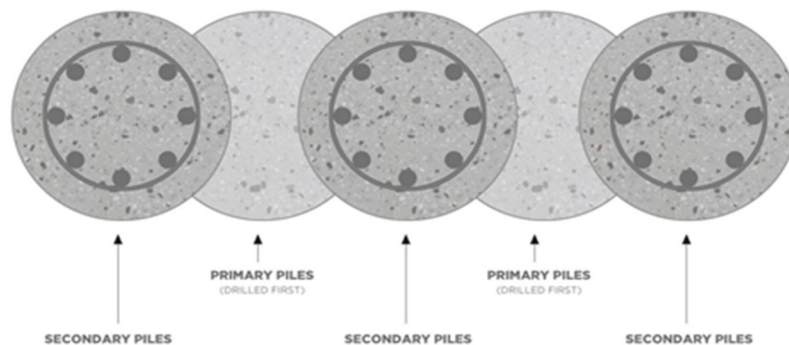


Image 18 – Examples of exposed Cement Deep Soil Mixing Columns



Image 19 – Examples of exposed secant pile wall

A typical section of anchored secant pile wall is shown in Image 20. If scour occurs, the secant pile wall structure will provide stability, structural stiffness, and the strength of the secant pile, restrained at the top by the posttensioned anchor force. Only one row of anchors and a heavy capping beam is considered feasible, as deeper excavation and an associated wide construction area would be required to install a second row of anchors. Anchor placement will need to account for avoiding impacting the existing structures (e.g., MSE wall, cast-in-place wall, utilities). On the south end, anchor penetration through the MSE will be required because the MSE wall is too deep to avoid it, with some additional considerations required of the specialty contractor/installer.

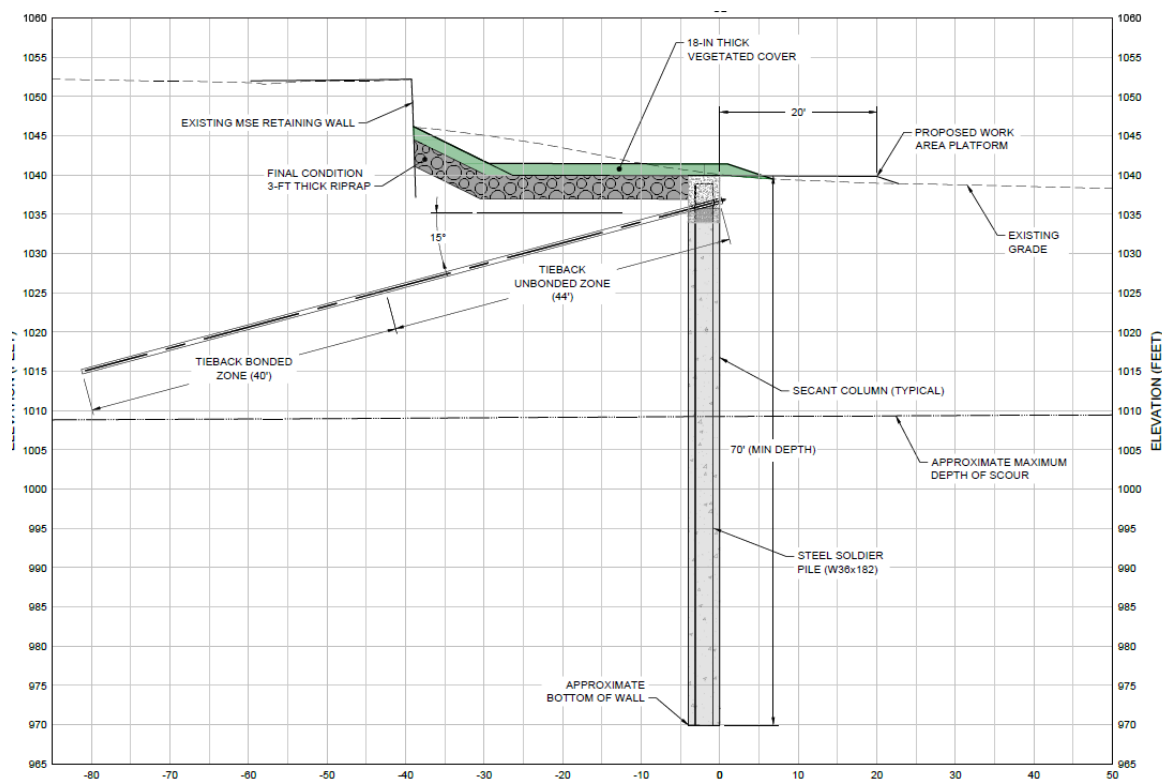


Image 20 – Anchored Secant Pile Wall Example Section

5.2.3 Cement Deep Soil Mixing Anchored Structure

This type of structure was implemented for the AWTF wall, constructed in 2016 and 2017. A typical section of AWTF wall is presented in Image 21. This wall system is a combination of the two systems described above. The structural wall is developed by means of CDSM, with an anchor system generally similar to that used for the secant pile

wall. The wall is wider and has a higher mass, thus, it provides some sliding and overturning resistance, reducing the anchor force demand. The CDSM installation is consistent with that needed for the CDSM gravity structure, with the three rows of CDSM providing a continuous zone of improvement. The advantage compared to the secant pile wall is that installation of CDSM is generally faster per cubic yard of structure; however, the structure volume is significantly increased, so cost-benefits could even out.

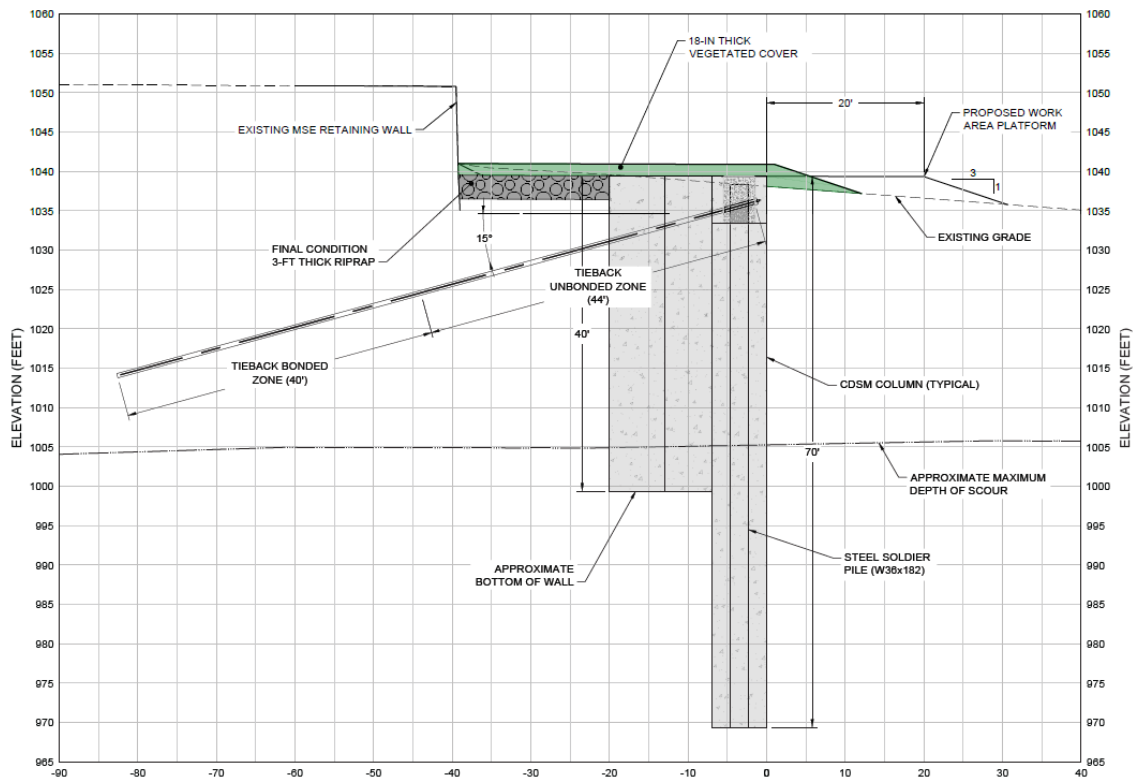


Image 21 – Anchored CDSM Wall Example Section

5.2.4 Large-Scale Rock Slope Protection

Construction of large-scale rock slope protection was considered in the past as a possible scour protection alternative (Fugro, 2017). While this approach would minimize the introduction of concrete and cement into the vegetated area, the scale of earthwork required to achieve the necessary improvement was deemed overly intrusive to the existing vegetation. The footprint impact on the vegetated area would be about two to three times larger than other alternatives discussed above, and as such, this approach was not considered in further alternative selections.

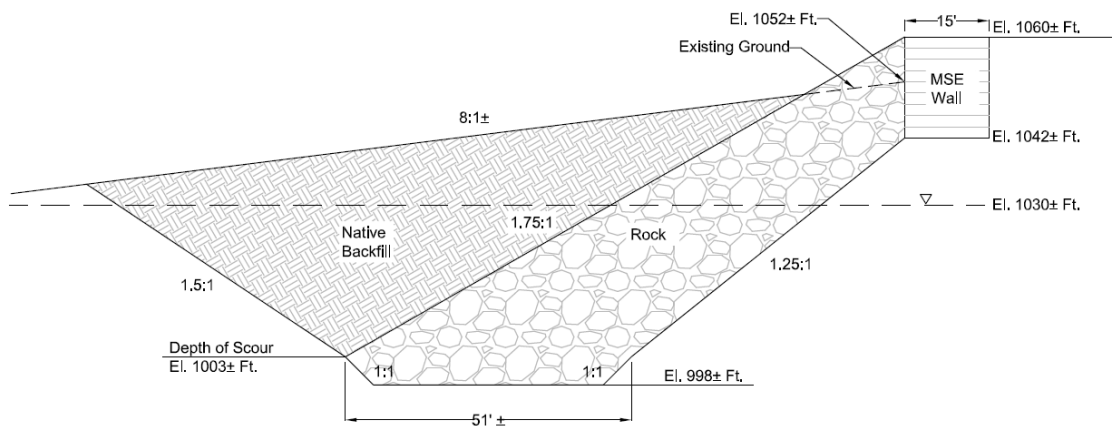


Image 22 – Size and construction impact of large scale rock slope protection (Fugro, 2017)

5.3 Alignment Considerations

When developing the proposed alignments of different structure options, the following was considered:

- Property limits;
- Necessary construction space;
- Ability to construct adjacent to existing structures;
- Tie-ins at the south and north ends of the project limits; and
- Localized scour that may be caused by significant changes in wall curvature.

One key element controlling the structure alignment is the Filter Backwash Equalization Tank area, which protrudes from an otherwise relatively straight alignment of the existing MSE wall about midpoint of the project area, creating a “bottleneck” between the existing wall and the property line, as shown in Image 23.

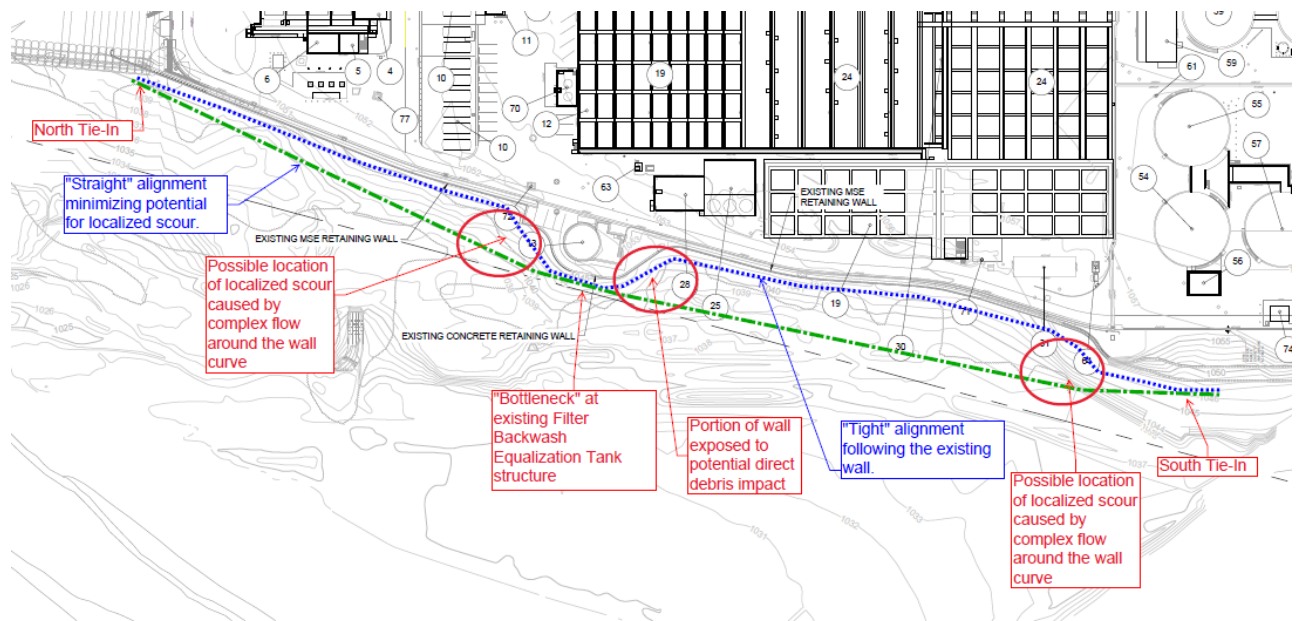


Image 23 – Considerations for structure alignment

As shown in the image, two basic alignment options are depicted:

- “Tight” Alignment, where the structure would be constructed as close to the existing wall as allowed by equipment; and
- “Straight” Alignment, where the structure would be constructed as close to the existing wall as allowed by equipment in the center bottleneck, as well as the north and south tie-ins, but would follow a straight line in between.

While the Tight Alignment may appear to reduce the impact area, it does create several design and performance challenges. The curves in the structure may cause localized scour, which could destabilize the structure, and the portion of the structure facing the direct river flow may be exposed to impact loads from debris carried by a flood. Furthermore, the actual impact to vegetation during construction may not be significantly different between the Tight and Straight Alignment options because the space required for the construction equipment would still disturb the area between the Tight Alignment and the Property Line.

Considering the above, this phase of the project considered the Straight Alignment as the preferred alignment. The details on the alignment for different structure types is discussed in the following section alongside the structure sizing.

5.4 Structure Type Specific Size and Alignment

As discussed in Section 4.2, three different structure types were considered at this stage:

- CDSM Gravity Type Structure;
- Secant Pile Wall with Anchors; and
- CDSM Anchored Structure.

Preliminary engineering analyses were performed to assess the minimum size (e.g., width and depth) of each structure type, such to be able to prepare the preliminary plans. Table 5 summarizes the key features and dimensions of the three considered options.

Table 5 – Considered Structure Preliminary Sizing

Feature	CDSM Gravity Type Structure	Secant Pile Wall with Anchors	CDSM Anchored Structure
Description	7 rows of 8 ft diameter soil mixing columns with 2 ft overlap	1 row of 4 ft diameter concrete piles with 1.5 ft overlap	3 rows of 8 ft diameter soil mixing columns with 2 ft overlap
Top Elevation (ft)	About 1040 to 1045, consistent with existing ground elevation		
Width (feet)	44	4	20
Depth (feet)	55	70	70 – 1 st row 40 – 2 nd and 3 rd row
Improvement Ratio	75 %	NA	100 %
Steel Axial Elements	NA	Every second pile	Every column in 1 st row
Anchor Length	NA	84	84
Anchor Spacing	NA	2.5	6

Images 24 through 27 present a view of the proposed layout for the four alignment options, with preliminary plans included as Attachment A. Each image is followed by a short discussion on the key elements driving the proposed layout. Each image also shows the approximate limits of the working platform area (the graded area where the construction equipment would operate).

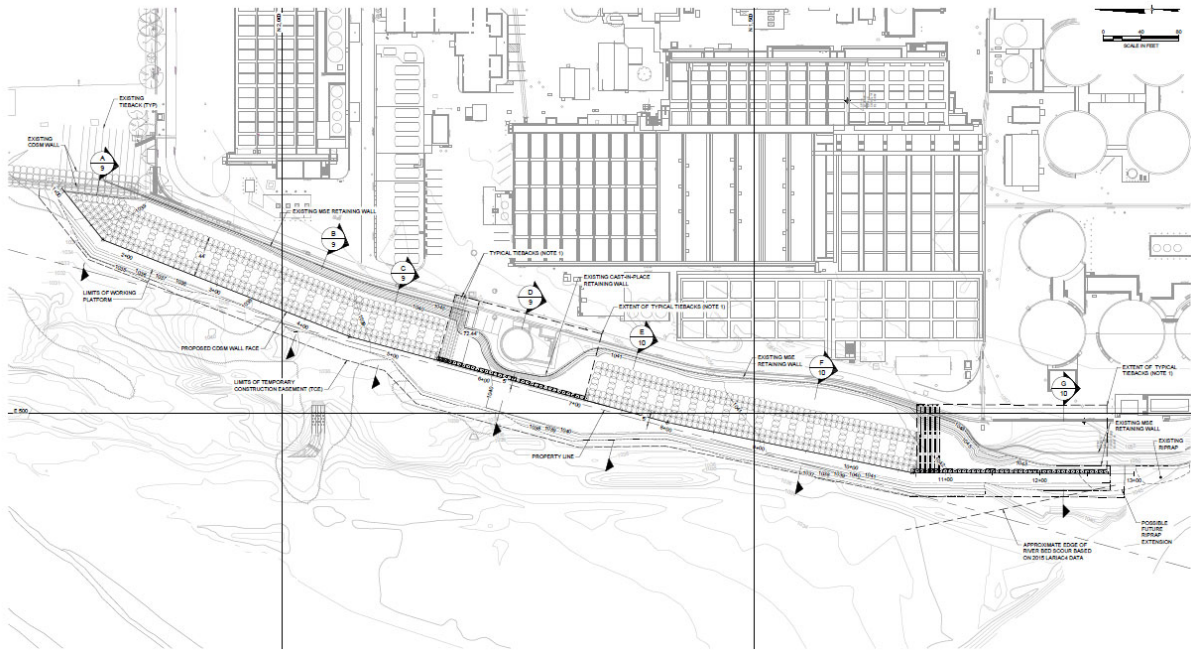


Image 24 – Option 1 – CDSM Gravity Type Structure Layout

The CDSM Gravity Structure is the widest of the considered structure options and as such, requires the most space. The alignment was developed such to allow about a minimum of 10 feet of clearance between the existing walls and the back end of the new structure. This corresponds to about a 5-foot clearance between the property line and the front edge of the structure. Because this option has a significant width, there are limited abilities to optimize the alignment (i.e., the considerations for bringing the alignment closer to the Tight Alignment discussed in Section 4.3 are not possible).

There are two areas where the CDSM gravity structure is not feasible without crossing the property line (central bottleneck area) or performing significant grading work that may impact the existing river channel (south end). For those two areas, the secant pile wall structure would be used. The secant pile wall will require anchor installation; therefore, a wider construction work area is shown in front of the secant pile wall alignment in the central bottleneck area. On the south end, anchor installation would be performed with equipment sitting behind the secant pile walls, as the area in front is too close to the river channel to provide an adequately wide construction zone. Similarly, a behind-the-wall construction approach is not feasible for the central bottleneck area because of the existing tank structure limiting equipment access.

The Secant Pile Wall with Anchors is the narrowest of the considered structure options and as such, requires the least space. The alignment was developed to be consistent with the Straight Alignment approach discussed in Section 4.3. While tightening this alignment close to the existing wall is possible, it would be subject to the design concerns discussed in Section 4.3. Furthermore, in case of a major scour, the distance between the existing wall and the secant pile wall would maintain its existing elevation, thus providing a higher level of vegetation preservation and such vegetation would screen the Plant from the river area. The central bottleneck area and south end are effectively the same as for the CDSM alignment, and the same construction access considerations discussed above apply.

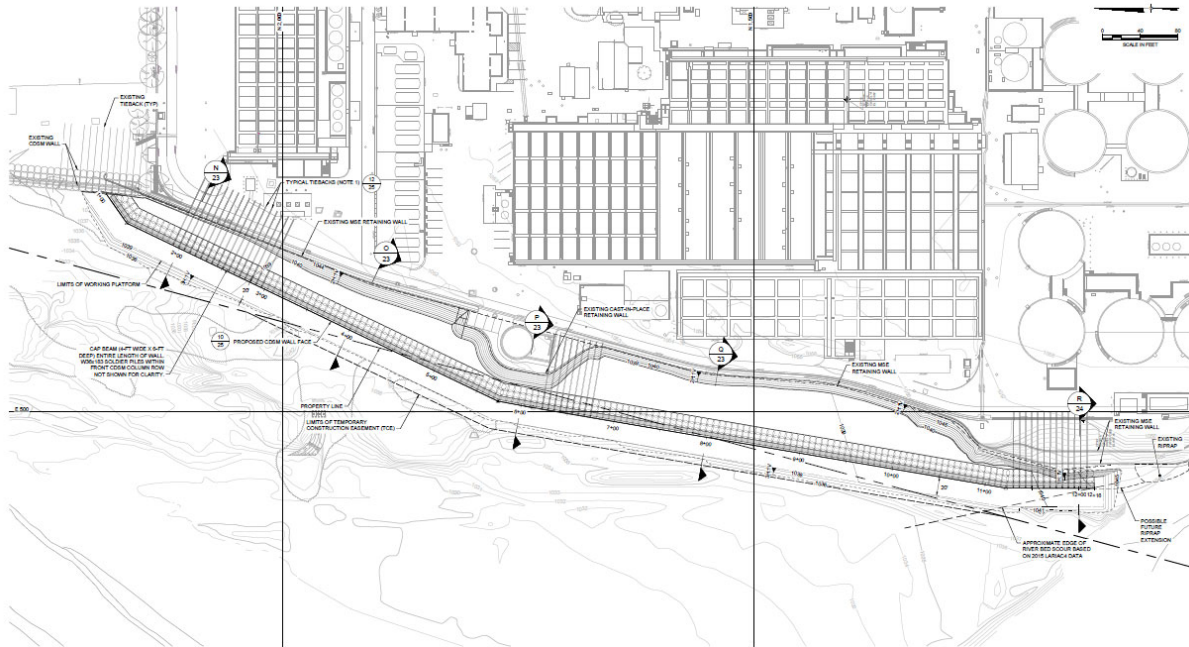


Image 26 – Option 3A – CDSM Anchored Structure Layout

The CDSM Anchored Structure alignment extends outside the Plant property limits in the central portion where limited space is available between the existing retaining wall and property line. This would require a permanent easement, but would result in a more uniform structure system. While this alignment may have less appeal on account of this, it is presented for consideration.

To avoid crossing the property line, the CDSM Anchored Structure was combined with an Anchored Secant-Pile Wall system in the Option 3B, as shown in Image 27. For this option, the Secant Pile Wall was incorporated into the central bottleneck portion and at the limited work area at the southern end, similar to Option 1, where it was combined with the gravity CDSM structure.

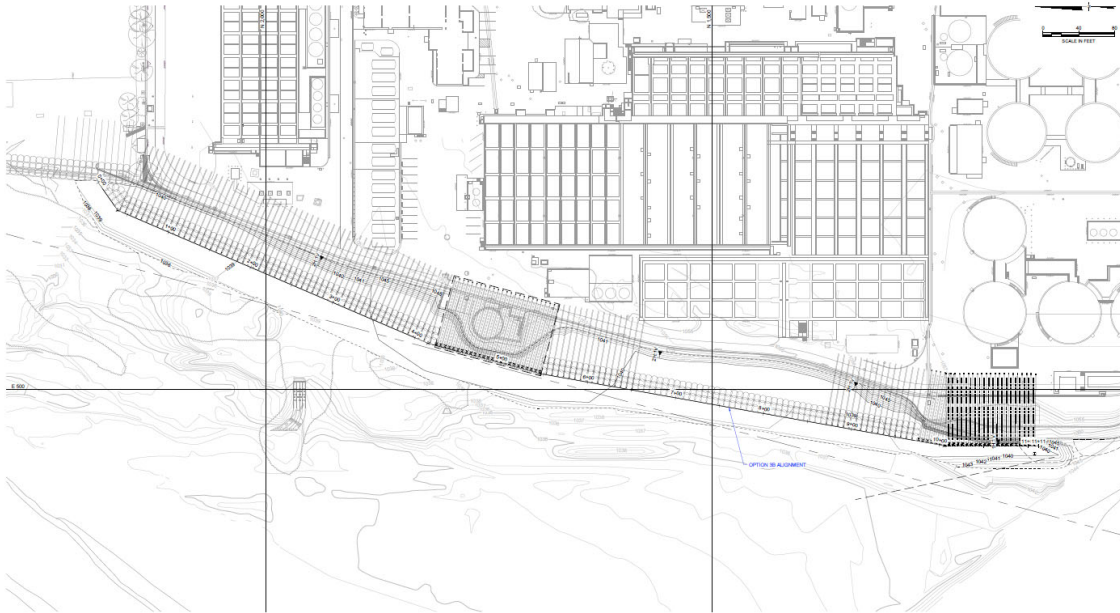


Image 27 – Option 3B – CDSM / Secant Pile Anchored Structure Layout

5.5 Surface Scour Protection Behind New Structure

The flood levels provided in PACE (2016) indicate that water levels could reach as high as 2 to 3 feet below the top of the existing MSE wall (see Image 27). If that were to occur, it will top over the new structure designed to provide scour protection. The new structure cannot be tied into the existing MSE wall, and the distance between the two will be present due to constructability limits and alignment criteria. Therefore, the surface area between the back of the new structure and the front of the MSE wall needs to be protected. Preliminary assessment indicates that rip-rap with a D50 of 1 to 1.5 foot may be required. Rip-rap thickens of about two times the upper bound D50 was assumed (i.e., 3 feet). In the final design, a more detailed assessment of the flow regime in this area and the necessary scour protection will be performed. This rip-rap can also be covered with cover soil that will support vegetative cover.

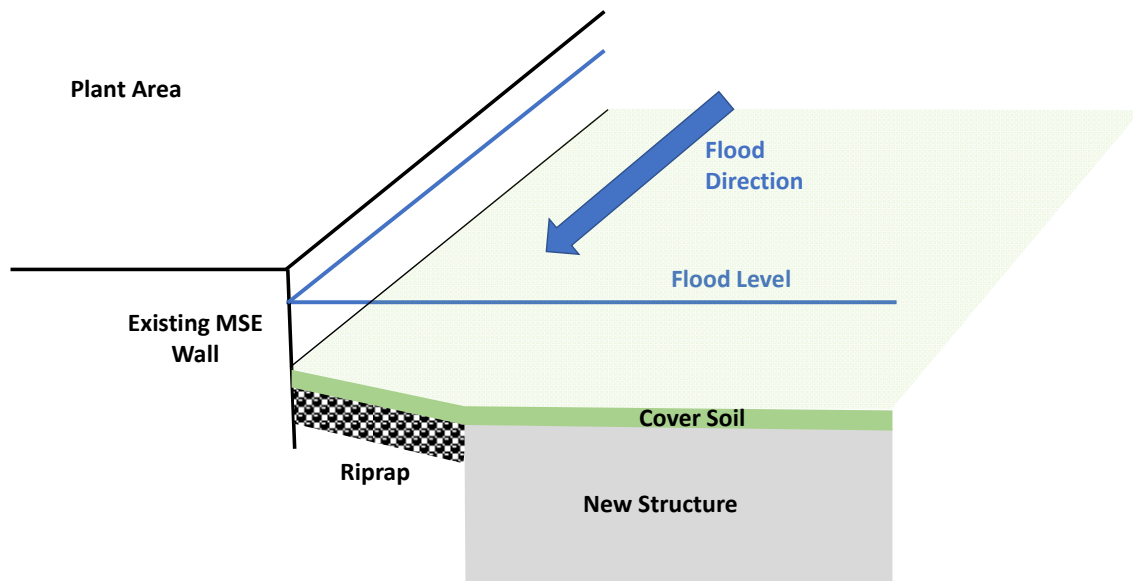


Image 27 – 3-foot thick rip-rap zone between structure back and existing wall

5.6 Cover Soil and Reinstatement of the Vegetation

Vegetation reinstatement is one of the priorities of the project, with the overall project goal of constructing the scour protection structure such that it will mostly not be visible unless exposed by scour. With that in mind, the structure elevation profile was set low to allow the zone of cover soils to promote growth of a vegetation cover. A minimum of 18-inch-thick soil cover was included in the current plans, shown as a green zone in Image 28. The CDSM option will have a larger footprint of improved soil under the cover soil, where deep root systems will not be feasible. However, within each improvement grid, there will be a zone of about 16 by 10 feet of native soil, where some deeper rooting systems can be established (see Image 29). A separate plan will need to be established to develop an optimum revegetation program for the impacted area.

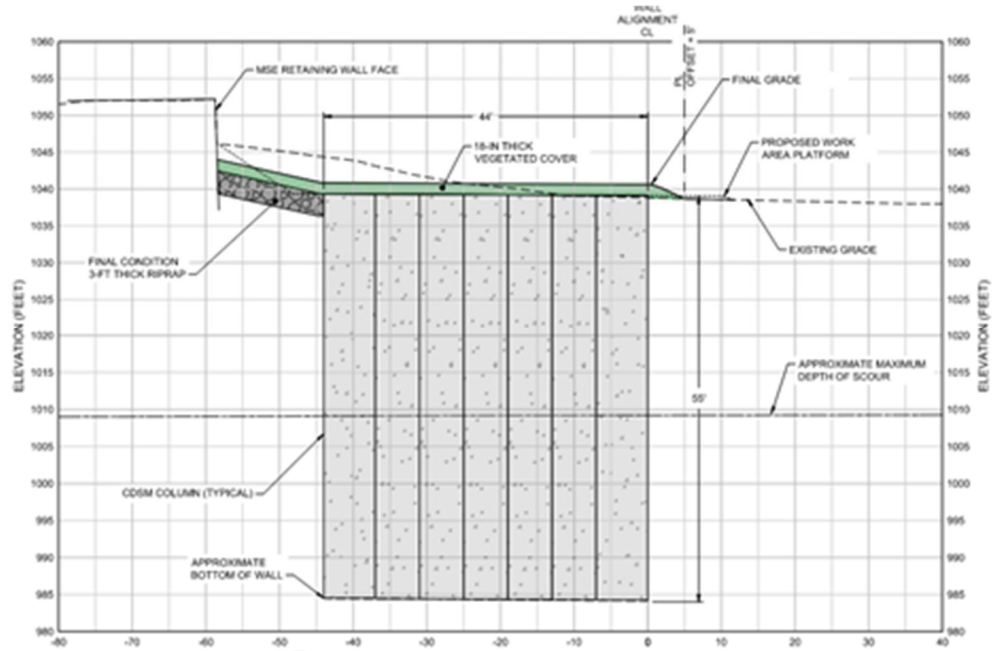


Image 28 – 18-inch thick vegetated cover soil zone.

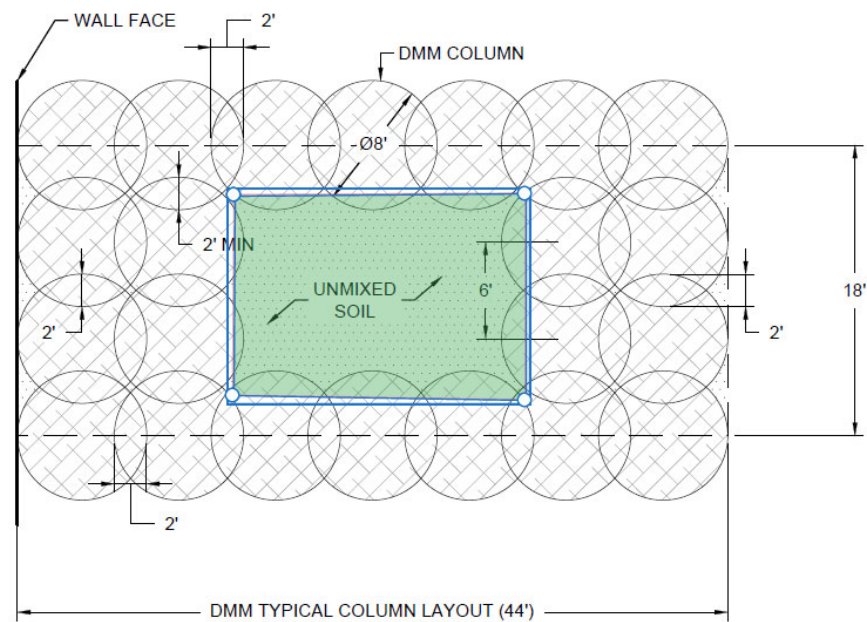


Image 29 – About 14- by 10-foot unmixed soil within each cellular CDSM block

5.7 Scour Protection Tie-In on the South End

The south end tie-in is one of the more challenging aspects of the project, as that is the point where the existing river channel comes close to the proposed improvement area. Past scour has occurred in this area, requiring placement of large rock to protect the existing deep MSE wall. This rock protection is now limited to the southern facing wall section and a portion of the western facing wall section. As shown in Image 30, there is a portion between the proposed improvement and the existing large rock rip-rap. It would be advisable to place additional large rock rip-rap in this zone to limit the potential for future scour damage of the existing MSE wall and achieve good tie-in with the new proposed structure.

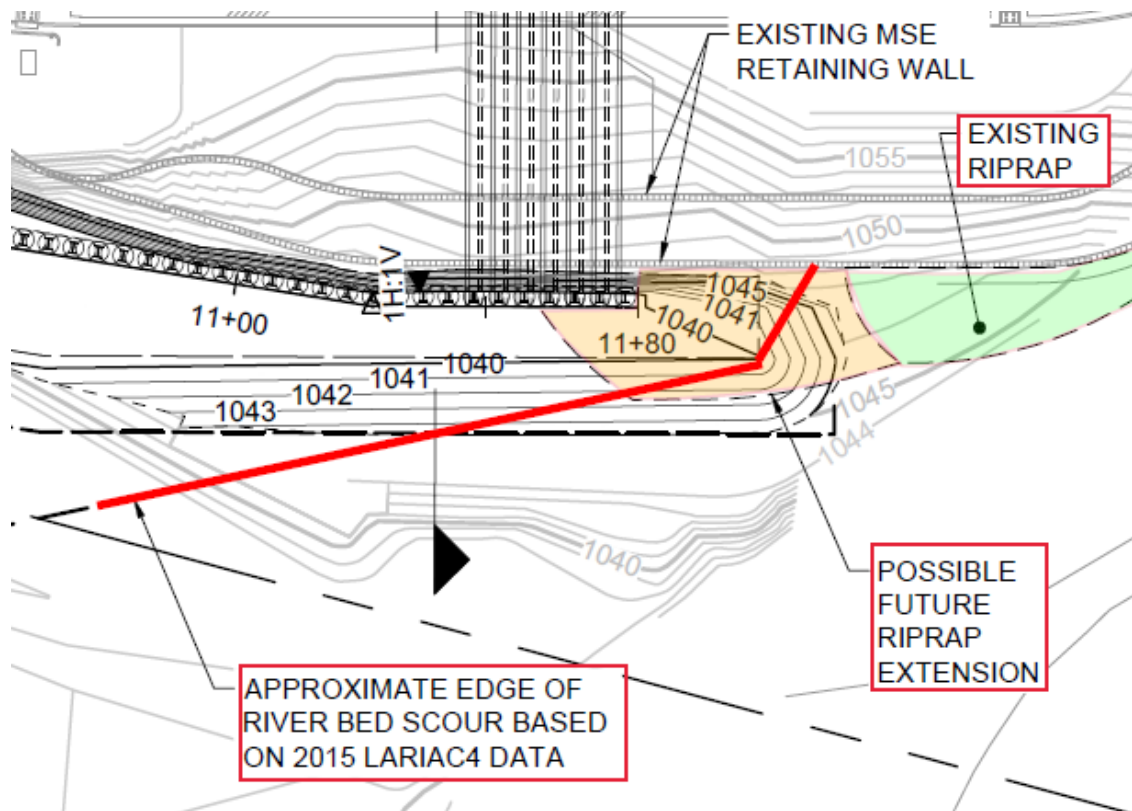


Image 30 – South end of the project area and likely footprint of the new large stone scour protection zone.

5.8 Cement Impact on Water Quality

Recently cast concrete is known to increase the pH level of water it contacts, which has the potential to harm aquatic species. As part of the current project, significant amounts of concrete or cement mixture will be introduced into the ground, and we understand that cement impact on water quality is a concern, specifically, the increase in pH of the surrounding water. This concern is frequently discussed as part of bridge foundation or similar construction that occurs in waterways to the point that Caltrans Division of Research has prepared a preliminary investigation report on the topic (Caltrans, 2016)³. Similarly, the Transportation Research Board (TRB) of American Association of State Highway and Transportation Officials (AASHTO) has identified this as an item deserving further study⁴.

Caltrans (2016) states that Caltrans is currently required by the California Department of Fish and Wildlife (CDFW) to isolate via an impermeable barrier any PCC formed in flowing water for a minimum of 30 days. No reference is provided as to the necessity to separate the concrete from the groundwater (i.e., not free flowing water). As part of its reference research, Caltrans (2016) identified limited references on the subject of water impact from exposure to early-age concrete. One of the studies indicates that the flow rate of waterways is the most significant factor of impact. For the current project, the new concrete or cemented soil is not expected to be in contact with flowing water. Exposure would occur under high flood levels; therefore, constructing in the dry season would automatically provide a separation of flowing water and fresh concrete. Additionally, control of spoils that include cement should be implemented such that the spoils cannot reach flowing water. These efforts are expected to provide a comparable level of protection, as required on Caltrans projects.

³<https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/preliminary-investigations/pcc-and-water-ph-pi-revised-2-1-16-a11y.pdf>

⁴ <https://apps.trb.org/nchrpballoting/BallotingDocs/B-18prob.htm>

6. CONSTRUCTION EQUIPMENT AND CONSIDERATIONS

The limited access to the construction site coupled with the project goal of minimizing the impact to the vegetated area means that construction considerations will have a significant impact on the path forward. Key construction considerations are discussed below.

6.1 Large Equipment

Installation of deep CDSM columns or secant pile walls requires large equipment. The largest equipment will be the hydraulic rotary rig. The Soilmec SR-145 is an example rig used by number of contractors for similar work. The width of the rig is about 17 feet, and the length is about 35 feet, including the drilling assembly. The rig mast is near 100 feet tall. The operating rig weight is about 320,000 lbs, which results in very high contact pressure under the rig tracks. The average track pressure under rig weight alone is about 2,500 psf and will increase up to about peaks of 4,000 to 5,000 psf during operation, with highs occurring when the rig is withdrawing the augers out of the ground.

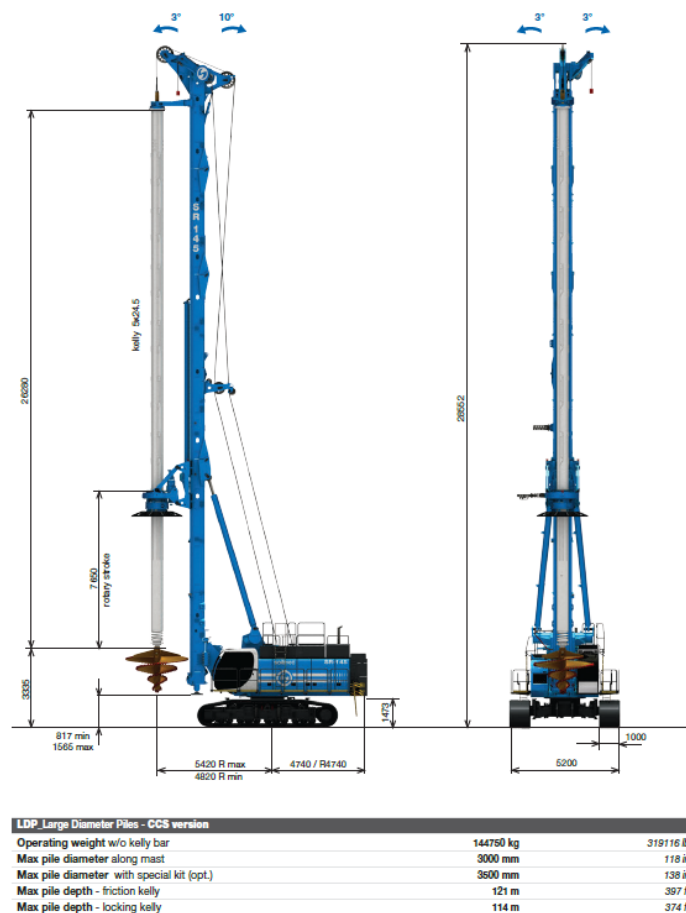


Image 31 – Example large drilling/mixing rig

Other large equipment required for CDSM installation includes the grout batch plant that will supply the cement admixture that will be injected into the ground and mixed with soil. The batch plant requires an area of about 40 by 100 feet (see example setup in Image 32) and will require continuous access for cement delivery. Considering the limited construction area that will be available, it is likely that the batch plant will need to be

moved at least once during the construction phase, unless a place for the construction plant can be found in the Plant area behind the existing retaining wall.

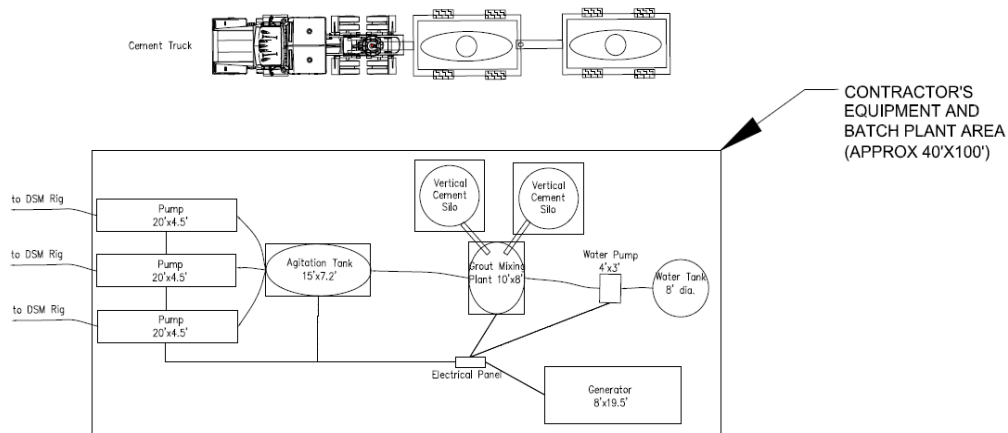


Image 32 – Example Batch Plant Setup (about 40 x 100 ft area)

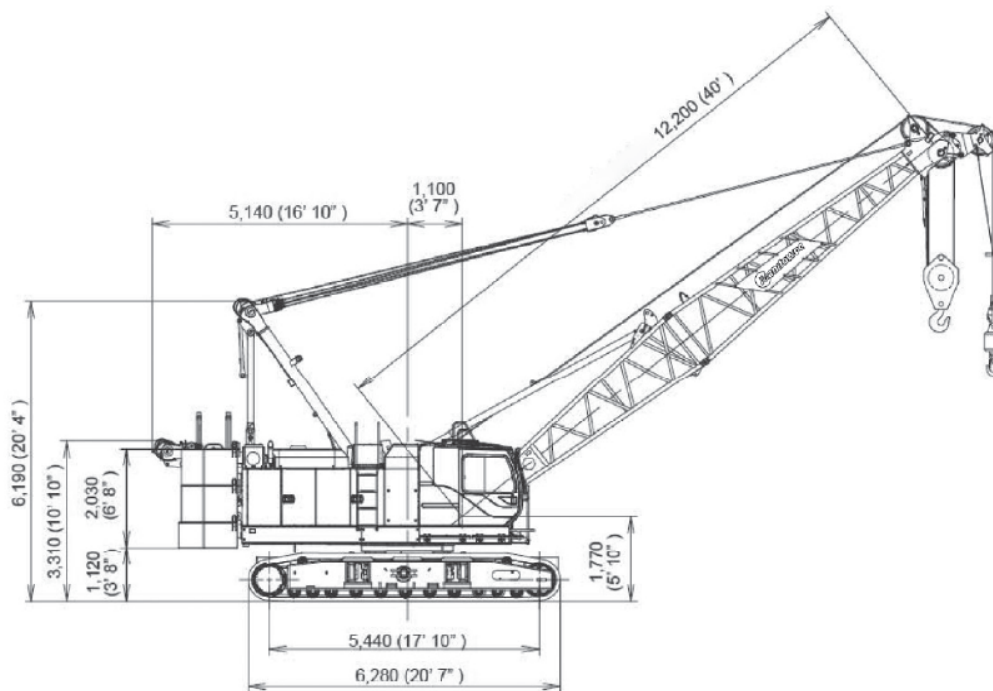


Image 33 – Example Crane (Manitowoc 11000-1)

A large crane will also be required to assist in assembling the drill rig and batch plant, as well as to lift and place the long steel beams for the secant pile anchored deep soil mixing option. Image 33 shows the dimensions of an example crane that may be mobilized for

the proposed project. A mobile crane on track-mounted crawlers is typically used on similar projects.



Image 34 – Example Ground Anchor Drill Rig (Hütte HBR 605-4)

A ground anchor drill will be significantly smaller than a soil mixing / secant pile drill. Image 34 presents an example anchor drill rig during drilling. This rig is about 8 by 26 feet in footprint when aligned straight, but can work from various footprints depending on the drill direction. An approximately 20-foot wide working platform was estimated to be required for this rig; however, some aerial clearance outside of the working platform will likely be required to extend the drill rig mast, as seen in the image.

Other equipment, including soil grading equipment and trucks to move soils, is generally expected to be of standard construction size.

6.2 Construction Access Point

The access point to the construction area riverside of the existing retaining walls is expected to be the existing access ramp at about the central point of the project area. This is just north of the point where the Filter Backwash Equalization Tank structure and surrounding cast-in-place retaining wall protrude from the MSE wall alignment. The access ramp is about 15 feet wide. Some grading, temporary facing removal, and possible disassembly of the portion of the MSE may be required to provide sufficient width,

adequate grade, and sufficient bearing capacity for the construction equipment. Access to the construction area from the south is not feasible, as it would require crossing the river



***Image 35 – Access ramp just north of the Filter Backwash Equalization Tank
(central portion of the project area), looking north.***

channel. On the north end, access would require disturbing an area recently revegetated as part of the AWTF wall construction.



Image 36 – Access ramp just north of the Filter Backwash Equalization Tank (central portion of the project area), looking south up the ramp.

6.3 Area Clearing and Working Platform Grading

To construct the proposed improvements, a working platform will need to be prepared to allow access of large-size equipment. The equipment requires a wide and level working surface, with a target slope of about 1 percent. A working platform extending at least 10 feet outside of the finished structure footprint, with a minimum width of about 50 to 60 feet, is likely going to be required. Some working platform grading will need to occur outside of the property limits. All vegetation in the working platform area will need to be removed.

6.4 South End Tie-In Working Platform

The south end tie-in presents unique challenges in developing a working platform to support large equipment. Image 37 presents a schematic approach that can be taken by the contractor to construct the secant piles adjacent to the existing two-tier MSE wall in the area where the river channel comes close to the MSE wall. Work may require some deconstruction of the top MSE wall tier, as shown on the image. Image 38 presents additional excavation that will need to be performed in front of the wall to install the secant pile anchor system.

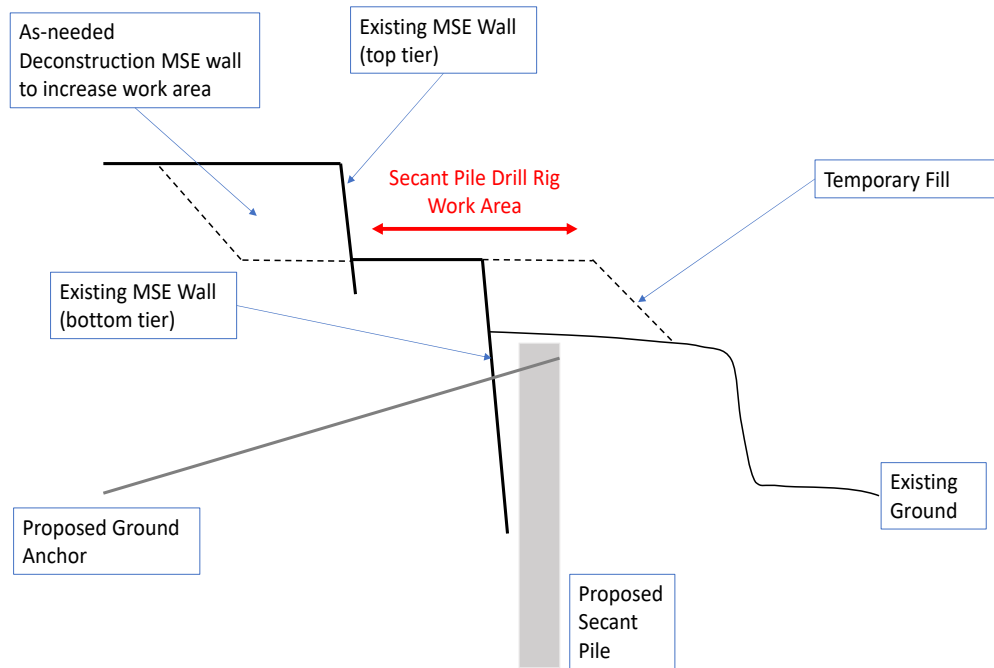


Image 37 – Work Platform for South end Tie-in secant pile construction

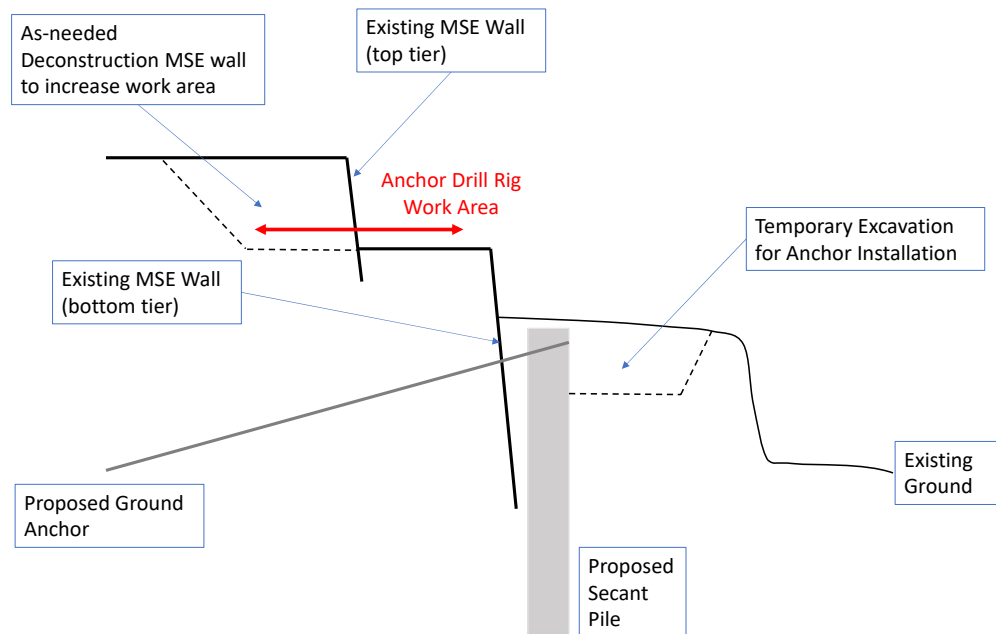


Image 38 – Work Platform for South end Tie-in anchor installation

6.5 Spoils Handling

Construction of either of the proposed structure options will result in the generation of a significant volume of spoils. During deep soil mixing, the generated spoils amount to about 30 percent of the mixed volume and come up as wet mixed soils during construction (see image left side). As they dry up, they become more soil residual like and can be loaded up for transport (see image right side). Depending on local industry needs, spoils are oftentimes reused as fill materials for special applications. No reuse is planned on the project site, and all spoils will be tracked off site.



Image 39 – Deep soil mixing spoils: fresh (left side) and dried (right side).

Spoil generation from secant pile operations is somewhat different. The generated spoils amount to 100 percent of the secant pile volume because secant piles are 100 percent new concrete. Some of the spoils may be clean soils, while some may be mixed with fresh or cured concrete, depending on construction means and methods. Specifically, the primary piles are drilled through soil only, and as such, the spoils could be clean soils; however, depending on the concrete backfilling approach, some cross-mixing of soils and fresh concrete may occur. The secondary piles are drilled through portions of the primary piles, so the spoils will always include portions of cured concrete coming from the primary piles. No onsite reuse of spoils mixed with fresh or cured concrete is planned. Spoils that can be confirmed as not impacted with concrete may be considered for onsite reuse, if the soil type is consistent with the fill material needs.

Finally, any presence of wet flowable spoils will be coupled with adequate use of containment by a soil berm or similar, such to prevent migration of wet concrete spoils outside the designated work area.

7. CONCEPTUAL CONSTRUCTION COST ESTIMATE

Conceptual cost of construction was developed for the four structure options based on the preliminary design structure sizing. The cost estimates are summarized in Tables 6 through 9 for the four options.

Table 6 – Option 1 – CDSM Gravity Structure Cost Estimate

Item	Unit	Quantity	Unit Price	Extended Cost
Grading Mobilization	LS	1	\$50,000	\$50,000
Grading	CY	8,000	\$20	\$160,000
Soil Import	CY	4,000	\$40	\$160,000
CDSM Mobilization	LS	1	\$260,000	\$260,000
CDSM Mixing	CY	66,000	\$110	\$7,260,000
CDSM Spoils Disposal	CY	25,000	\$40	\$1,000,000
Secant Pile Mobilization	LS	1	\$150,000	\$150,000
Secant Piles	LF	10,800	\$340	\$3,672,000
Secant Pile Beams	LF	5,200	\$273	\$1,419,600
Tiebacks	LF	11,100	\$110	\$1,221,000
Secant Pile Spoils Disposal	CY	5,000	\$40	\$200,000
Riprap	CY	1,600	\$250	\$400,000
Subtotal				\$15,742,600
Contingency (10%)				\$1,574,260.0
TOTAL				\$17,316,860.0

Table 7 – Option 2 – Anchored Secant Pile Wall Cost Estimate

Item	Unit	Quantity	Unit Price	Extended Cost
Grading Mobilization	LS	1	\$50,000	\$50,000
Grading	CY	8,000	\$20	\$160,000
Soil Import	CY	4,000	\$40	\$160,000
Secant Pile Mobilization	LS	1	\$260,000	\$260,000
Secant Piles	LF	30,240	\$305	\$9,223,200
Secant Pile Beams	LF	15,120	\$310	\$4,687,200
Tiebacks	LF	32,400	\$128	\$4,147,200
Secant Pile Spoils Disposal	CY	15,000	\$40	\$600,000
Riprap	CY	3,390	\$250	\$847,500
Subtotal				\$20,135,100
Contingency (10%)				\$2,013,510.0
TOTAL				\$22,148,610.0

Table 8 – Option 3A – Anchored CDSM Wall Cost Estimate

Item	Unit	Quantity	Unit Price	Extended Cost
Grading Mobilization	LS	1	\$50,000	\$50,000
Grading	CY	8,000	\$20	\$160,000
Soil Import	CY	4,000	\$40	\$160,000
CDSM Mobilization	LS	1	\$260,000	\$260,000
CDSM Mixing	CY	56,632	\$110	\$6,229,520
CDSM Spoils Disposal	CY	22,000	\$40	\$880,000
Pile Beams	LF	11,830	\$320	\$3,785,600
Tiebacks Mobilization	LS	1	\$82,000	\$82,000
Tiebacks	LF	14,196	\$190	\$2,697,240
Riprap	CY	4,220	\$250	\$1,055,000
Subtotal				\$15,359,360
Contingency (10%)				\$1,535,936.0
TOTAL				\$16,895,296.0

Table 9 – Option 3B – Anchored CDSM / Secant Pile Wall Cost Estimate

Item	Unit	Quantity	Unit Price	Extended Cost
Grading Mobilization	LS	1	\$50,000	\$50,000
Grading	CY	8,000	\$20	\$160,000
Soil Import	CY	4,000	\$40	\$160,000
CDSM Mobilization	LS	1	\$260,000	\$260,000
CDSM Mixing	CY	46,200	\$110	\$5,082,000
CDSM Spoils Disposal	CY	17,500	\$40	\$700,000
Pile Beams (CDSM)	LF	8,280	\$320	\$2,649,600
Tiebacks Mobilization (CDSM)	LS	1	\$82,000	\$82,000
Tiebacks (CDSM)	LF	9,938	\$190	\$1,888,220
Secant Pile Mobilization	LS	1	\$150,000	\$150,000
Secant Piles	LF	7,420	\$340	\$2,522,800
Secant Pile Beams	LF	3,570	\$273	\$974,610
Tiebacks (Secant Piles)	LF	7,625	\$110	\$838,750
Secant Pile Spoils Disposal	CY	3,435	\$40	\$137,400
Riprap	CY	2,800	\$250	\$700,000
Subtotal				\$16,355,380
Contingency (10%)				\$1,635,538
TOTAL				\$17,990,918

8. LIMITATIONS

The work documented in this Report focuses on the evaluation of various options and locations for the proposed development at the Site for the proposed Project. The recommendations presented herein are based on the understanding of the proposed Project, as outlined in Section 1 of this Report. Geosyntec should be notified of any significant changes so that we may either confirm or modify our recommendations.

The Report and other materials resulting from Geosyntec's efforts were prepared exclusively for use by the Sanitation Districts of Los Angeles County to support the alternative selection of the proposed structure. The Report is not intended to be used for other future improvement in the area and may not contain sufficient or appropriate information for such use. If this Report, or portions of this Report, are provided to contractors or included in specifications, it should be understood that it is provided for information only.

Soil deposits may vary in type, strength, and many other important properties between points of exploration due to non-uniformity of the geologic formations or to man-made cut and fill operations. While Geosyntec cannot evaluate the consistency of the properties of materials in areas not explored, the conclusions drawn in this Report are based on the assumption that the data obtained in the field and laboratory are reasonably representative of field conditions and are conducive to interpolation and extrapolation.

Our investigation and evaluations were performed using generally accepted engineering approaches and principles available at this time and the degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical engineers practicing in this area. No other representation, either expressed or implied, is included or intended in our report.

APPENDICES

APPENDIX A

Preliminary Alternative Plans

A

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B

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C

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D

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E

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F



D

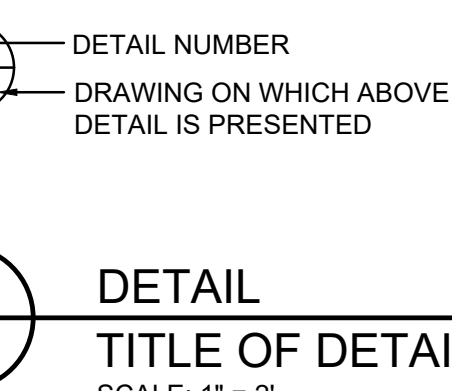
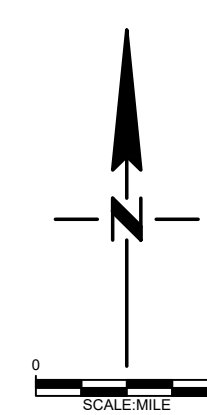
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5



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TAIL NUMBER 4 PRESENTED ON
DRAWING NO. 9 WAS REFERENCED FOR
THE FIRST TIME ON DRAWING NO. 3.

[illegible]

THIS DRAWING MAY NOT BE
ISSUED FOR PROJECT
UNDER OR CONSTRUCTION.

Geosyntec
consultants

ADDRESS
CITY, STATE ZIP USA TELEPHONE:
XXX.XXX.XXXX

1. RELOCATE AND REROUTE EXISTING UTILITIES AS REQUIRED FOR WORKING PLATFORM AND WALL INSTALLATION.
2. CONSTRUCT WORKING PLATFORM.
3. INSTALL CDSM WALL, CAP BEAM, AND TIEBACKS.
4. PLACE RIP RAP BEHIND THE WALL IN AREAS SHOWN.
5. PLACE VEGETATED SOIL LAYER TO ELEVATIONS SHOWN.

	EXISTING GRADE CONTOUR
	PROPOSED GRADE CONTOUR
	DITCH OR SWALE FLOW LINE
	EXISTING ELEVATION
	PROPOSED ELEVATION
	GEOMEMBRANE, PROTECTIVE MEMBRANE (SECTION)
	GEOTEXTILE (SECTION)
	PROPERTY LINE
	EXISTING CHAIN LINK FENCE
	EXISTING GUARD RAILING
	EXISTING MSE RETAINING WALL
	EDGE OF EXISTING AC PAVEMENT
	EXISTING GROUND
	EXISTING CONCRETE (SECTION)
	COMPACTED STRUCTURAL BACKFILL
	COMPACTED BACKFILL
	GRAVEL OR CRUSHED ROCK (PLAN, SECTION)
	HYDROMULCH
	SLOPE STABILIZATION FABRIC
	PIPELINE ABANDONED IN PLACE IN PREVIOUS CONTRACTS W/ CONCRETE PLUG
	EXISTING PIPELINES
	TO BE DEMOLISHED AND/OR SALVAGED
	EXISTING GATE VALVE W/ VALVE BOX
	EXISTING CATCH BASIN
	EXISTING MANHOLE
	EXISTING FIRE HYDRANT
	LIGHT STANDARD
	LIGHT STANDARD & CONCRETE BASE HOSE BIB
	GEOTECHNICAL BORING
	BENCH MARK
	ENVIRONMENTAL BORING
	LIMITS OF TEMPORARY CONSTRUCTION EASEMENT
	VEGETATIVE SOIL LAYER (SECTION)
	RIPRAP
	CDSM COLUMN (SECTION)
	SECANT WALL CONCRETE CAP
	SECANT WALL COLUMN (DETAIL)
	CDSM COLUMN (PLAN)
	SECANT COLUMN W/ W36x182 SOLDIER COLUMN
	SECANT COLUMN
	SECANT COLUMN TIE-BACK (PLAN)

SP 1

SPECIAL PIPING ITEM (SEE SECTION 18B OF SPEC PROV)

SECTION OF CUT

TOP: SECTION LETTER

BOTTOM: SHT WHERE SECTION IS SHOWN

DETAIL INDICATION

TOP: DETAIL NUMBER

BOTTOM: SHT WHERE DETAIL IS SHOWN

WHERE LETTERS ONLY ARE USED FOR A SECTION, THE SECTION IS TAKEN AND SHOWN ON THE SAME SHEET.

A	AB	ANCHOR BOLT	O	OC	ON CENTER
	ABAND	ABANDONED		OCV	ON CENTER VERTICAL
	ABBREV	ABBREVIATION		OD	OUTSIDE DIAMETER OF OUTSIDE FACE
	ABLK	ANCHOR BLOCK		OG	ORIGINAL GRADE
	AC	ASPHALT CONCRETE, ALTERNATING CURRENT	P	PL	PROPERTY LINE
	AG	ABOVE GROUND		PE	PLAIN END, POLYETHYLENE
	AGGR	AGGREGATE		PERM	PERMANENT
	ALT	ALTERNATE		PI	POINT OF INTERSECTION
	ANC	ANCHOR		PP	POWER POLE
	APPROX	APPROXIMATELY		PROP	PROPOSED
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS		PSI	POUNDS PER SQUARE INCH
	AWG	AMERICAN WIRE GAUGE		PTI	POST-TENSIONING INSTITUTE
B	BC	BEGIN CURVE		PVC	POLYVINYL CHLORIDE
	BDRY	BOUNDARY		PVI	POINT OF VERTICAL INTERSECTION
	BLK	BLOCK		PVMT	PAVEMENT
	BM	BENCH MARK, BEAM AND MATERIALS		PWR	POWER
	BOT	BOTTOM	R	RW	RIGHT OF WAY
	BW	BOTH WAYS, BOTTOM OF WALL, BUTT WELD		R	RADIUS
C	CL	CENTER LINE		RC	REINFORCED CONCRETE
	CA	CABLE		RCB	REINFORCED CONCRETE BOX
	CAB	CRUSHED AGGREGATE BASE		RCP	REINFORCED CONCRETE PIPE RCP-PL REINFORCED CONCRETE PIPE - PLASTIC LINED
	CB	CATCH BASIN		REF	REFERENCE
	CDFW	CALIFORNIA DEPARTMENT OF FISH AND WILD LIFE		REINF CONC	REINFORCED CONCRETE
	CDSM	CEMENT DEEP SOIL MIXING		REQD	REQUIRED
	CF	CUBIC FEET, CURB FACE		RT	RIGHT
	CP	CAST IRON PIPE, CAST-IN-PLACE	S	SIL	SURVEY LINE
	CIRCUM	CIRCUMFERENCE		S	SOUTH
	CL	CENTER LINE		SCE	SOUTHERN CALIFORNIA EDISON CO
	CLF	CHAIN LINK FENCE		SCG	SOUTHERN CALIFORNIA GAS CO
	CMU	CONCRETE MASONRY UNIT		SCH	SCHEDULE
	CO	CLEANOUT, CONDUIT ONLY		SDMH	STORM DRAIN MANHOLE
	COL	COLLAR, COLUMN		SECT	SECTION
	CONC	CONCRETE		SED	SEDIMENTATION
	CONCBLK	CONCRETE BLOCK		SF	SQUARE FEET
	CONJST	CONSTRUCTION JOINT		SMH	SEWER MANHOLE
	CONT	CONTINUED, CONTINUATION, CONTINUOUS		SQ	SQUARE
	COORD	COORDINATES		SS	STAINLESS STEEL
	COR	CORNER		SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS
	CP	CONTROL POINT		STR	CONSTRUCTION
	CSP	CORRUGATED STEEL PIPE		STA	STATION
	CTR	CENTER		STRUCT	STRUCTURAL, STRUCTURE
	CU FT	CUBIC FOOT, FEET		SWRP	SAUGUS WATER RECLAMATION PLANT
	CULV	CULVERT		SYM	SYMMETRICAL
	CU YD	CUBIC YARDS		YS	SYSTEM
	CY	CUBIC YARDS			
D	DAF	DISSOLVED AIR FLOTATION	T	TC	TOP OF CURB, TOP OF CAP, THERMOCOUPLE
	DEG	DEGREE		TCE	TEMPORARY CONSTRUCTION EASEMENT
	DEMO	DEMOLISH, DEMOLITION		TEMP	TEMPERED, TEMPORARY
	DIA	DIAMETER		TOC	TOP OF CONCRETE
	DIM	DIMENSION		TOG	TOP OF GRATING, TOP OF GRADE
	DWG	DRAWING		TOM	TOP OF MASONRY
	DWGS	DRAWINGS		TOW	TOP OF WALL
E	E	EAST, ELECTRICAL		TS	TOP OF SLOPE, TOP OF STRUCTURE, TUBE STEEL
	EA	EACH		TW	TOP OF WALL, THERMOMETER WELL
	EL	ELEVATION		TYP	TYPICAL
	ELEC	ELECTRIC, ELECTRICAL	U	UL	UNDERWRITERS LABORATORIES, INC
	ELL	ELBOW		UBC	UNIFORM BUILDING CODE
	ENC	ENCASED, ENCASEMENT		UGRD	UNDERGROUND
	ENGR	ENGINEER	V	VERT	VERTICAL
	EDGE	EDGE OF PAVEMENT, EXPLOSION-PROOF		VWRP	VALENCIA WATER RECLAMATION PLANT
	ESMT	EASEMENT	W	W/	WITH
	EV	ELECTRICAL VAULT		WIN	WITHIN
	EX	EXISTING		W/O	WITHOUT
	EXC	EXCAVATE, EXCAVATION		W	WEST
F	FIL	FLOW LINE		WRP	WATER RECLAMATION PLANT
	FCE	FENCE		WS	WATER SURFACE, WATER STOP
	FF	FINISHED FLOOR (ELEVATION), FLAT FACE		WWF	WELDED WIRE FABRIC
	FG	FINISHED GRADE	Y	YDS	YARDS
	FH	FIRE HYDRANT			
	FOW	FEET OF WALL			
	FT	FEET			
	FTG	FOOTING			

NOTE:

1. THIS IS A GENERAL ABBREVIATION LIST AND INCLUDES ABBREVIATIONS WHICH MAY NOT APPEAR ON THE DRAWINGS. SEE LINE SERVICE DESIGNATIONS ON SHEET G-3 FOR ADDITIONAL ABBREVIATIONS

Geosyntec
consultants

ADDRESS
CITY, STATE ZIP/USA TELEPHONE:
XXX XXX XXXX

VALENCIA WATER RECLAMATION PLANT
LOS ANGELES COUNTY, CALIFORNIA

DRAWING NO.: 2 OF 32

FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

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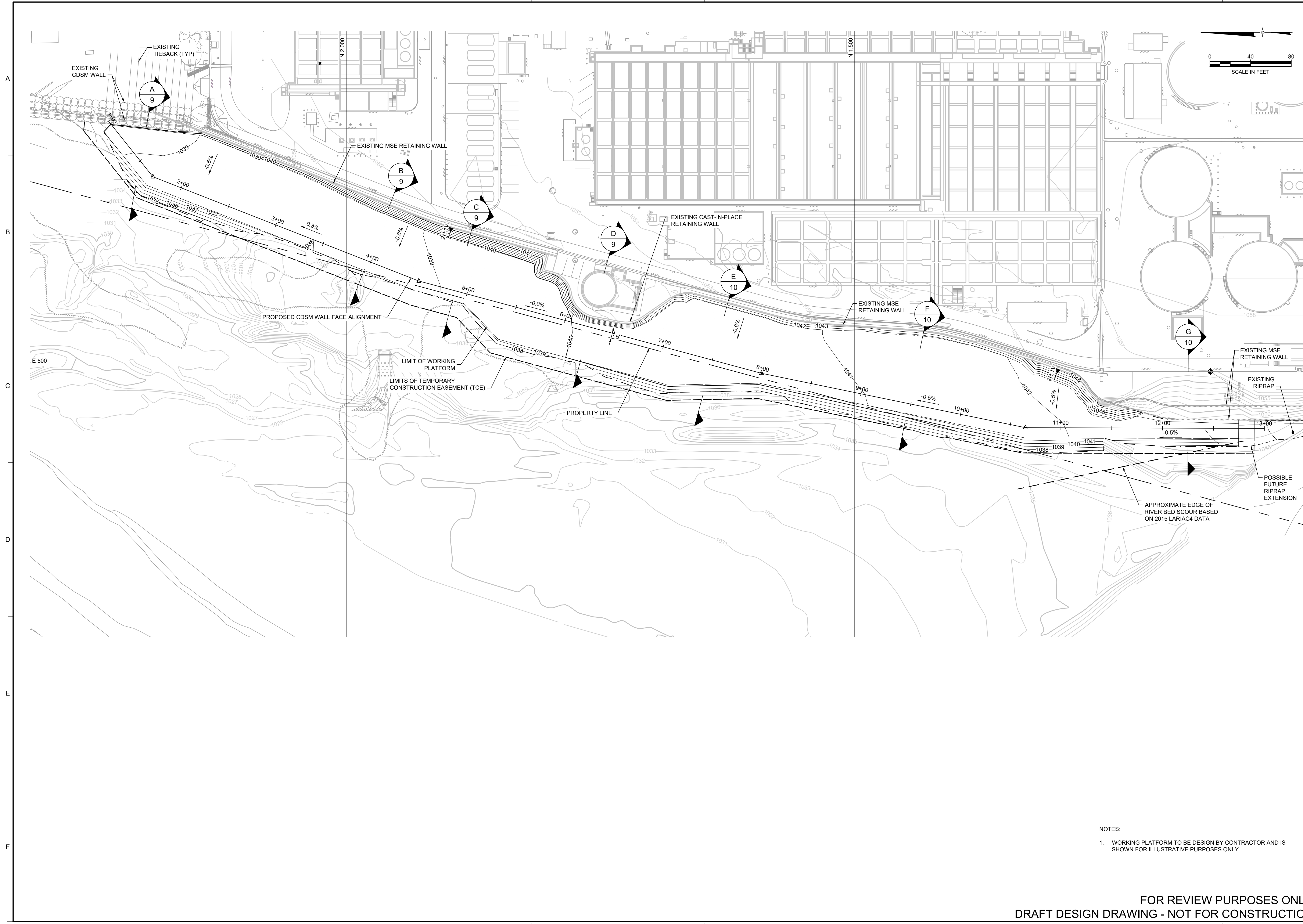
BUILDING AND STRUCTURE LEGEND

- | | | | | |
|--|--|---|--|---|
| 1. CHLORINE CONTACT TANKS | 17. LABORATORY BUILDING | 33. DAF POLYMER AND ODOR CONTROL STATIONS | 49. MAINTENANCE BUILDING (NOT SHOWN) | 65. CONTROL ROOM |
| 2. SODIUM HYPOCHLORITE STATION | 18. PROCESS AIR COMPRESSOR STATION (NORTH) | 34. DIGESTER HEATER BUILDING 1 | 50. SLUDGE DEWATERING BUILDING | 66. SWITCHBOARD 51 BUILDING |
| 3. SODIUM BISULFITE STATION | 19. FINAL SEDIMENTATION TANKS | 35. DIGESTER HEATER BUILDING 2 | 51. TRUCK LOADING STATION (NOT SHOWN) | 67. CHEMICAL HANDLING AREA (NOT SHOWN) |
| 4. DECHLORINATION EQUIPMENT PAD | 20. INFLUENT POLYMER STATION | 36. DAF UNIT NO 2 | 52. DIGESTER CLEANING TANK (NOT SHOWN) | 68. INSTRUMENT AIR COMPRESSOR STATION |
| 5. DECHLORINATION TANK | 21. COMMINUTOR AND INFLUENT PUMPING STATION | 37. DAF UNIT NO 3 | 53. FILTRATE STORAGE TANK (NOT SHOWN) | 69. ELECTRIC SUB-STATION 52 |
| 6. FILTER BACKWASH WET WELL | 22. POWER SERVICE ENCLOSURE | 38. DIGESTION TANK NO 1 | 54. DIGESTION TANK NO 5 | 70. AQUEOUS AMMONIA ADDITION FACILITY |
| 8. POTABLE WATER SUPPLY STATION | 23. PRIMARY SEDIMENTATION TANKS | 39. DIGESTION TANK NO 2 | 55. DIGESTION TANK NO 6 | 71. EMERGENCY GENERATOR 2 |
| 9. ADMINISTRATION BUILDING | 24. AERATION TANKS | 40. DIGESTION TANK NO 3 | 56. SECONDARY SOLIDS ELECTRICAL BUILDING | 72. STORMWATER PUMP STATION |
| 10. INERT MEDIA FILTERS | 25. SECONDARY POLYMER STATION | 41. DIGESTION TANK NO 4 | 57. DIGESTION TANK NO 7 | 73. 2500 KW EMERGENCY GENERATOR 1 W/ 5,000 GAL SUB BASE FUEL TANK (UNDER SEPARATE LACFD'S APPROVED FIRE PERMIT) |
| 11. ALUMINUM TANKS | 26. PRIMARY ODOR CONTROL STATION MODIFICATIONS | 42. WASTE GAS FLARING STATION (FLAMMABLE) | 58. DIGESTION TANK NO 8 | 74. SWITCHBOARD 61 |
| 11. FILTER FEED PUMP STATION AND PRECHLORINATION | 27. FERROUS CHLORIDE STATION | 43. DIGESTER GAS SULFIDE CONTROL STATION | 59. PROCESS AIR COMPRESSOR STATION (SOUTH) | 75. SWITCHBOARD 21 |
| 12. DECANT TANKS | 28. SKIMMINGS DAF UNIT | 44. FLOW EQUALIZATION ELECTRICAL BUILDING | 60. DIGESTER CLEANING FACILITIES (NOT SHOWN) | 76. DIESEL/GASOLINE FUEL DISPENSING STATION (NOT SHOWN) |
| 13. FILTER BACKWASH EQUALIZATION TANK | 29. NOT USED | 45. FLOW EQUALIZATION BASIN AND PUMP STATION | 61. DIGESTER GAS CONDENSATE TRAP | 77. STOPLOG STRUCTURE |
| 14. FILTER FEED PUMP AND RAS PUMP CONTROL BUILDING | 30. FILTRATE TREATMENT TANKS | 46. FLOW EQUAL BASIN ODOR CONTROL STATION (NOT SHOWN) | 62. FILTER BYPASS STRUCTURE | 78. SWITCHBOARD 23 |
| 15. CONTROL BUILDING | 31. SWITCHBOARD #41, 42 UNIT SUBSTATION | 47. TRUCK MAINTENANCE BUILDING | 63. SKIMMINGS PUMP STATION 1 | 79. TRANSFER STORM WATER PUMP STATION |
| 16. INFLUENT FERRIC SULFATE STATION | 32. DAF UNIT NO 1 | 48. MAINTENANCE OFFICE TRAILER (NOT SHOWN) | 64. SKIMMINGS PUMP STATION 2 | |

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DESIGN BY: XXX		DRAWN BY: XXX		CHECKED BY: XXX		REVIEWED BY: XXX	
APPROVED BY: XXX		SIGNATURE: _____		DATE: _____			
THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION, TENDER OR FOR PROJECT, UNLESS SCALED.		DRAFT		XXX XXXXXXXXXX		DESCRIPTION: XXX	
Geosyntec consultants		ADDRESS: XXX XXX XXXX		CITY: XXX XXX XXXX		STATE: XXX	

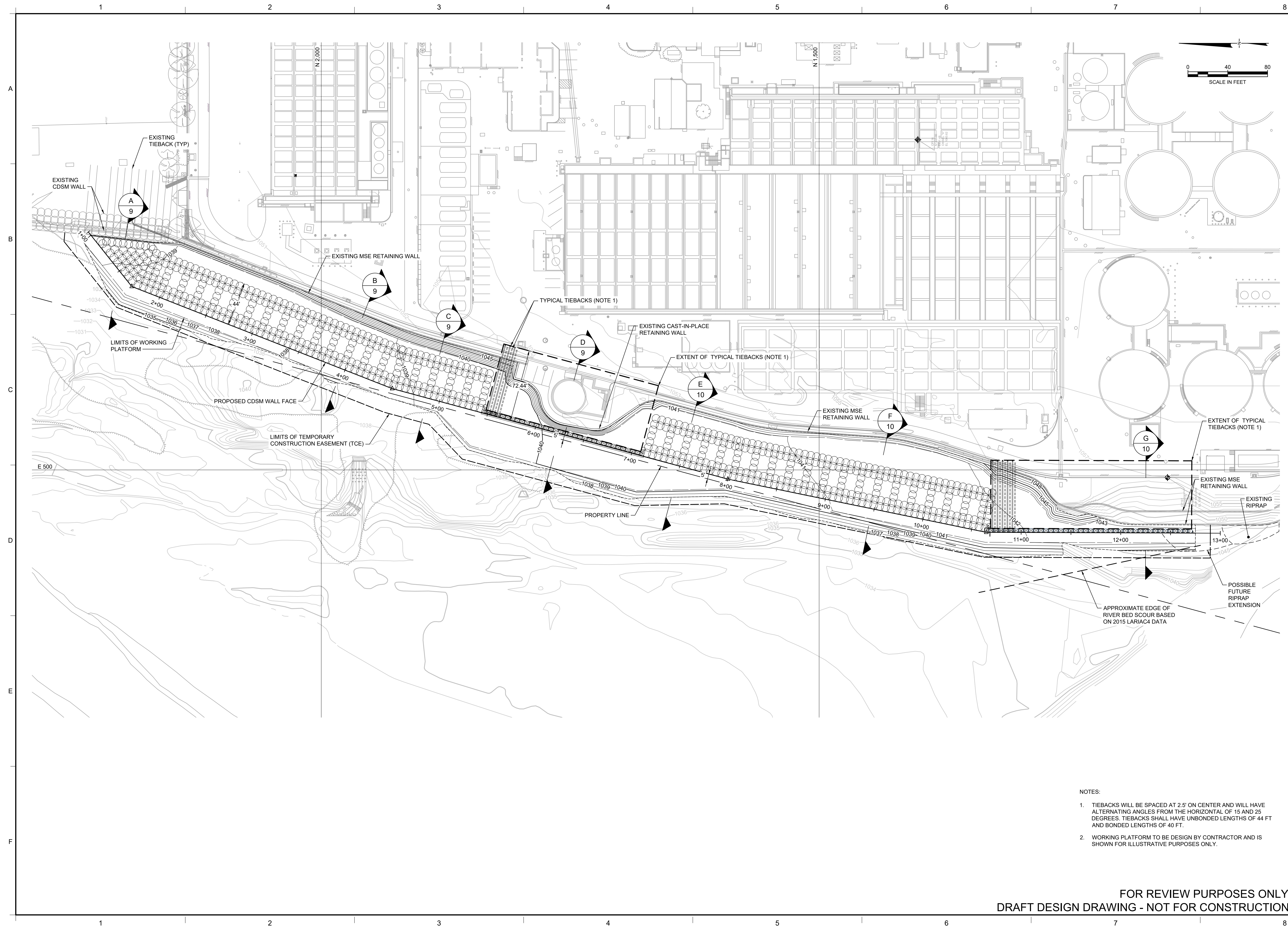
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- NOTES:
1. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

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DATE: APRIL 2022	TITLE: OPTION 1 - CDSM WALL WORK AREA	DESIGN BY: XXX	THIS DRAWING MAY NOT BE REPRODUCED OR COPIED FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.
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FILE: GST8006-06 C004	PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL	CHECKED BY: XXX	
DRAWING NO.: 4	SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA	REVIEWED BY: XXX	SIGNATURE _____
		APPROVED BY: XXX	DATE _____
			DESCRIPTION XXXXXXXXXXXXXXXX
			REV XXX
			DRN APP XXX



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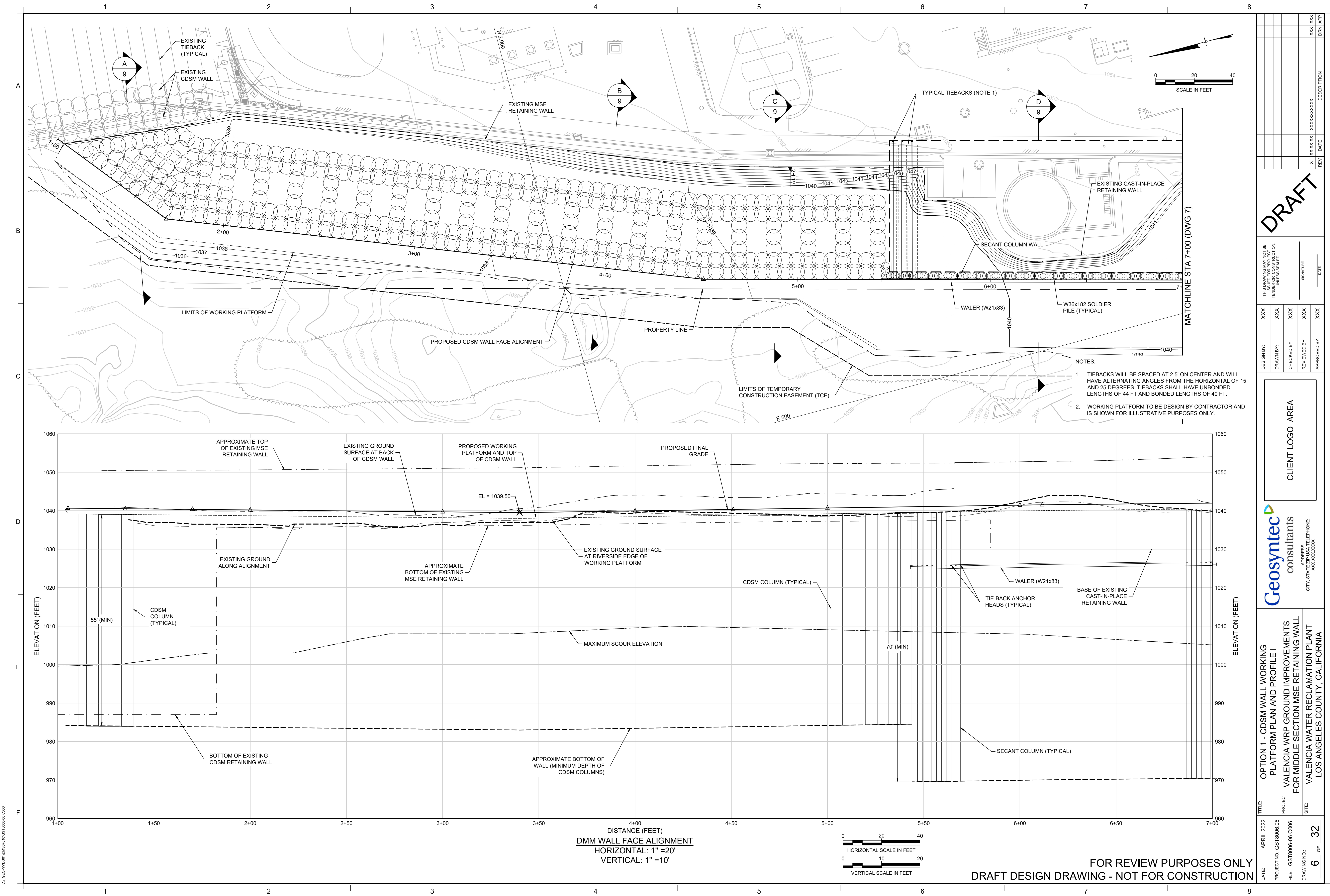
DRAFT

CLIENT LOGO AREA

Geosyntec
consultants

ADDRESS
CITY, STATE ZIP USA TELEPHONE:
XXX.XXX.XXXX

DATE:	APRIL 2022	TITLE:	OPTION 1 - CDSW WALL OVERVIEW PLAN
PROJECT NO:	GST80006.06	PROJECT:	VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL
FILE:	GST80006-06 C005	SITE:	VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA
DRAWING NO:	5	DRAWING NO:	32
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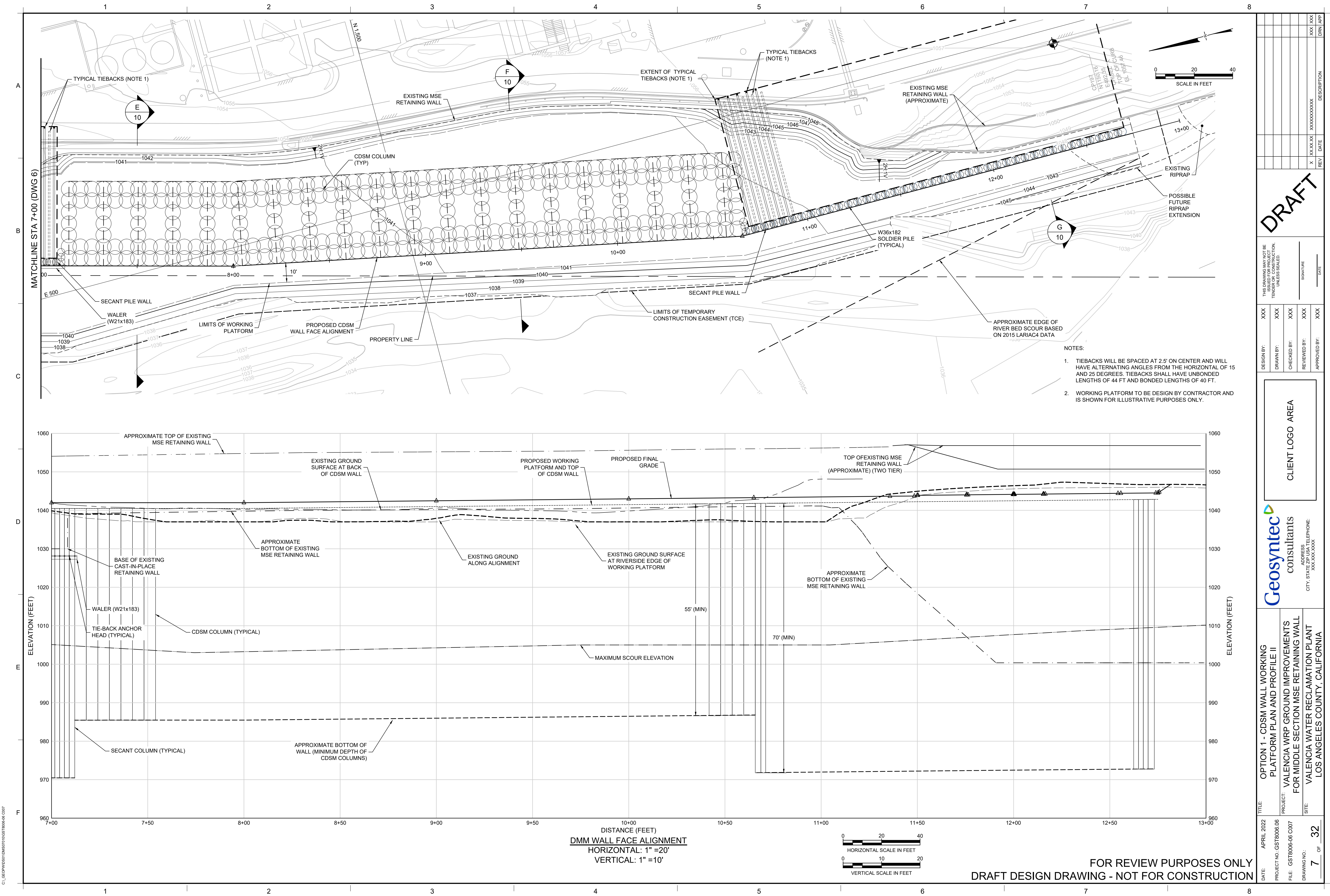
CLIENT LOGO AREA

Geosyntec consultants
ADDRESS: XXX.XXX.XXX
CITY: XXX.XXX.XXX
STATE: XXX.XXX.XXX
TELEPHONE: XXX.XXX.XXX

TITLE: OPTION 1 - CDSM WALL WORKING PLATFORM PLAN AND PROFILE 1
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL
SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA
DATE: APRIL 2022
PROJECT NO.: GST8006-06
FILE: GST8006-06 C006
DRAWING NO.: 6 OF 32

REV	DATE	DESCRIPTION	DRN	APP
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X	XX.XX.XX	XXXXXXXXXX	XXX	XXX

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Geosyntec consultants
ADDRESS: XXX,XXX,XXX
CITY: STATION, CALIFORNIA

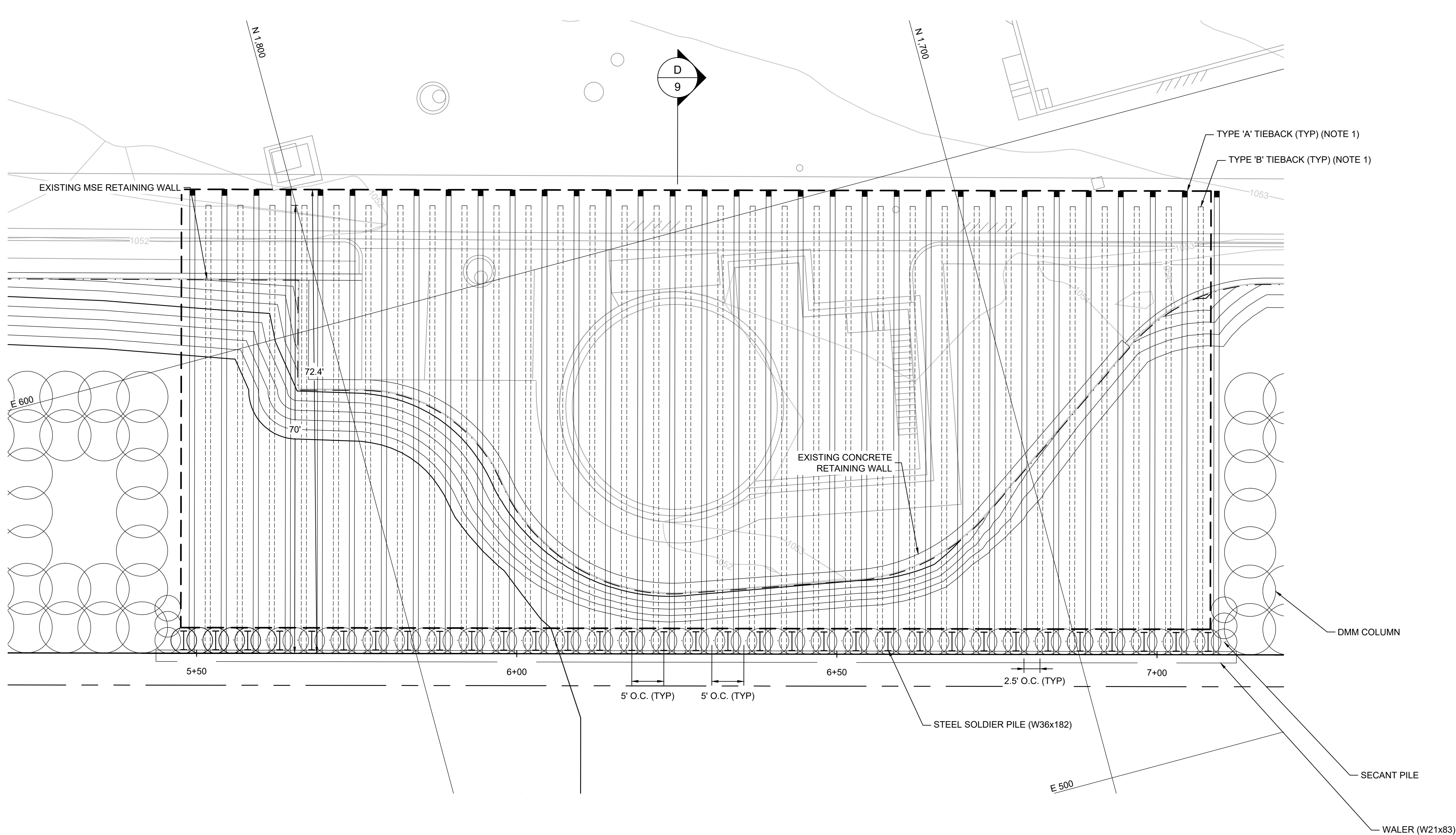
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PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL
SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA
DATE: APRIL 2022
PROJECT NO.: GST8006-06
FILE: GST8006-06 C007
DRAWING NO.: 7 OF 32

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CHECKED BY:					
REVIEWED BY:					
APPROVED BY:					
REVISION	DATE	DESCRIPTION	BY	APP	DATE
1	XXX/XXX/XXXX	XXXXXXXXXXXX	XXX	XXX	XXX

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A
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1 PLAN
4 CDSM WALL LAYOUT AT EQUALIZATION TANK
(NOTE)
SCALE: 1" = 10'

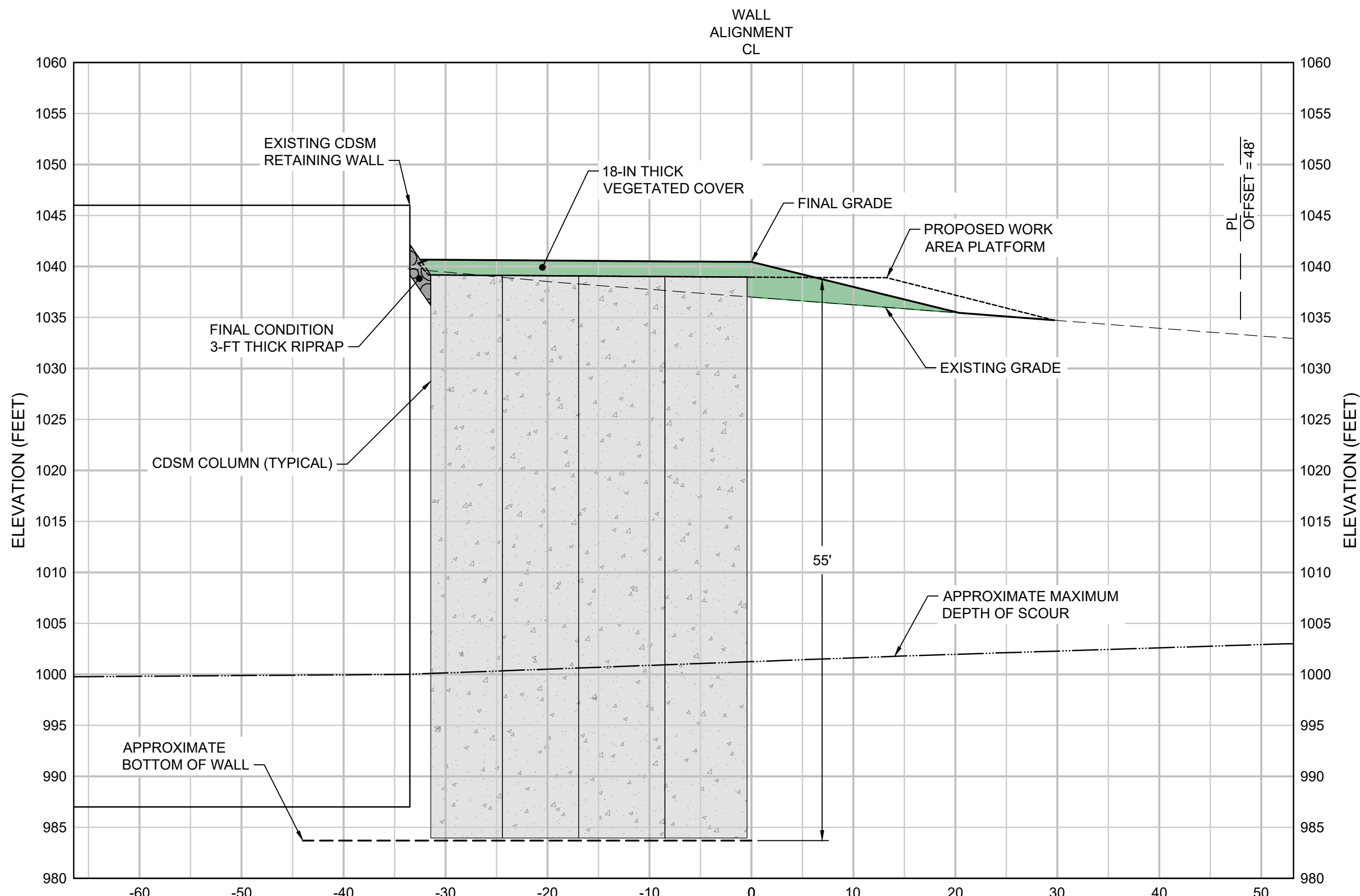
- NOTES:
1. TYPE A TIEBACK TO BE INSTALLED AT 15 DEGREES FROM THE HORIZONTAL.
 2. TYPE B TIEBACK TO BE INSTALLED AT 25 DEGREES FROM THE HORIZONTAL.
 3. TIEBACKS WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 4. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

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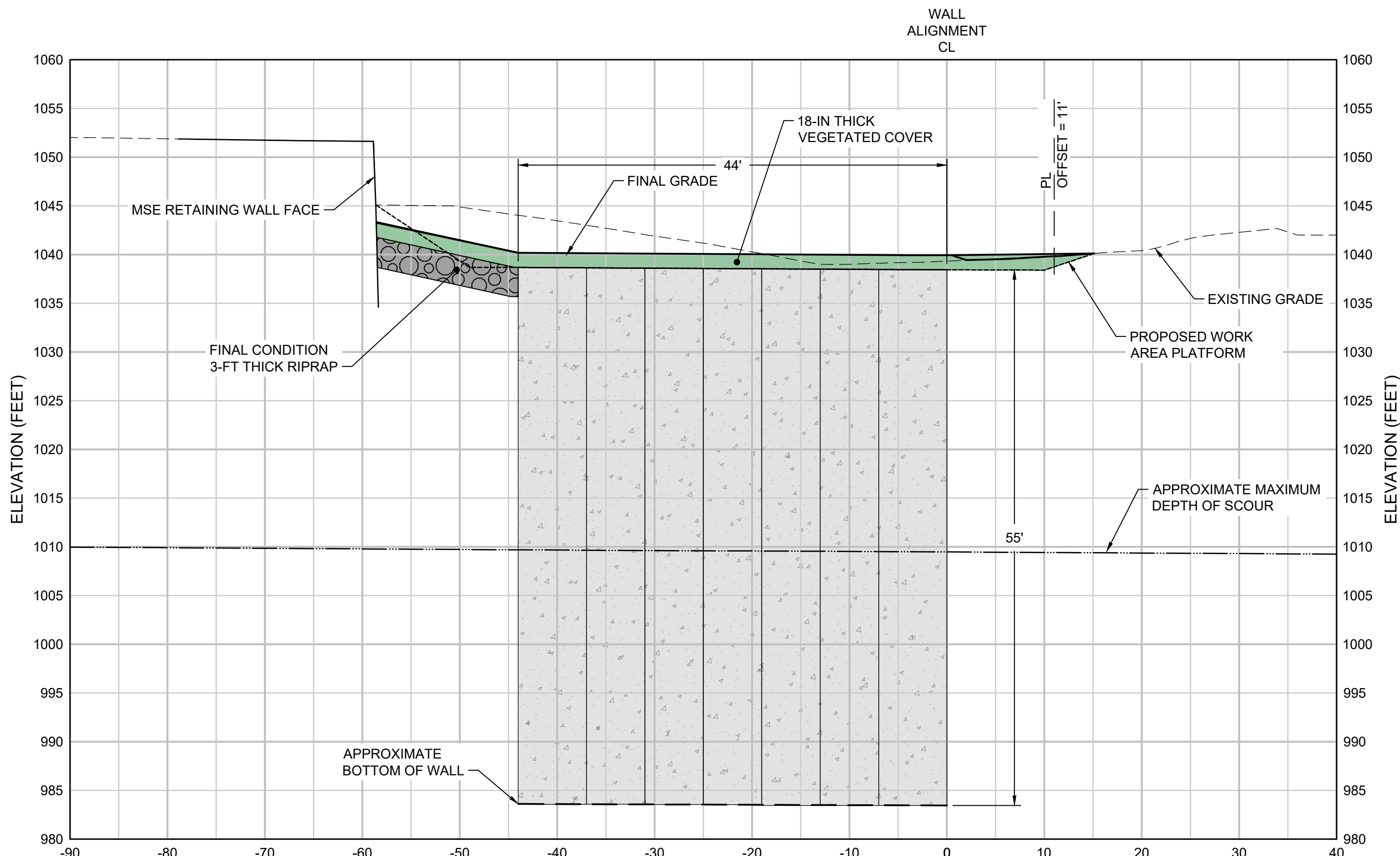
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PROJECT NO. GST8006-06	FILE: GST8006-06 C008	DRAWING NO.: 8	OF 32
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APPROVED BY: XXX	THIS DRAWING MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM GEOSYNTEC CONSULTANTS.		
CLIENT LOGO AREA			
Geosyntec consultants ADDRESS: XXX,XXX,XXX CITY: XXX,XXX,XXX STATE: XXX,XXX,XXX COUNTRY: XXX,XXX,XXX			
DRAFT			
REV	DATE	DESCRIPTION	APP
XXX	XXX,XXX,XXX	XXX,XXX,XXX	XXX

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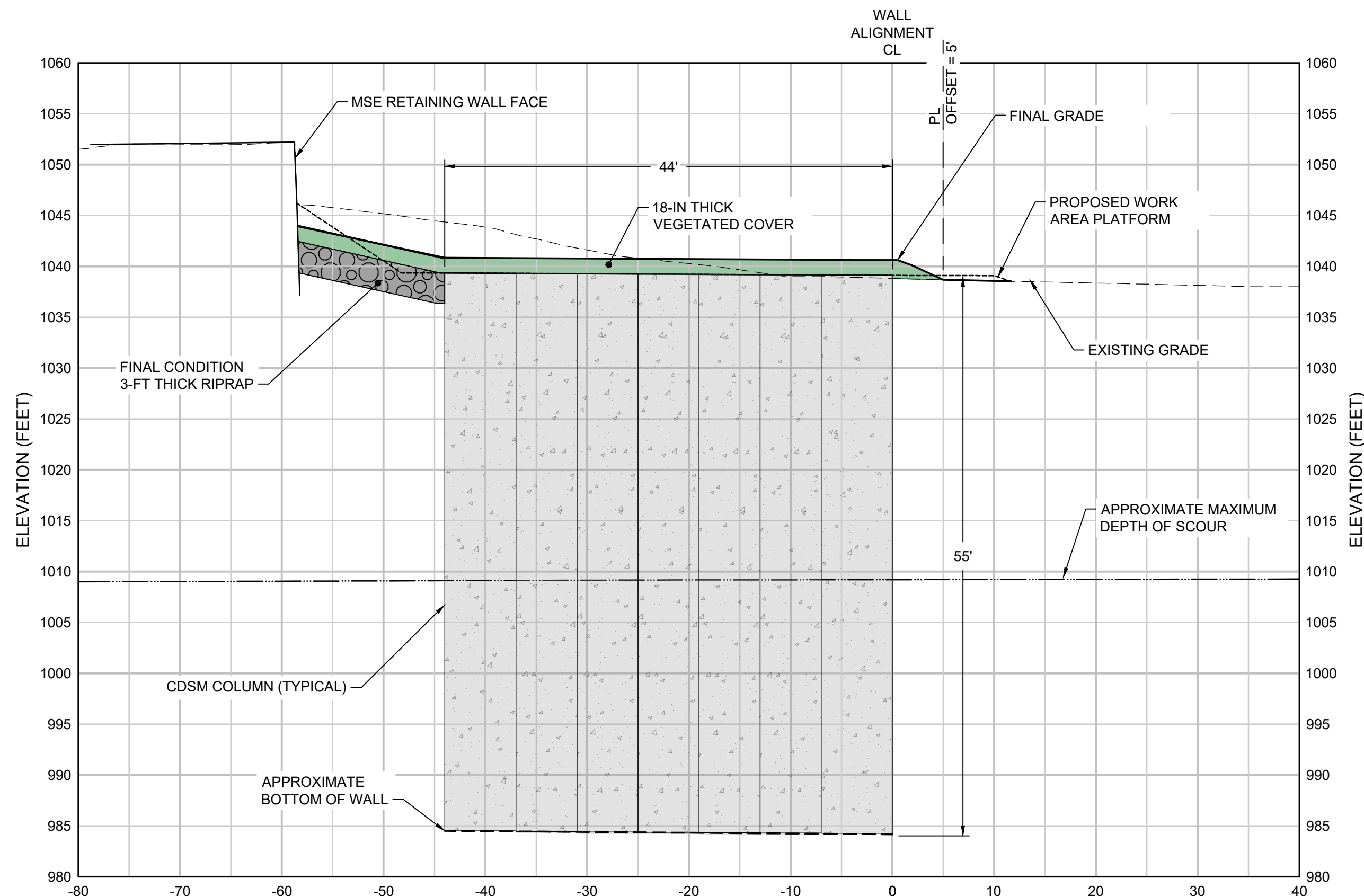
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A
5 SECTION
CDSM WALL SECTION A-A



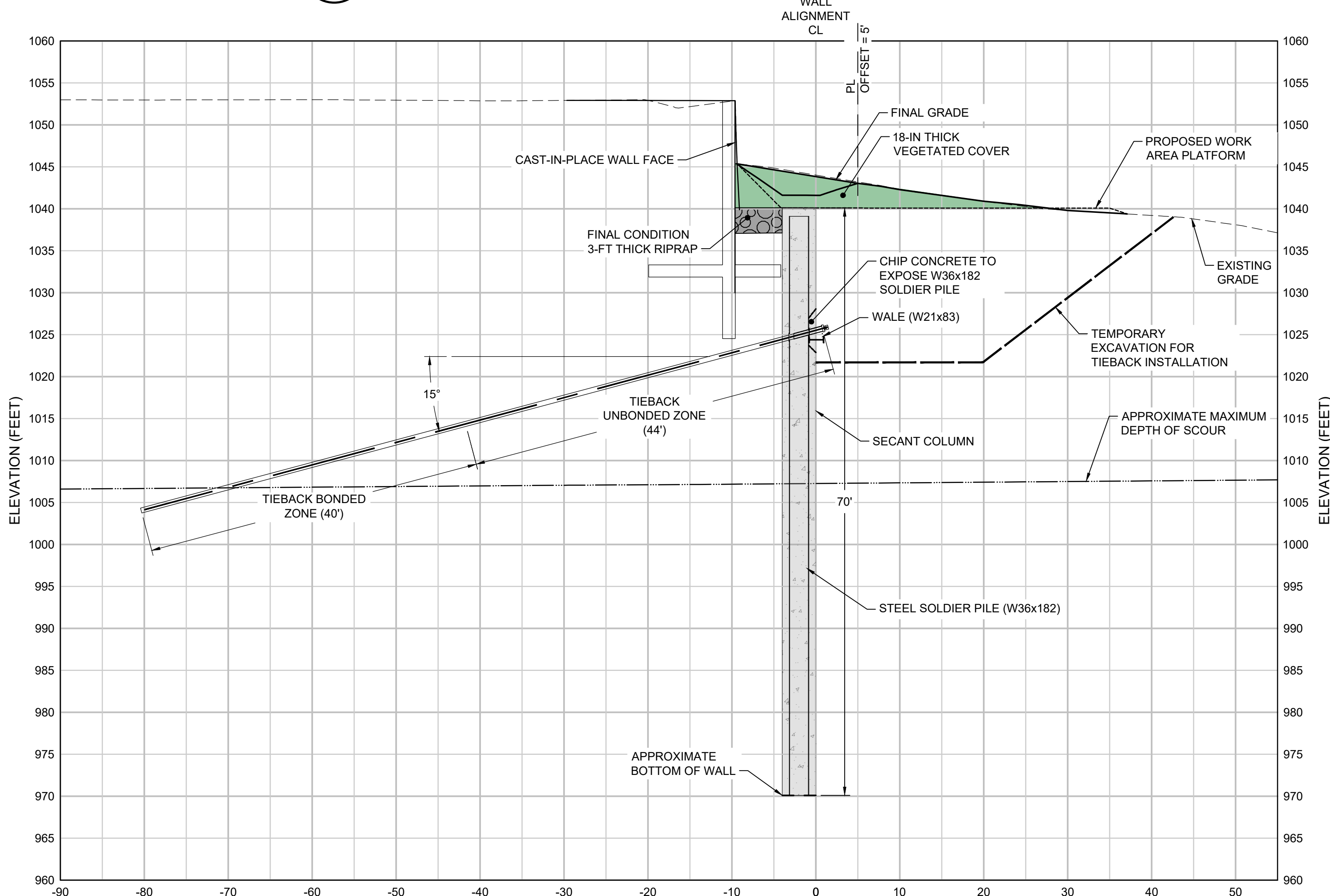
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CDSM WALL SECTION B-B



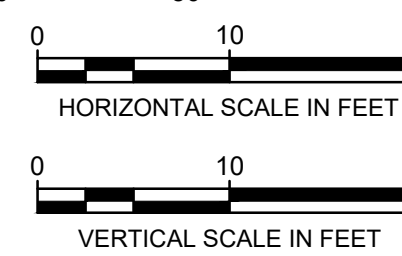
C
5 SECTION
CDSM WALL SECTION C-C

NOTES:

- TIEBACKS WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
- WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

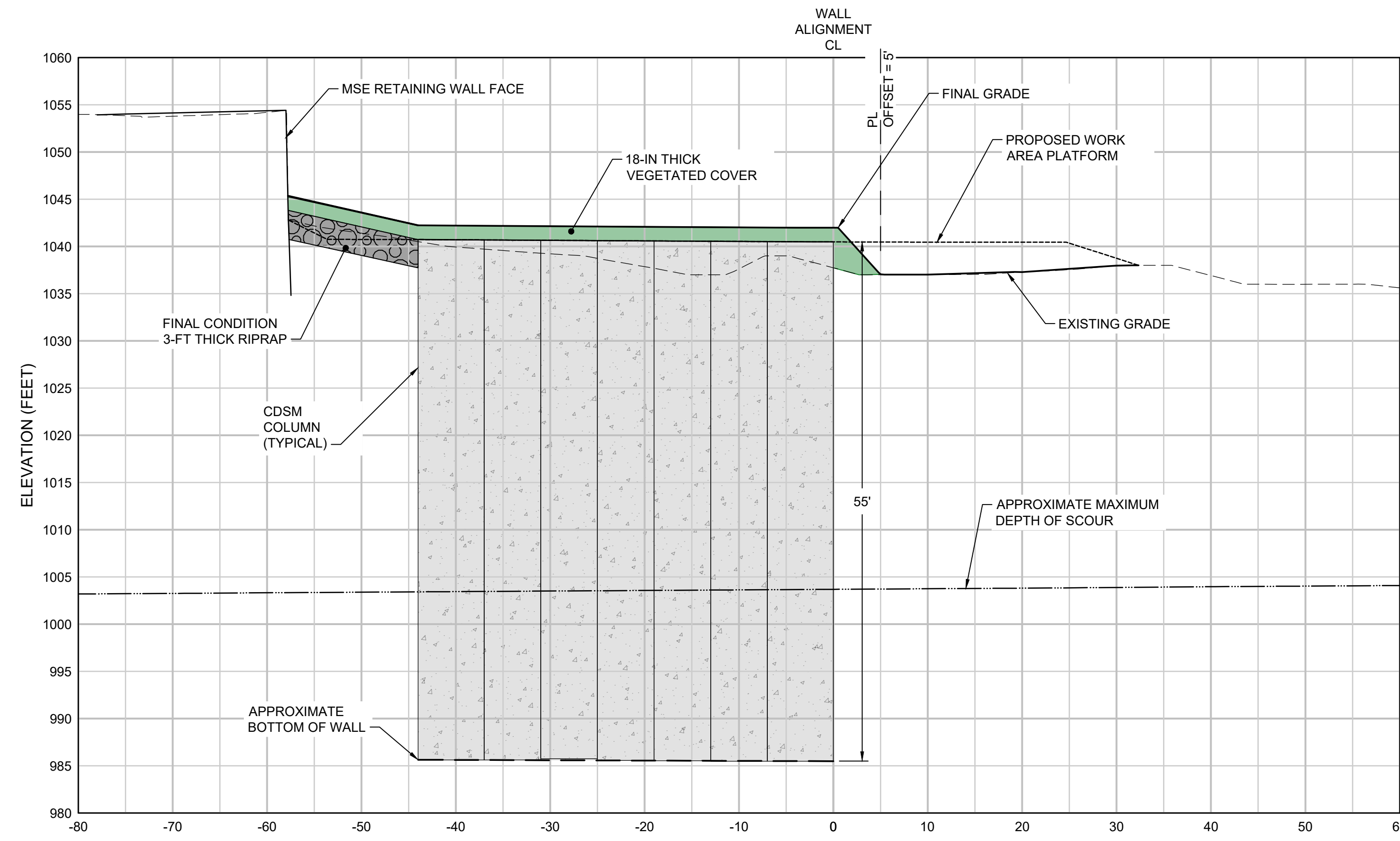


D
5 SECTION
CDSM WALL SECTION D-D

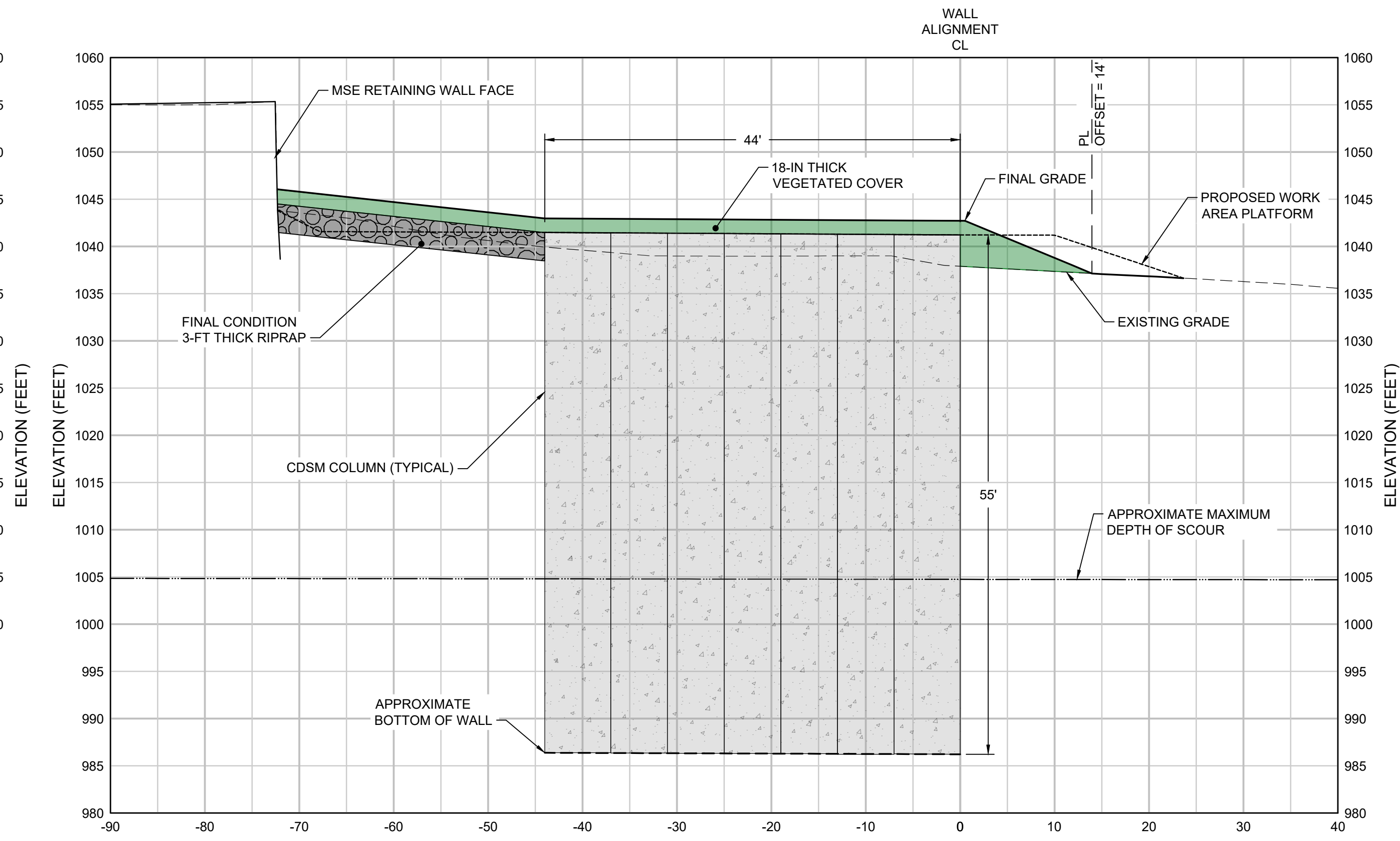


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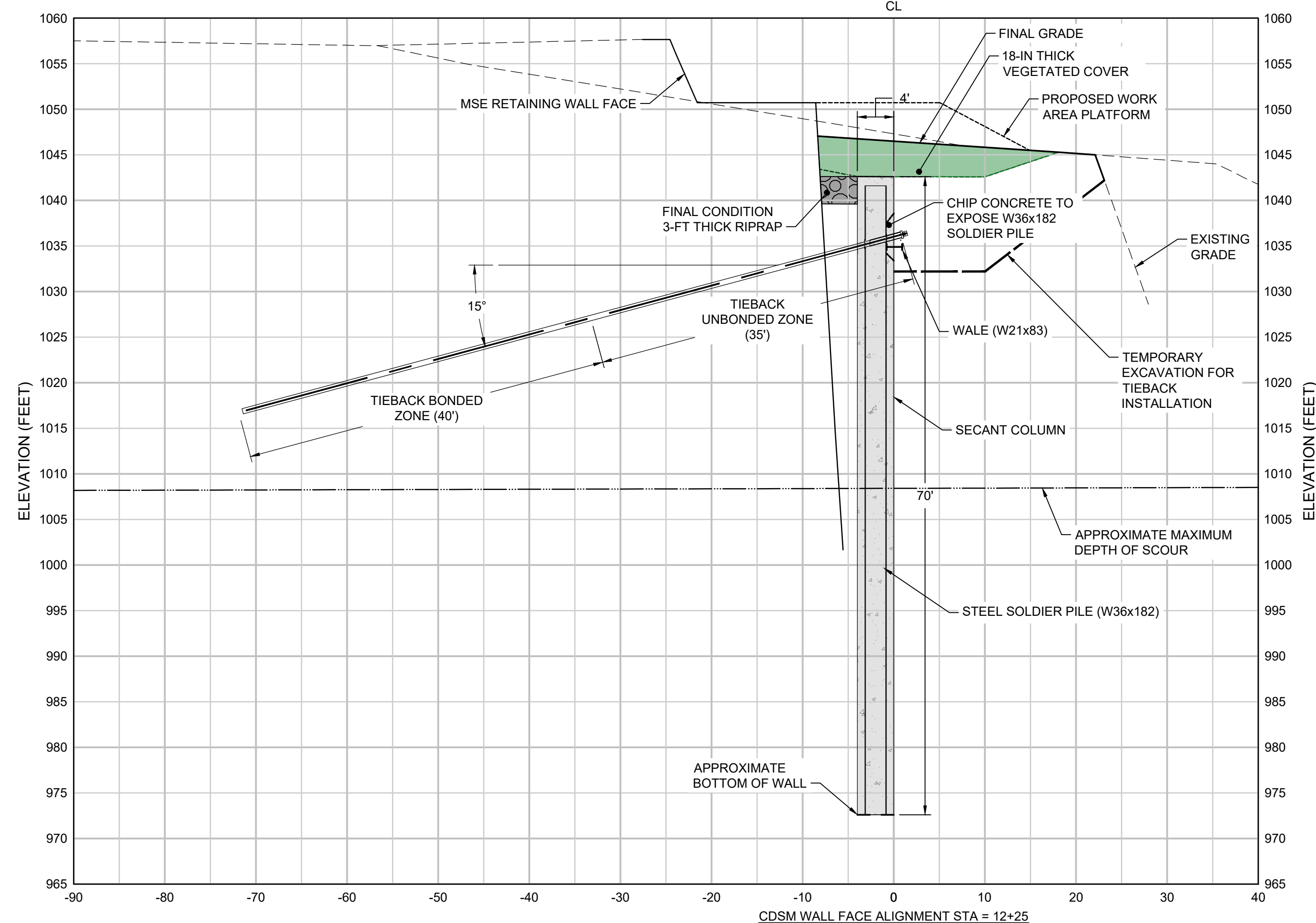
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TITLE: OPTION 1 - CDSM WALL WORKING PLATFORM SECTIONS I			
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL			
SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA			
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CLIENT LOGO AREA			
Geosyntec consultants			
ADDRESS: XXX,XXX,XXX,XXX CITY, STATE, ZIP+4 TELEPHONE: XXX,XXX,XXX,XXX			



SECTION
CDSM WALL SECTION E-E

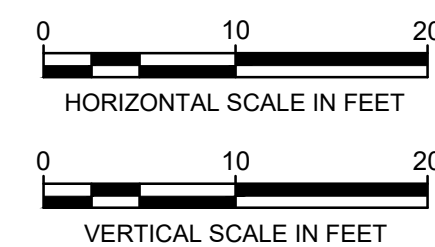


SECTION
CDSM WALL SECTION F-F



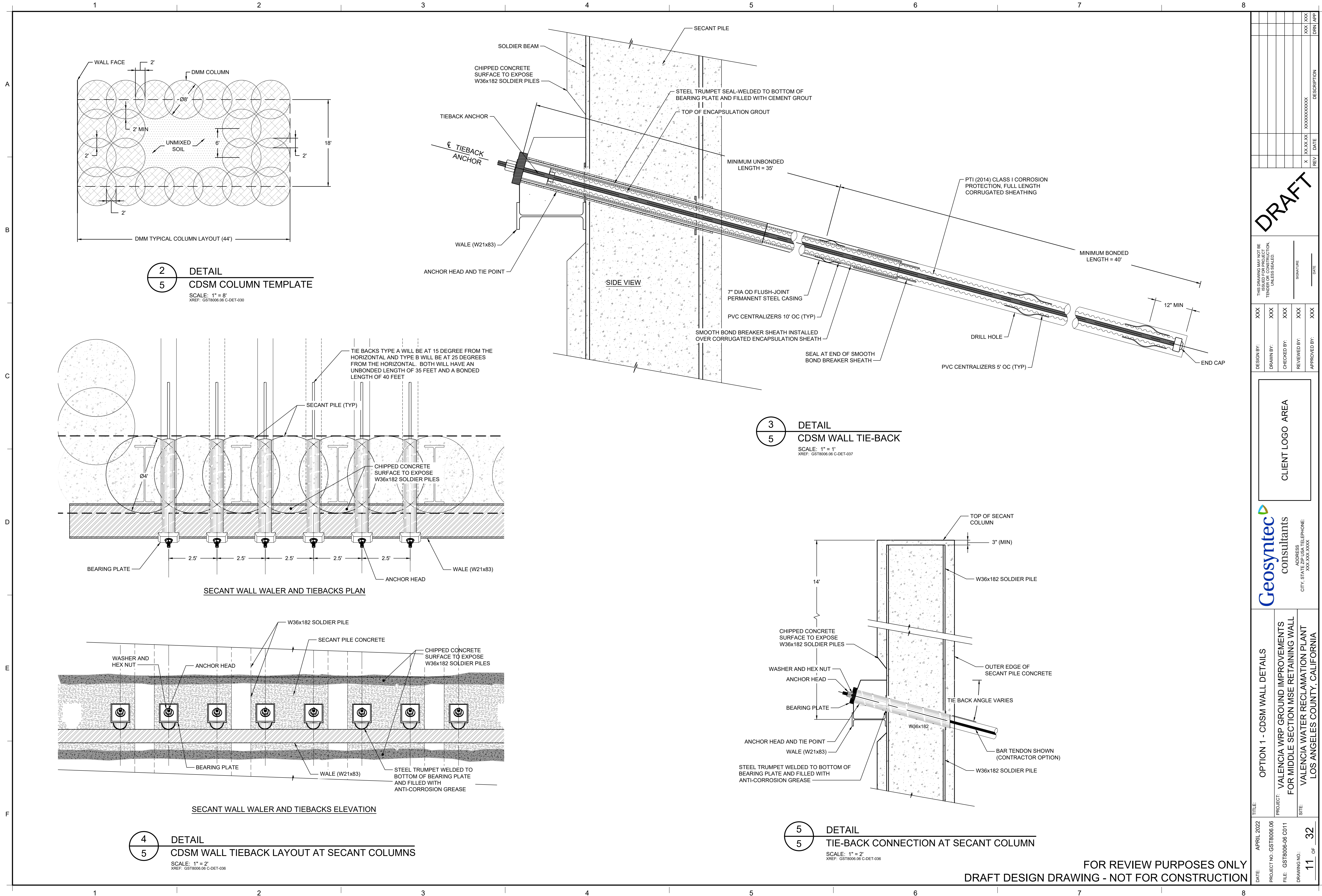
G SECTION
5 CDSM WALL SECTION G-G

- NOTES:
1. TIEBACKS WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 2. WORKING PLATFORM TO BE DESIGNED BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.



FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

[illegible]



DRAFT

CLIENT LOGO AREA

Geosyntec
consultants
ADDRESS: XXX,XXX,XXX
CITY: XXX,XXX,XXX
STATE: XXX,XXX,XXX
PHONE: XXX,XXX,XXX

TITLE		PROJECT		SITE	
OPTION 1 - CDSM WALL DETAILS		VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA	
DATE:	APRIL 2022	PROJECT NO.:	GST8006.06	DRAWING NO.:	11 OF 32
FILE:	GST8006-06 C011				



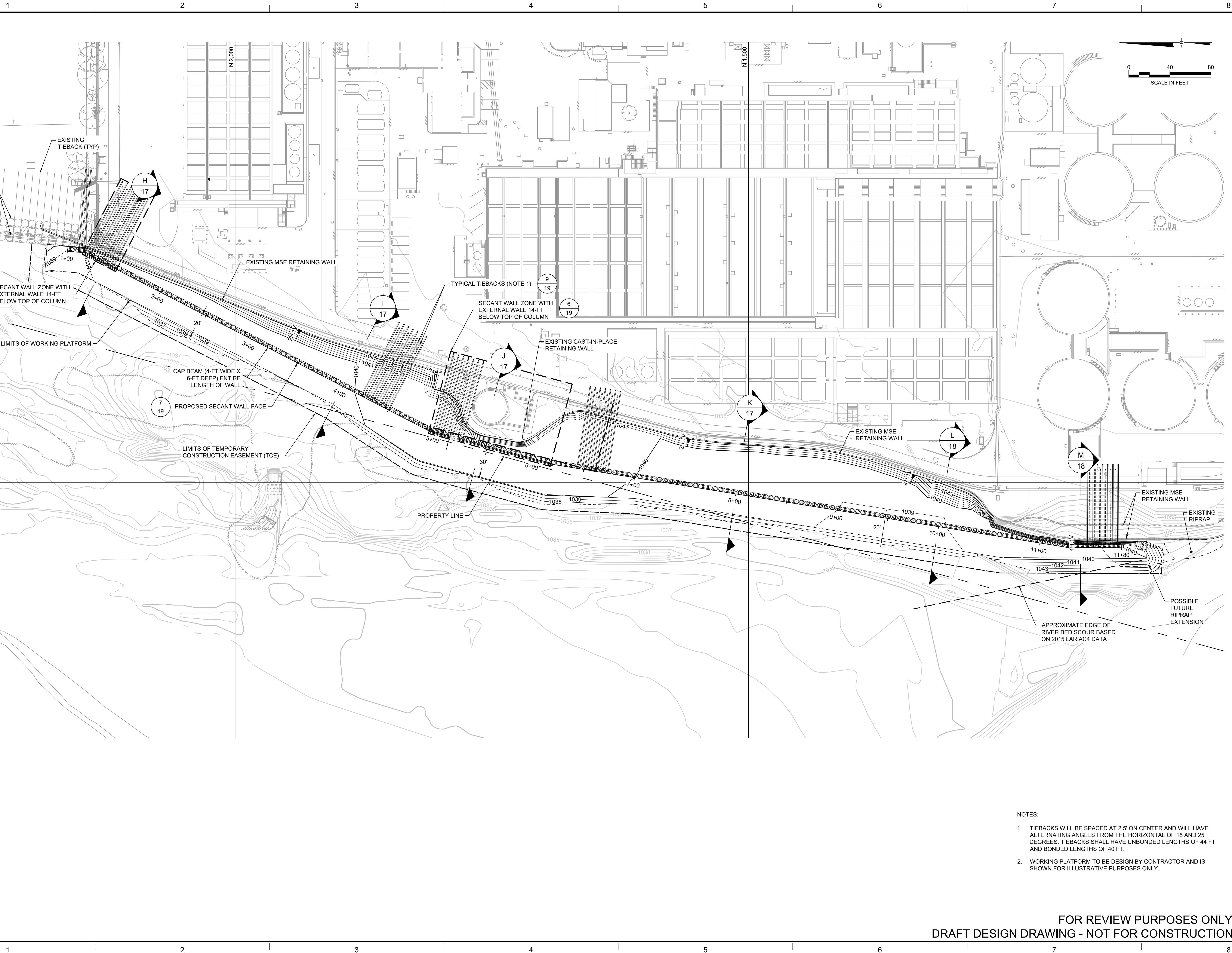
NOTES:

1. FINISH GRADES OUTSIDE OF PROPERTY LINE TO MATCH EXISTING GRADES PRIOR TO CONSTRUCTION WHERE POSSIBLE.

PROJECT NO.: GST8006.06
 FILE: GST8006-06 C012
 DRAWING NO.: 12 OF 32

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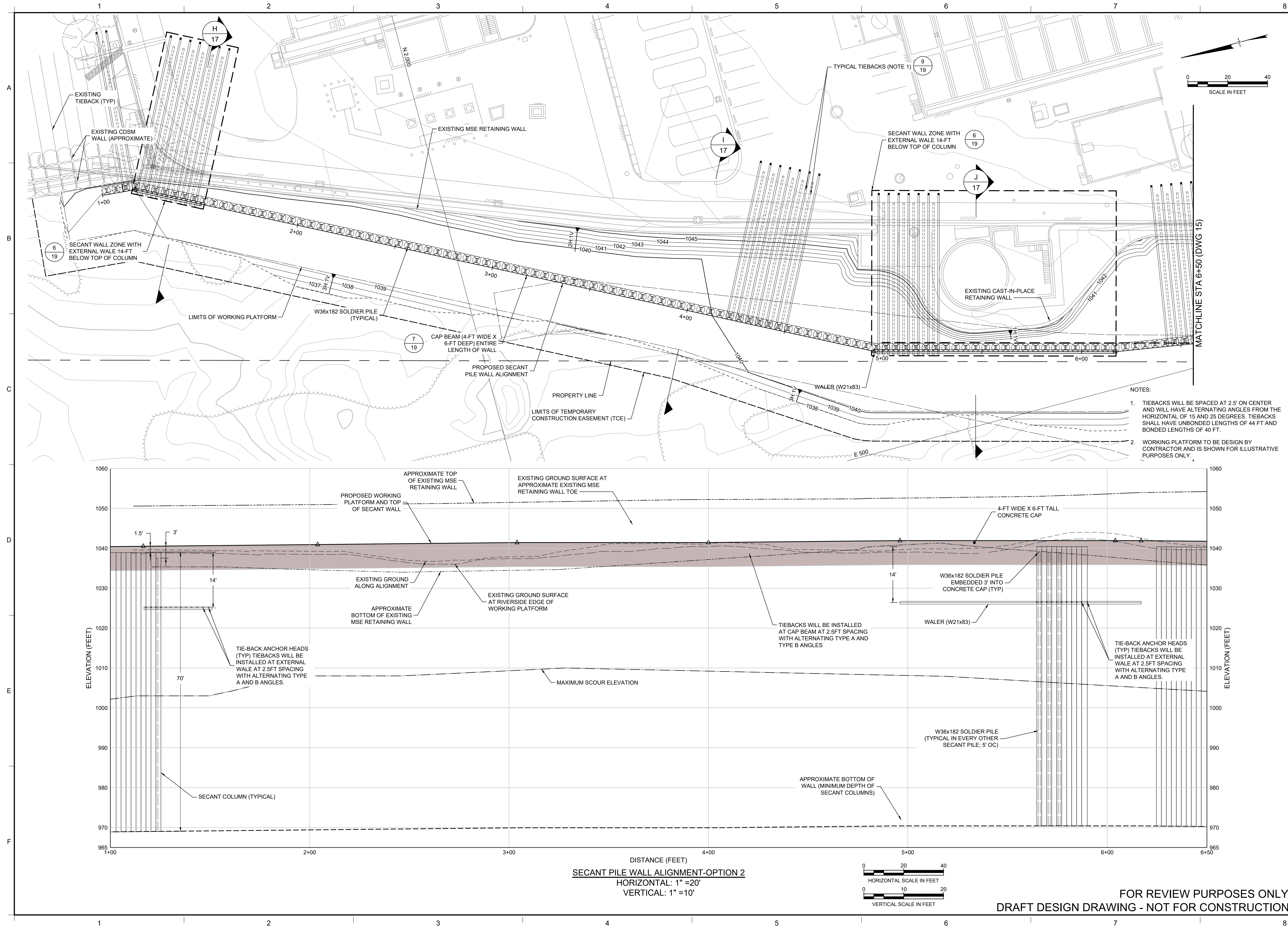
- NOTES:
1. TIEBACKS WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 2. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

DATE: APRIL 2022	TITLE: OPTION 2 - SECANT PILE WALL OVERVIEW PLAN	PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL	SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA
PROJECT NO. GST8006 06	FILE: GST8006-06 C013	DRAWING NO.: 13	OF 32
DESIGN BY: XXX	DRAWN BY: XXX	CHECKED BY: XXX	REVIEWED BY: XXX
APPROVED BY: XXX	SIGNATURE: _____	DATE: _____	DATE: _____
THIS DRAWING MAY NOT BE REPRODUCED OR COPIED FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER OF RECORD.			
DRAFT			
CLIENT LOGO AREA			
Geosyntec consultants			
ADDRESS: XXX,XXX,XXX CITY: XXX,XXX,XXX STATE: XXX TELEPHONE: XXX,XXX,XXX			
DESIGN BY: XXX	REVIEWED BY: XXX	DATE: _____	DATE: _____
DRAWN BY: XXX	APPROVED BY: XXX	DATE: _____	DATE: _____
CHECKED BY: XXX	SIGNATURE: _____	DATE: _____	DATE: _____
REVIEWED BY: XXX	DATE: _____	DATE: _____	DATE: _____
APPROVED BY: XXX	DATE: _____	DATE: _____	DATE: _____
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REV: XXX			
DRN: XXX			
APP: XXX			

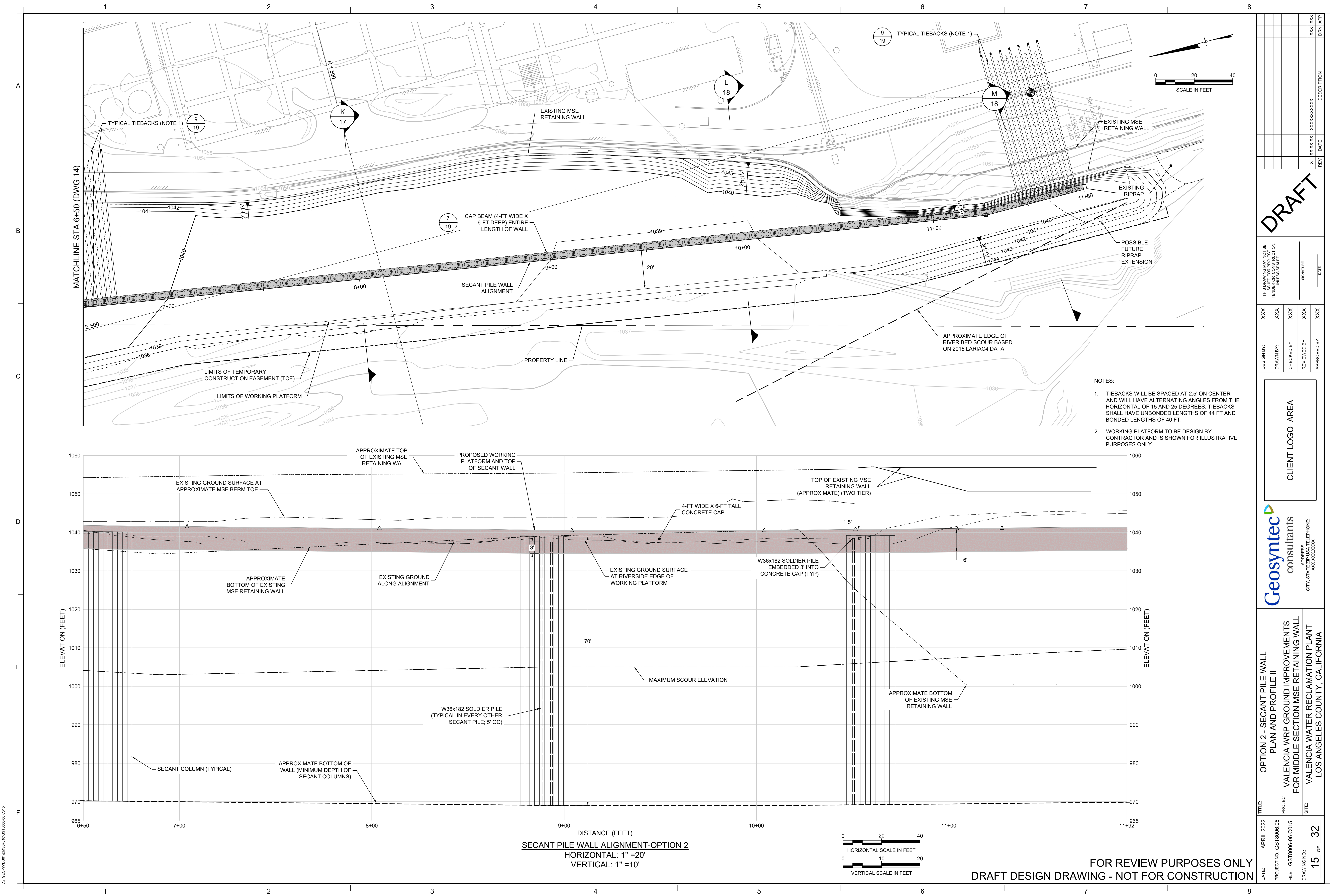
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DATE: APRIL 2022		PROJECT NO.: GST8006 06		FILE: GST8006-06 C014		DRAWING NO.: 14 OF 32	
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		SHEET: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		DESIGN BY: XXX		CHECKED BY: XXX	
DRAWN BY: XXX		REVIEWED BY: XXX		APPROVED BY: XXX		DATE: _____	
THIS DRAWING MAY NOT BE REPRODUCED OR COPIED FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF GEOSYNTEC CONSULTANTS		SIGNATURE: _____		DATE: _____		DESCRIPTION: XXX	
DRAFT		CLIENT LOGO AREA		Geosyntec consultants		ADDRESS: XXX,XXX,XXX,XXX CITY: XXX,XXX,XXX,XXX	

FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION



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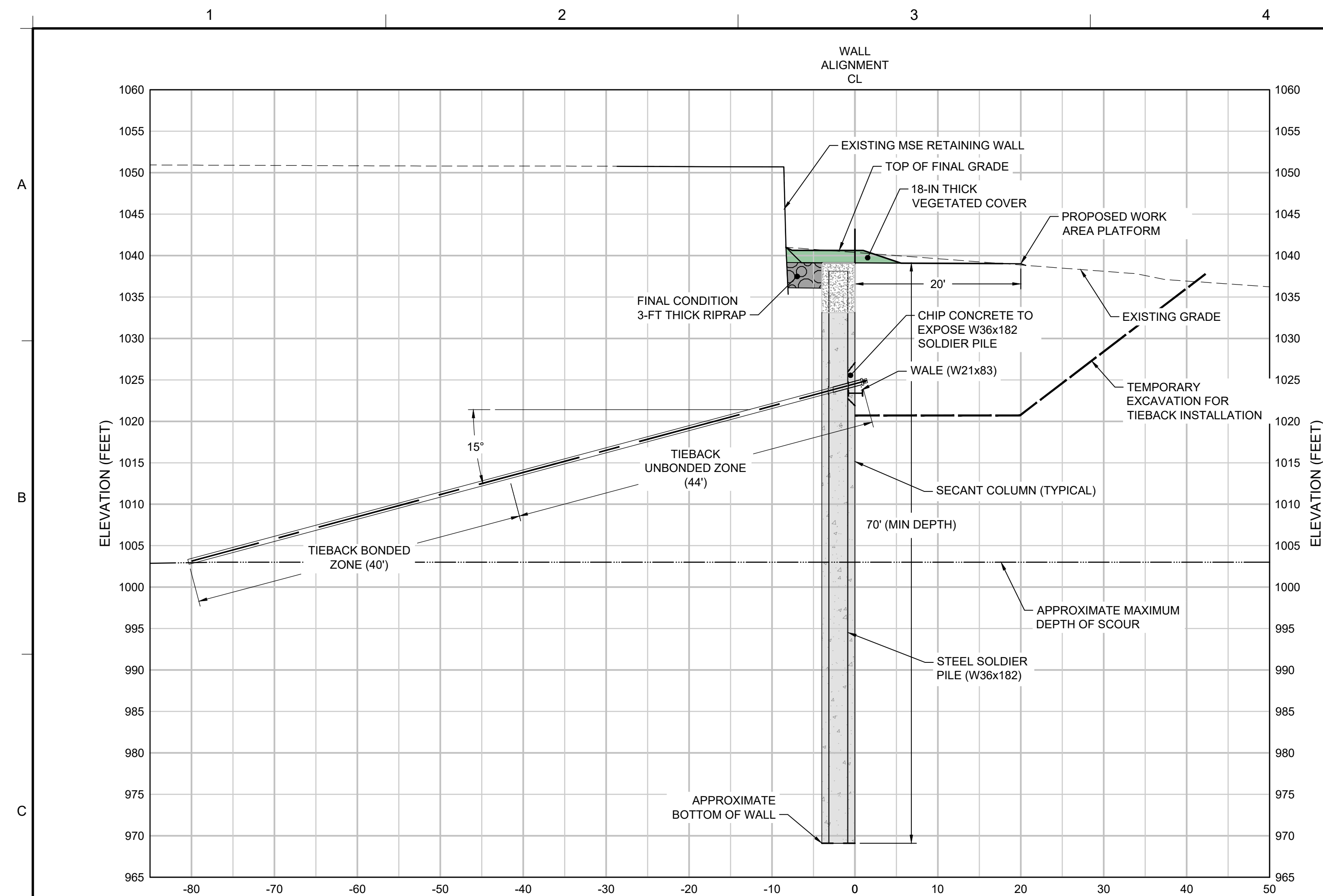
CLIENT LOGO AREA

Geosyntec
consultants
ADDRESS: XXX,XXX,XXX
CITY: STATE, ZIP+4
TELEPHONE: XXX,XXX,XXX

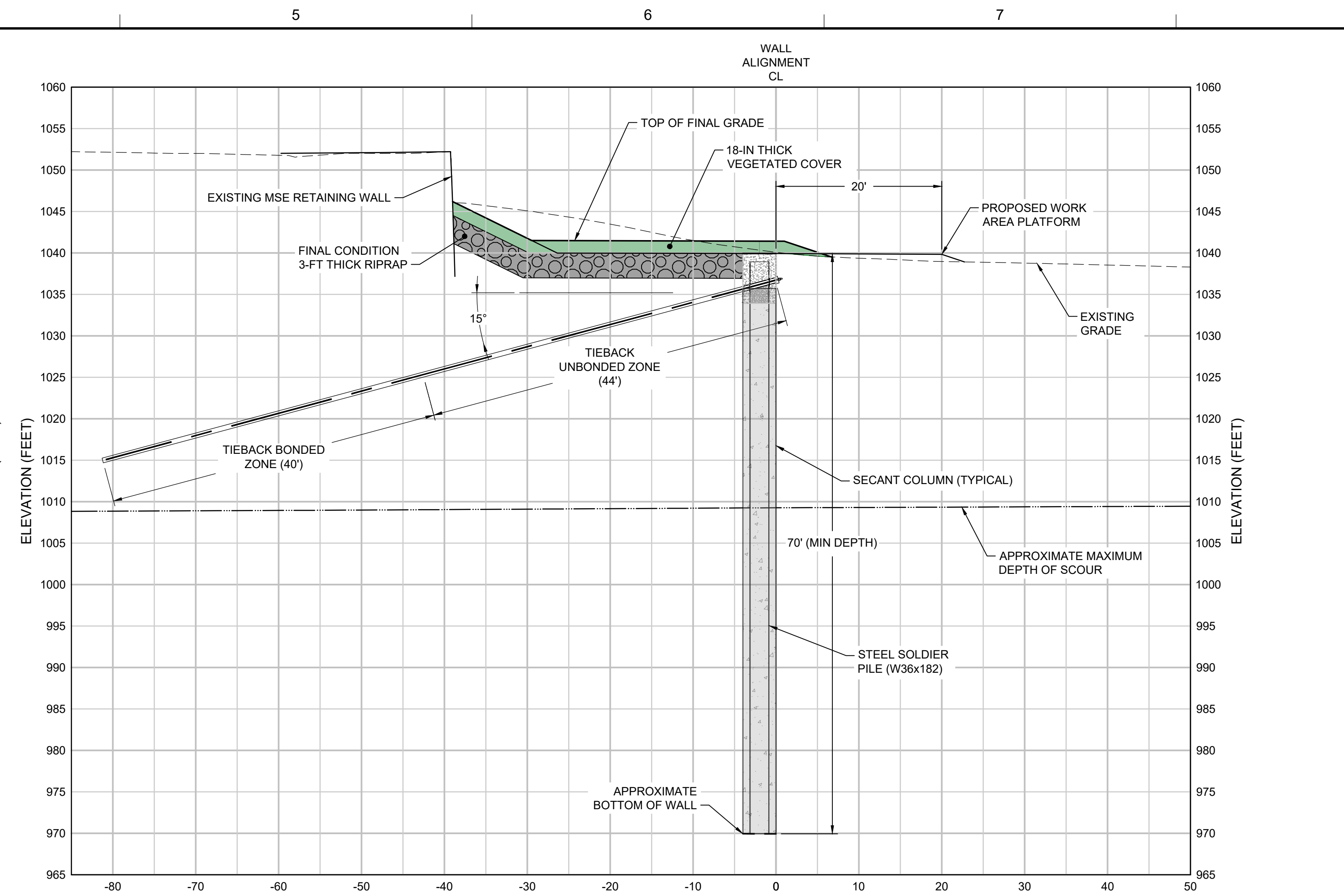
TITLE:	OPTION 2 - SECANT PILE WALL PLAN AND PROFILE II		
	PROJECT:	VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL	
	SITE:	VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA	
	DATE:	APRIL 2022	
PROJECT NO.:	GST18006-06		
FILE:	GST18006-06 C015		
DRAWING NO.:	15		
OF	32		
DESIGN BY:	XXX	THIS DRAWING MAY NOT BE ISSUED FOR CONSTRUCTION UNLESS SCALED.	
DRAWN BY:	XXX	SIGNATURE	
CHECKED BY:	XXX	DATE	
REVIEWED BY:	XXX		
APPROVED BY:	XXX		
REV	DATE	DESCRIPTION	DRN APP
X	XX.XX.XX	XXXXXXXXXXXX	XXX

- NOTES:
- TIEBACKS WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 - WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

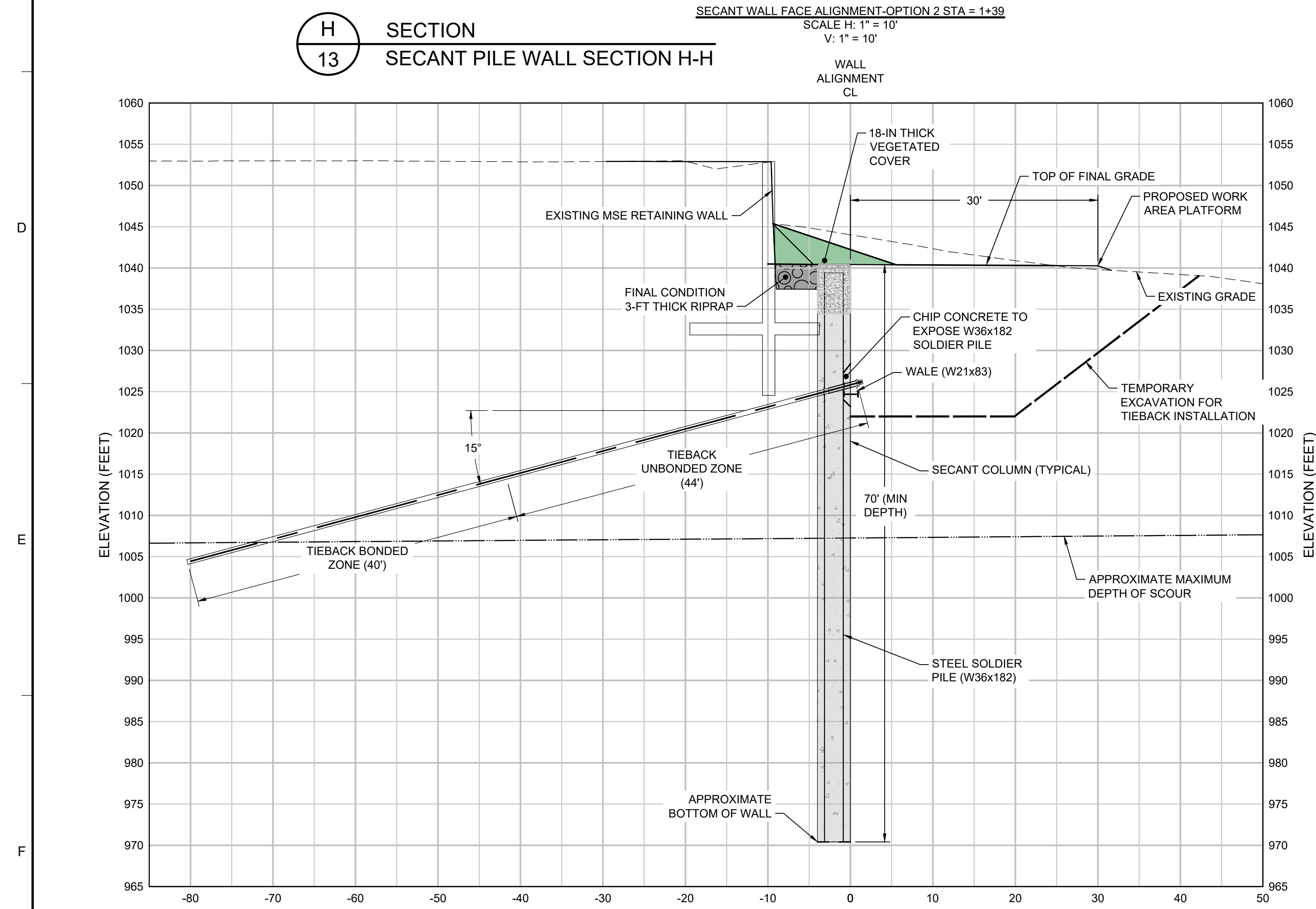
FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION



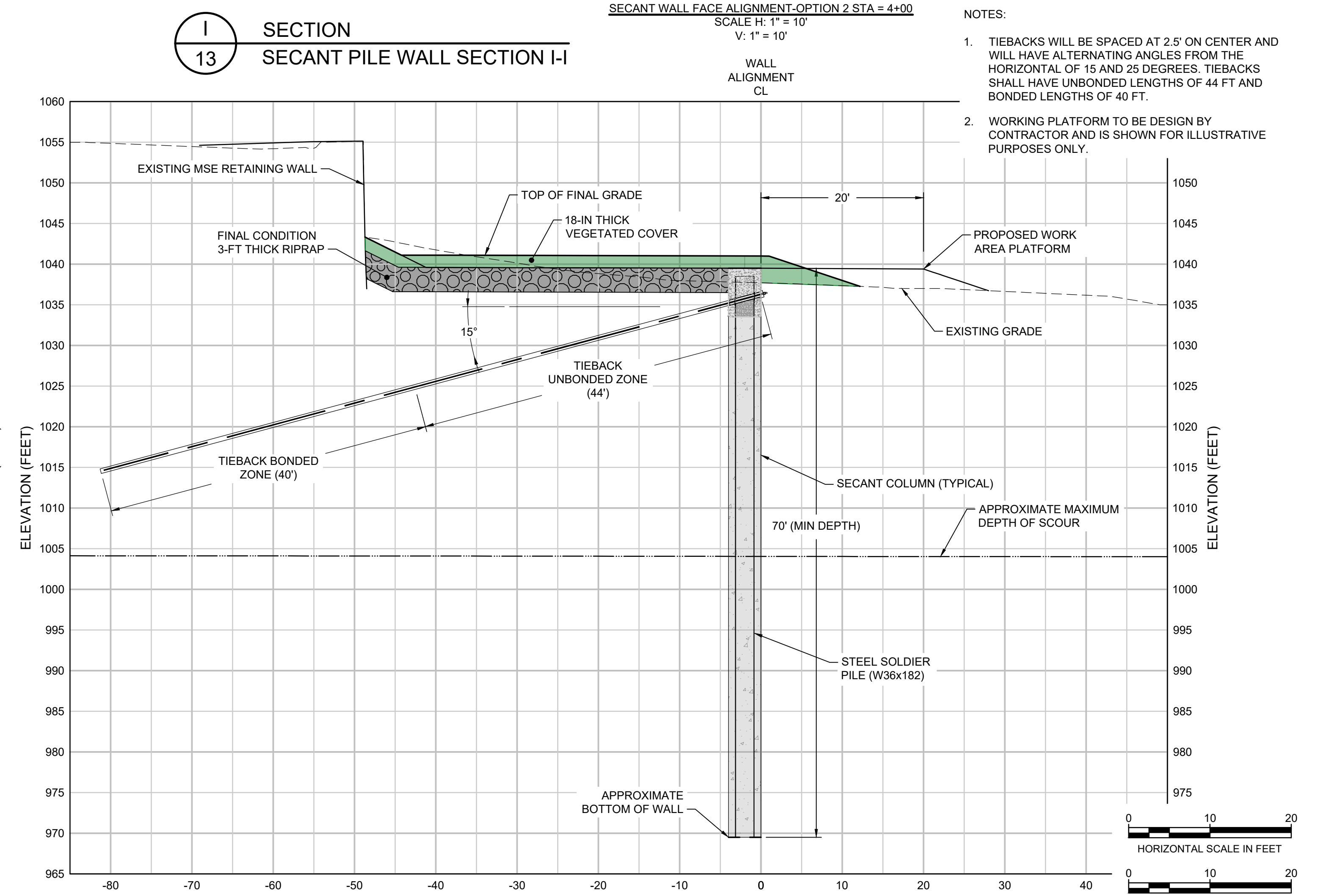
SECTION
SECANT PILE WALL SECTION H-H



SECTION
SECANT PILE WALL SECTION I-I



J SECTION
13 SECANT PILE WALL SECTION J-J



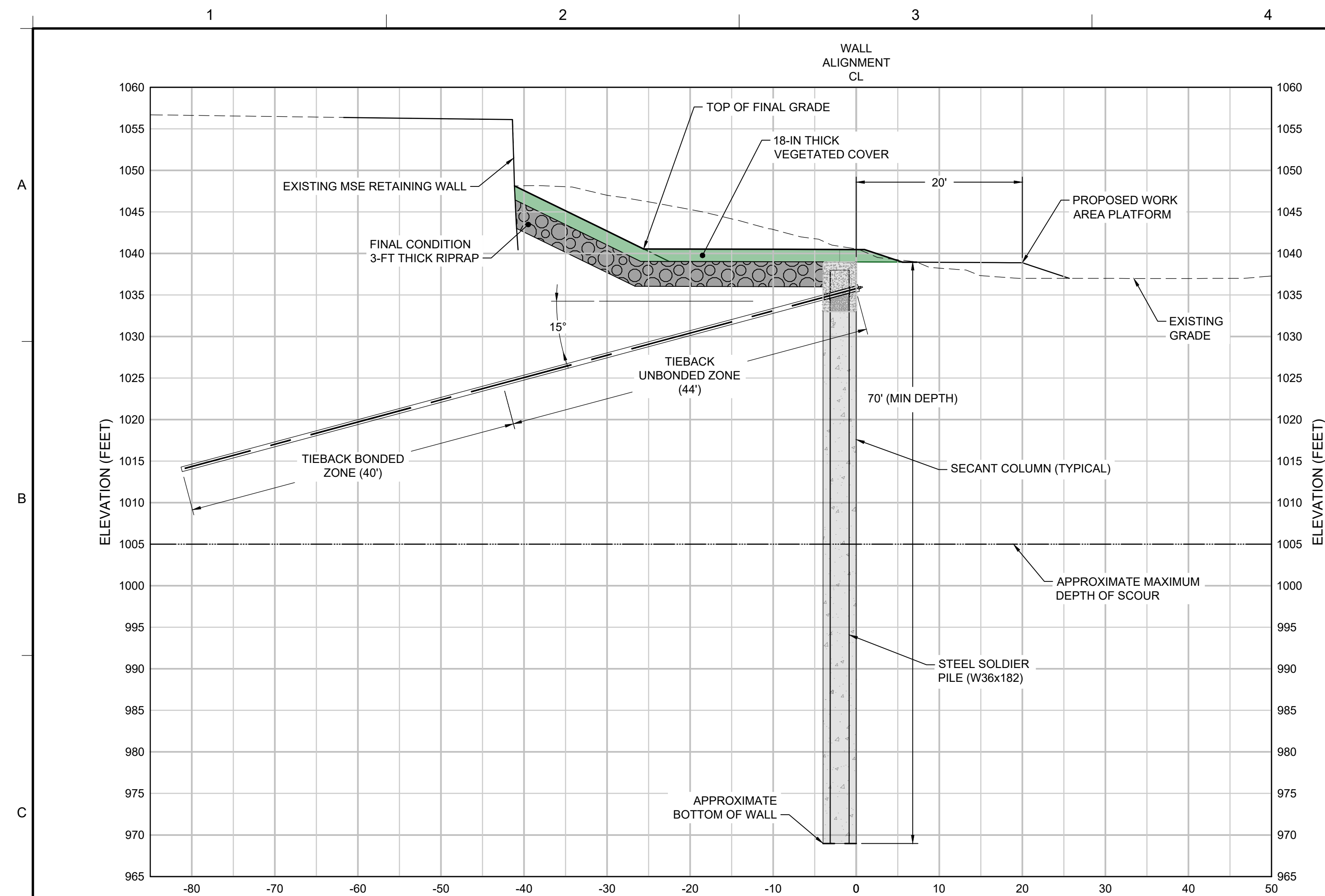
K SECTION
13 SECANT PILE WALL SECTION K-K

V: 1" = 10'

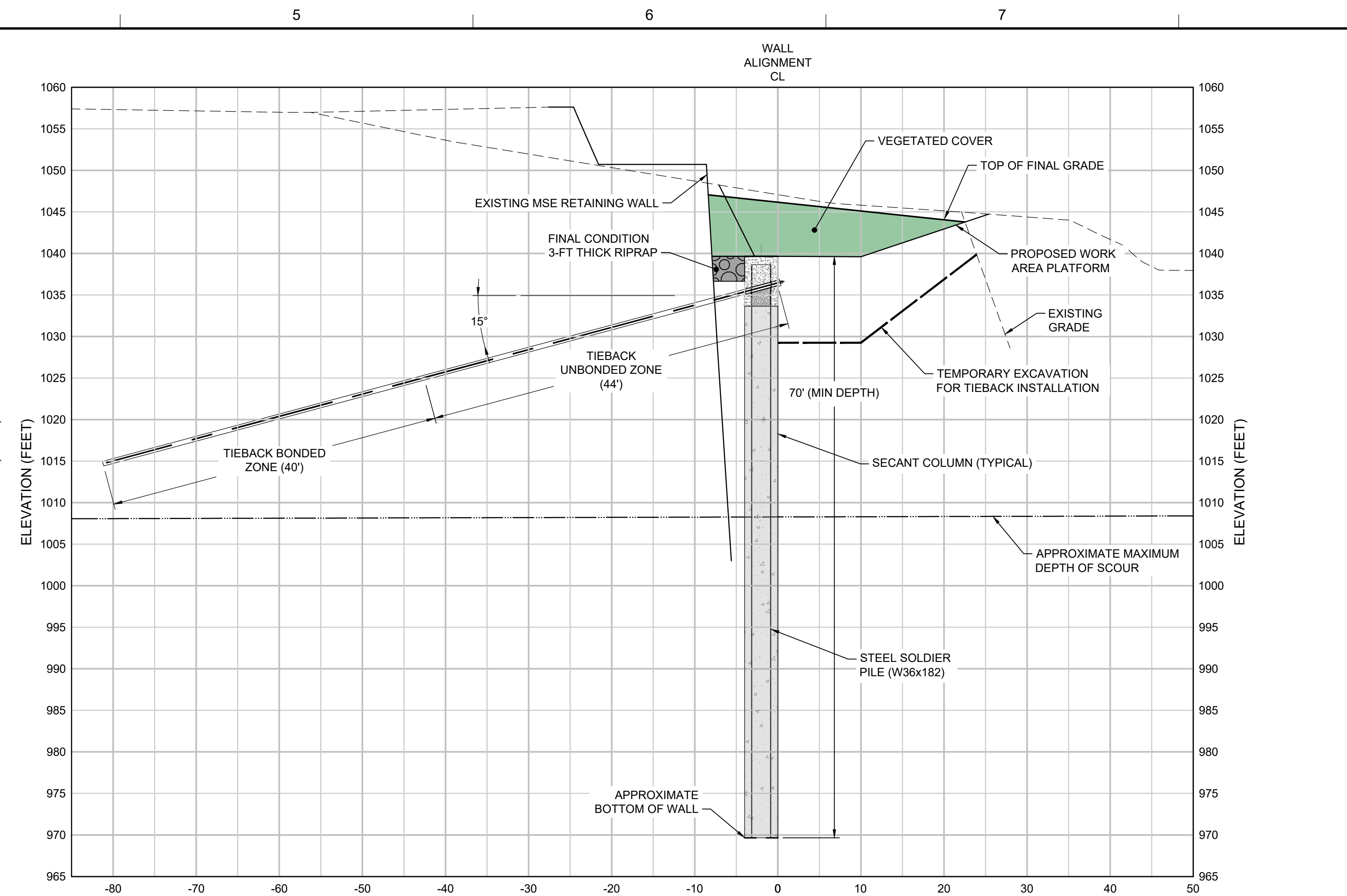
FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

DATE:

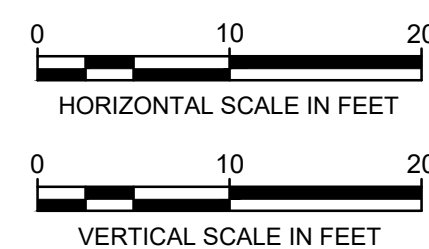
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		PROJECT NO.: GST8006-06		PROJECT DATE: APRIL 2022	
SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		FILE: GST8006-06 C017		DRAWING NO.: 17 OF 32	
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		PROJECT NO.: GST8006-06		PROJECT DATE: APRIL 2022	
SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		FILE: GST8006-06 C017		DRAWING NO.: 17 OF 32	



L SECTION
13 SECANT PILE WALL SECTION



M SECTION
13 SECANT PILE WALL SECTION



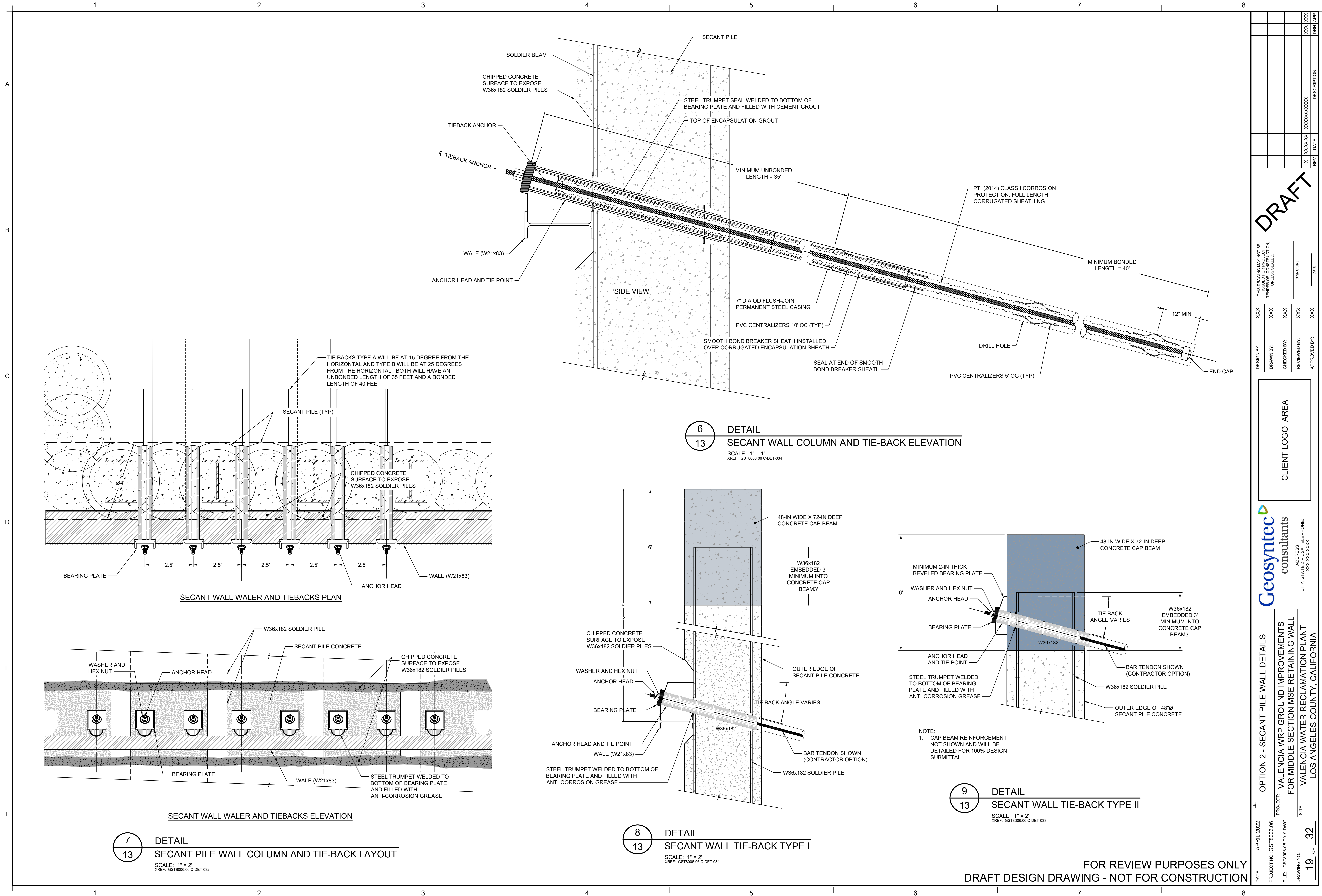
DATE: APRIL 2022		TITLE: OPTION 2 - SECANT PILE WALL SECTIONS II					
PROJECT NO.: GSTB006.06		PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		Geosyntec consultants			
FILE: GSTB006-06 C018		SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		ADDRESS: 10000 WILLOW BLVD. SUITE 200			
DRAWING NO.: 18 OF 32				CITY, STATE ZIP USA TELEPHONE: LOS ANGELES, CA 90007-4000			
				CLIENT LOGO AREA			
				DESIGN BY: XXX		THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER ORS CONTRACTION, UNLESS SO NOTED.	
				DRAWN BY: XXX			
				CHECKED BY: XXX			
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				APPROVED BY: XXX			
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				X		XX XX XX	
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				DESCRIPTION		XXXXXXXXXXXX	
				DIN		XXX	
				XXX		XXX	

Geosyntec
consultants

ADDRESS
CITY, STATE ZIP USA TELEPHONE:
XXX.XXX.XXXX

DATE:	APRIL 2022	OPTION 2 - SECANT PILE WALL SECTIONS II PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA
PROJECT NO:	GST8006-06	
FILE:	GST8006-06 C018	
DRAWING NO:	18 OF 32	

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DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION



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CLIENT LOGO AREA

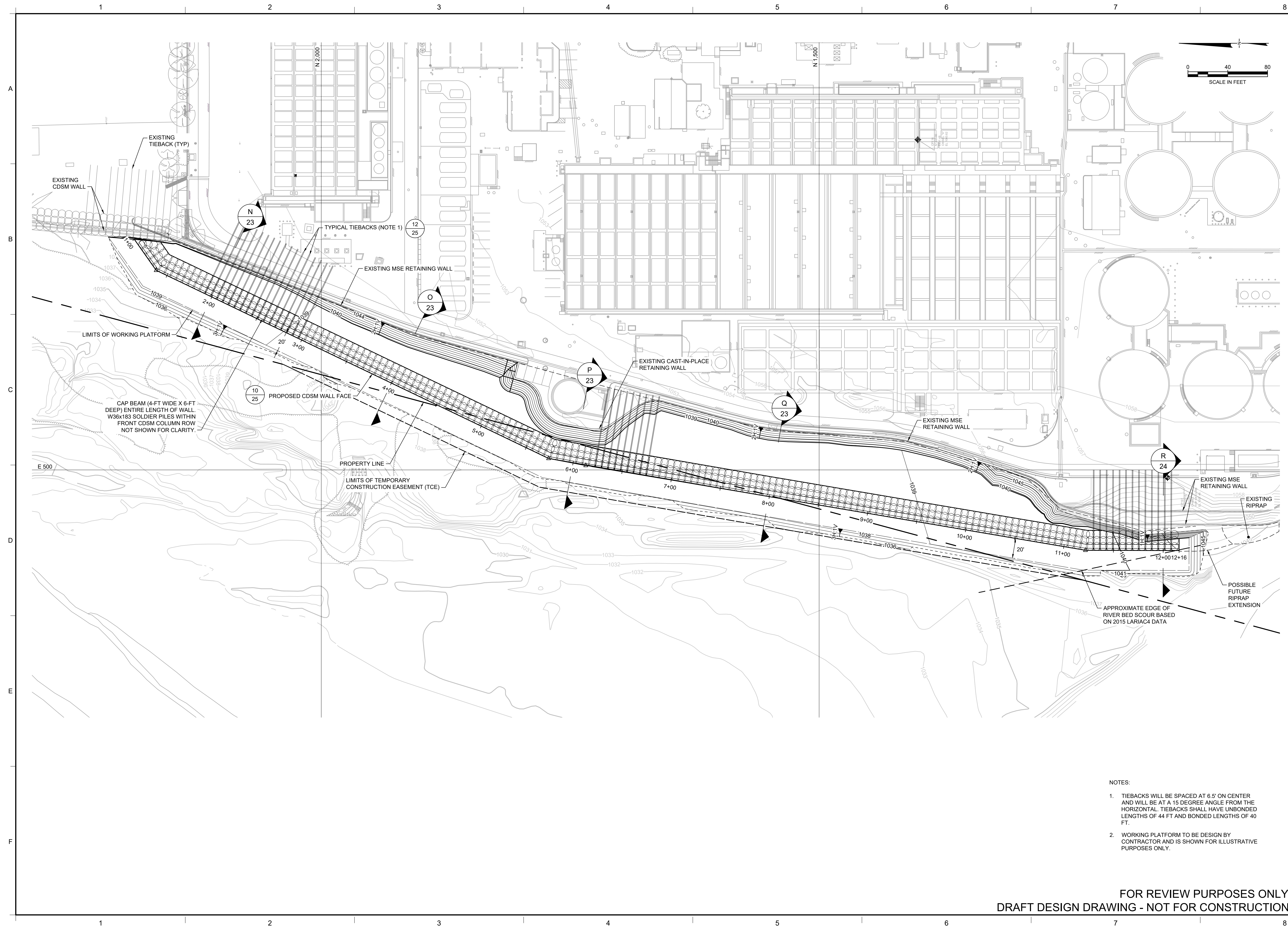
Geosyntec consultants
ADDRESS: XXX,XXX,XXX
CITY: STATE, XXX,XXX
TELEPHONE: XXX,XXX,XXX

DATE: APRIL 2022
PROJECT NO.: GST8006.06
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL
FILE: GST8006-06 C019.DWG
DRAWING NO.: 19 OF 32
SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA

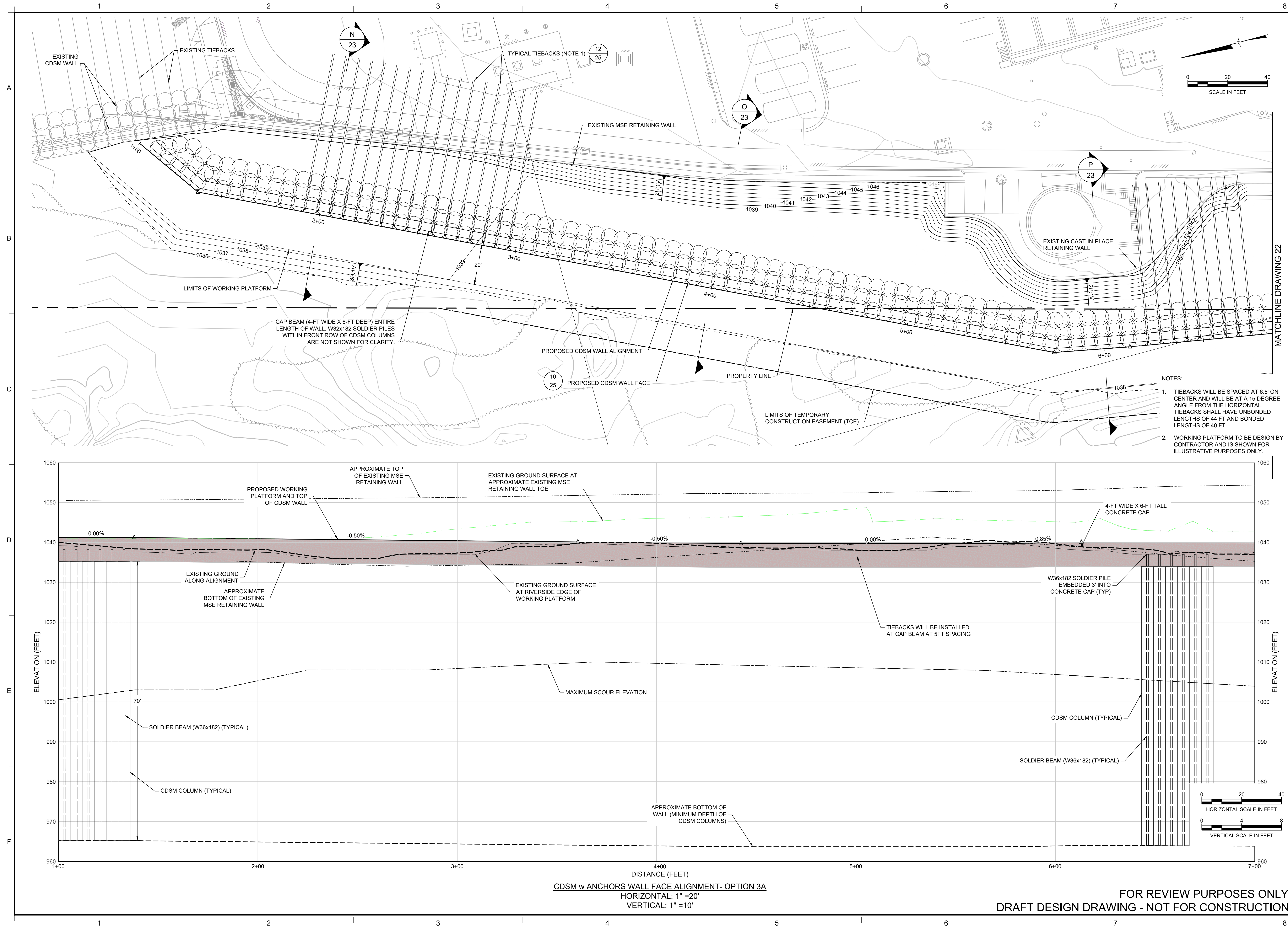
DESIGN BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX
REVIEWED BY: XXX
APPROVED BY: XXX

REV	DATE	DESCRIPTION	DRN	APP
XXX	XXX	XXXXXXXXXX	XXX	XXX

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DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

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DESIGN BY: XXX		TENDER OR FOR PROJECT, UNLESS SCALED:	
DRAWN BY: XXX		SIGNATURE: _____	
CHECKED BY: XXX		DATE: _____	
REVIEWED BY: XXX		DATE: _____	
APPROVED BY: XXX		DATE: _____	

Geosyntec consultants

ADDRESS: XXX,XXX,XXX
CITY: STATE, XXX,XXX,XXX

PROJECT NO. GST8006 06	PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL
FILE: GST8006-06 C021	SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA

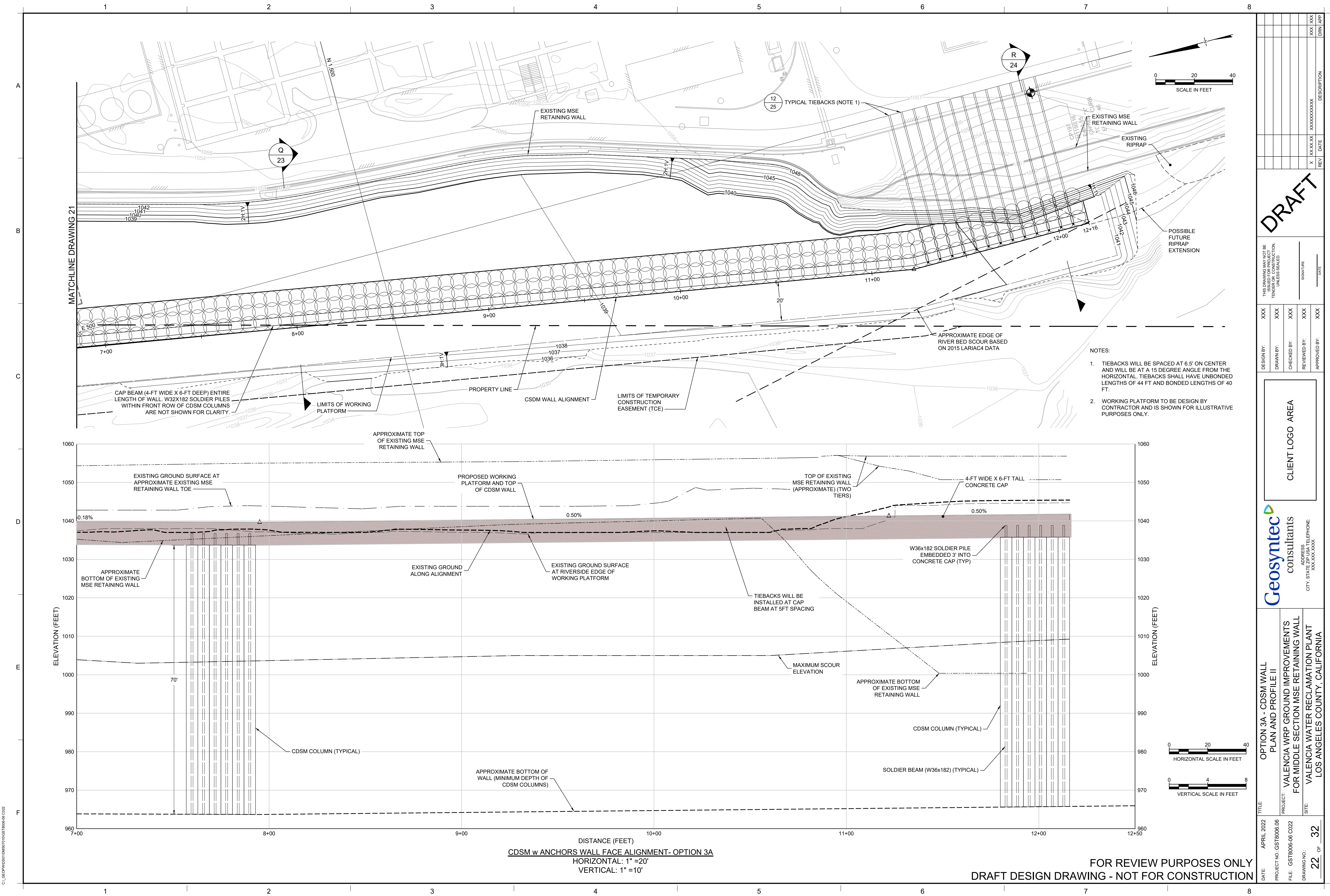
DATE: APRIL 2022

DRAWING NO.: 21 OF 32

OPTION 3A - CDSM WALL PLAN AND PROFILE 1

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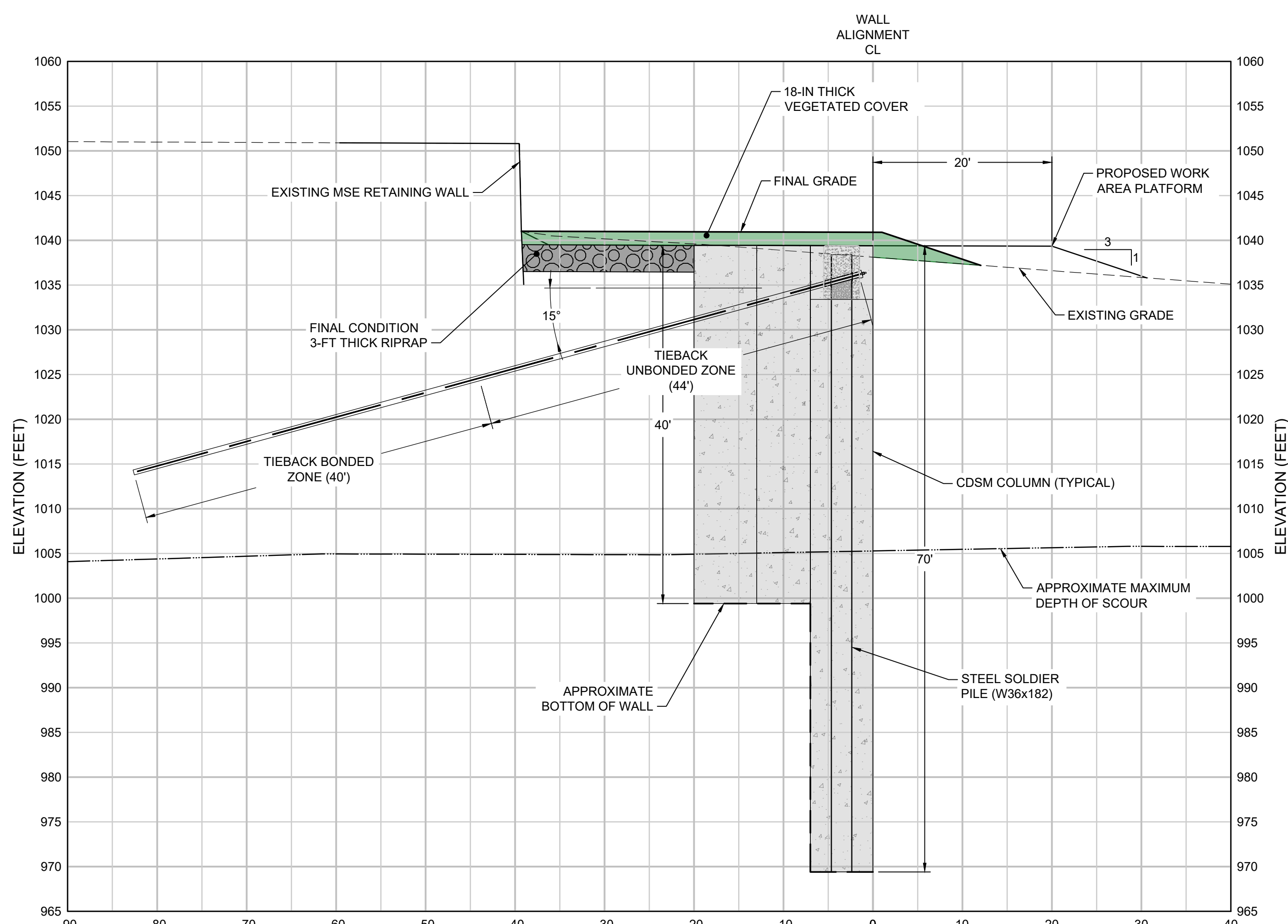
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CDSM w ANCHORS WALL FACE ALIGNMENT- OPTION 3A
HORIZONTAL: 1" =20'
VERTICAL: 1" =10'

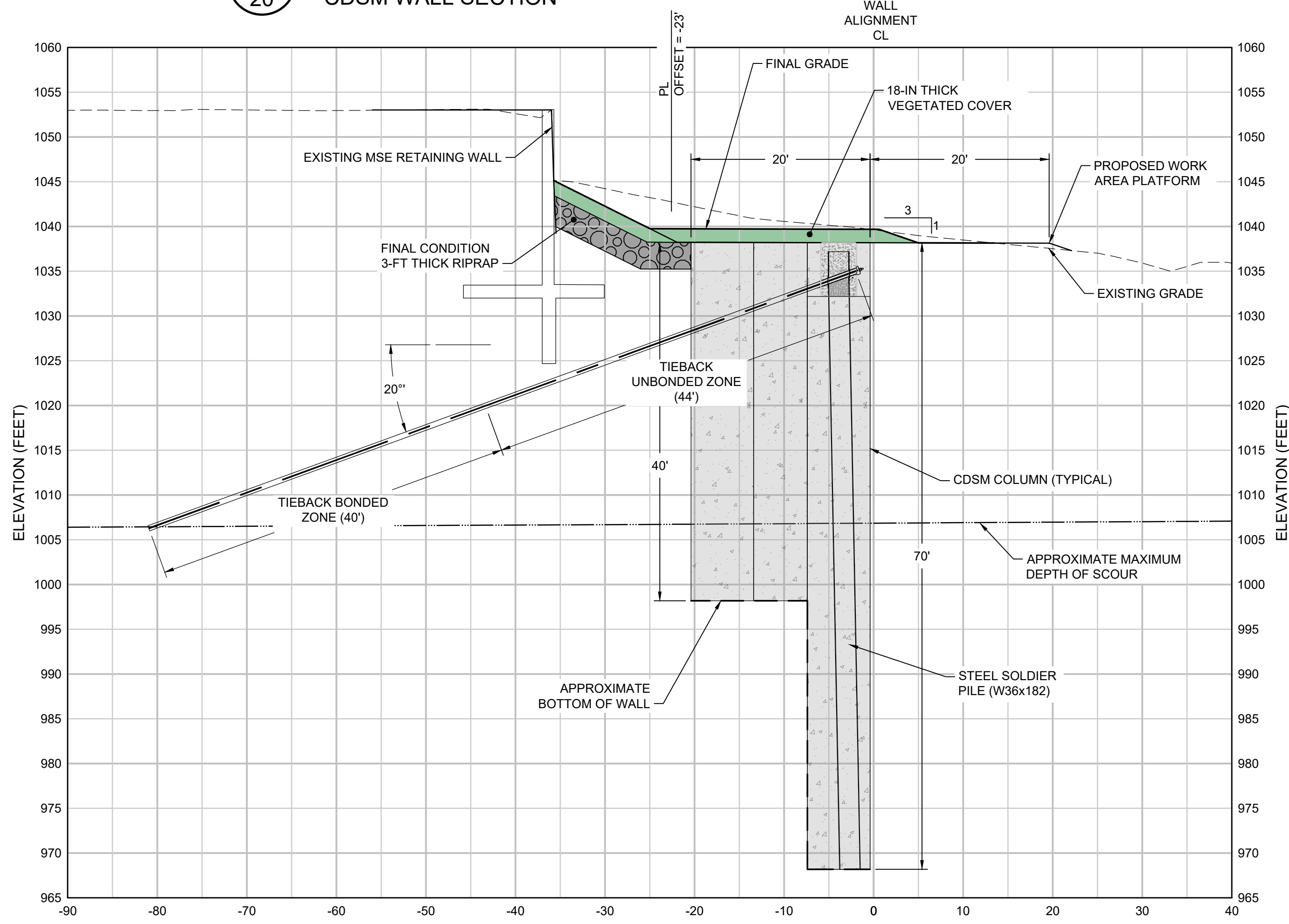
FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

DATE: APRIL 2022		PROJECT NO. GST8006 06		FILE: GST8006-06 0022		DRAWING NO.: 22 OF 32	
TITLE: OPTION 3A - CDSM WALL PLAN AND PROFILE II		PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		DRAFT	
DESIGN BY: XXX		DRAWN BY: XXX		CHECKED BY: XXX		REVIEWED BY: XXX	
APPROVED BY: XXX		SIGNATURE: _____		DATE: _____		DESCRIPTION: XXX	
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CLIENT LOGO AREA		Geosyntec consultants		ADDRESS: XXX,XXX,XXX,XXX		CITY, STATE AND TELEPHONE: XXX,XXX,XXX,XXX	

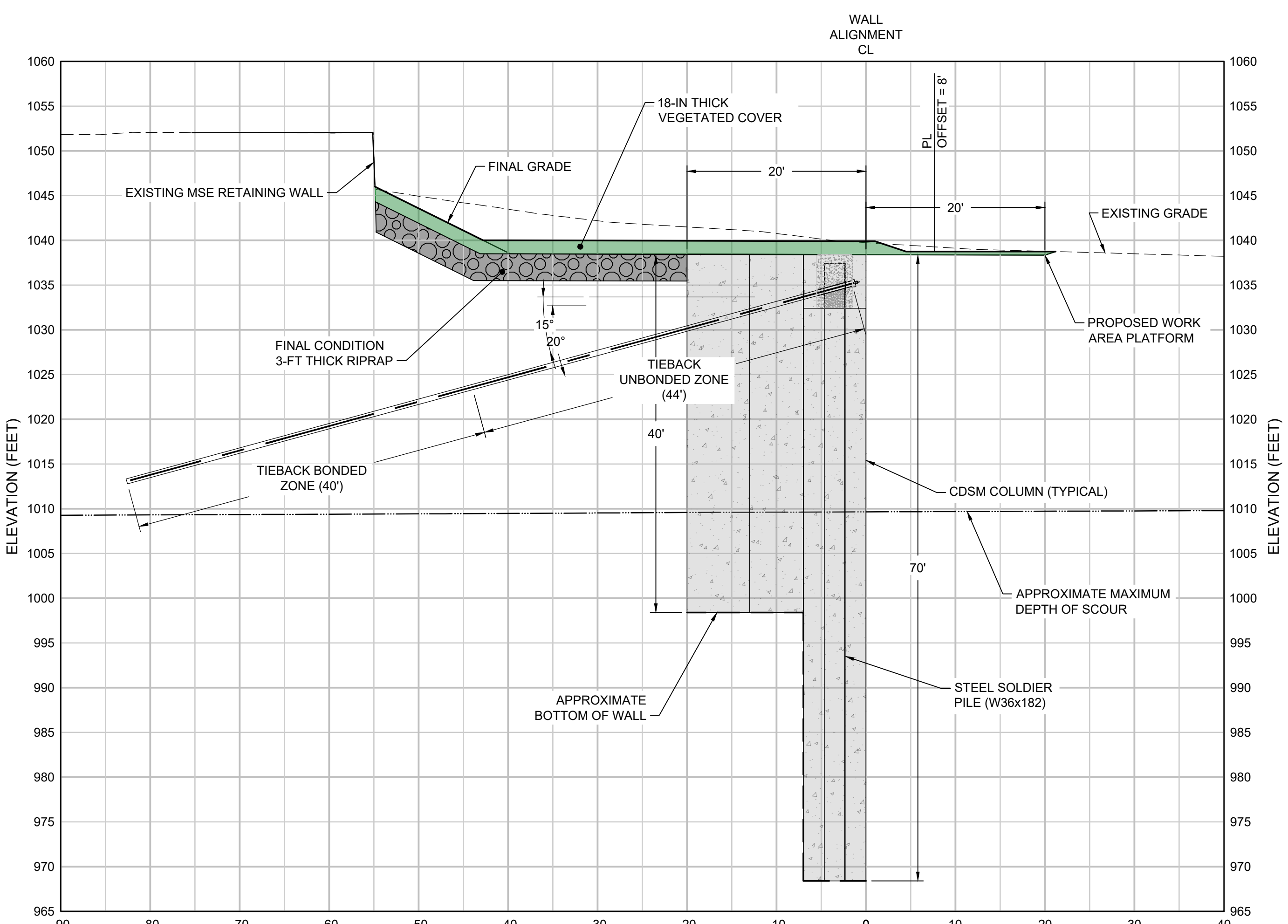
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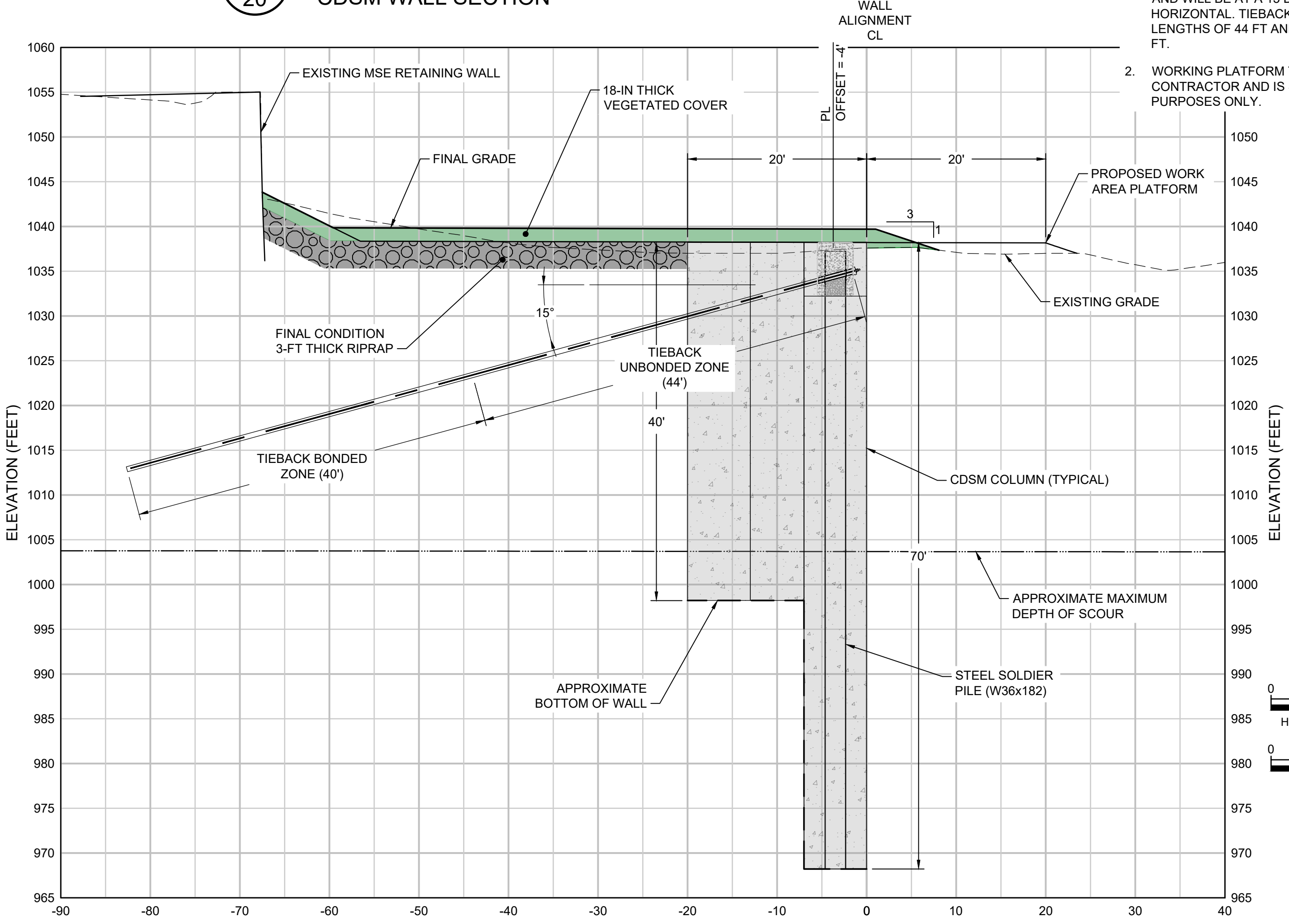
SECTION N 20
CDSM WALL SECTION



SECTION P 20
CDSM WALL SECTION

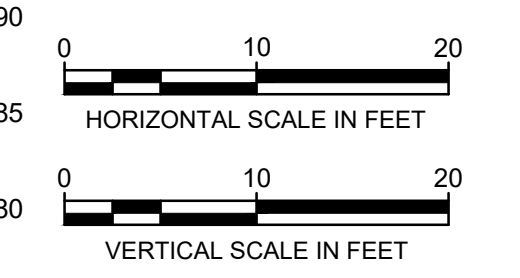


SECTION O 20
CDSM WALL SECTION



SECTION Q 20
CDSM WALL SECTION

- NOTES:
1. TIEBACKS WILL BE SPACED AT 6.5' ON CENTER AND WILL BE AT A 15 DEGREE ANGLE FROM THE HORIZONTAL. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 2. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.



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DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

DATE: APRIL 2022		PROJECT NO.: GSTB006 06		FILE: GSTB006-06 C024		DRAWING NO.: 23 OF 32	
TITLE: OPTION 3A - CDSM WALL SECTIONS I		PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		DRAFT	
DESIGN BY: XXX	DRAWN BY: XXX	CHECKED BY: XXX	REVIEWED BY: XXX	APPROVED BY: XXX	SIGNATURE: _____ DATE: _____		
THIS DRAWING MAY NOT BE REPRODUCED OR COPIED FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF GEOSYNTEC CONSULTANTS.				CLIENT LOGO AREA			
Geosyntec consultants				ADDRESS: XXX,XXX,XXX CITY: STA XXX,XXX TELEPHONE: XXX,XXX,XXX			

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CDSM W ANCHORS WALL FACE ALIGNMENT- OPTION 3A STA = 12+00
SCALE H: 1" = 10'
V: 1" = 10'

-
- 0 10 20
HORIZONTAL SCALE IN FEET
- 0 10 20
VERTICAL SCALE IN FEET

DESIGN BY:	XXX
DRAWN BY:	XXX
CHECKED BY:	XXX
REVIEWED BY:	XXX
APPROVED BY:	XXX
<p>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</p> <p>_____ DATE</p> <p>_____ SIGNATURE</p>	

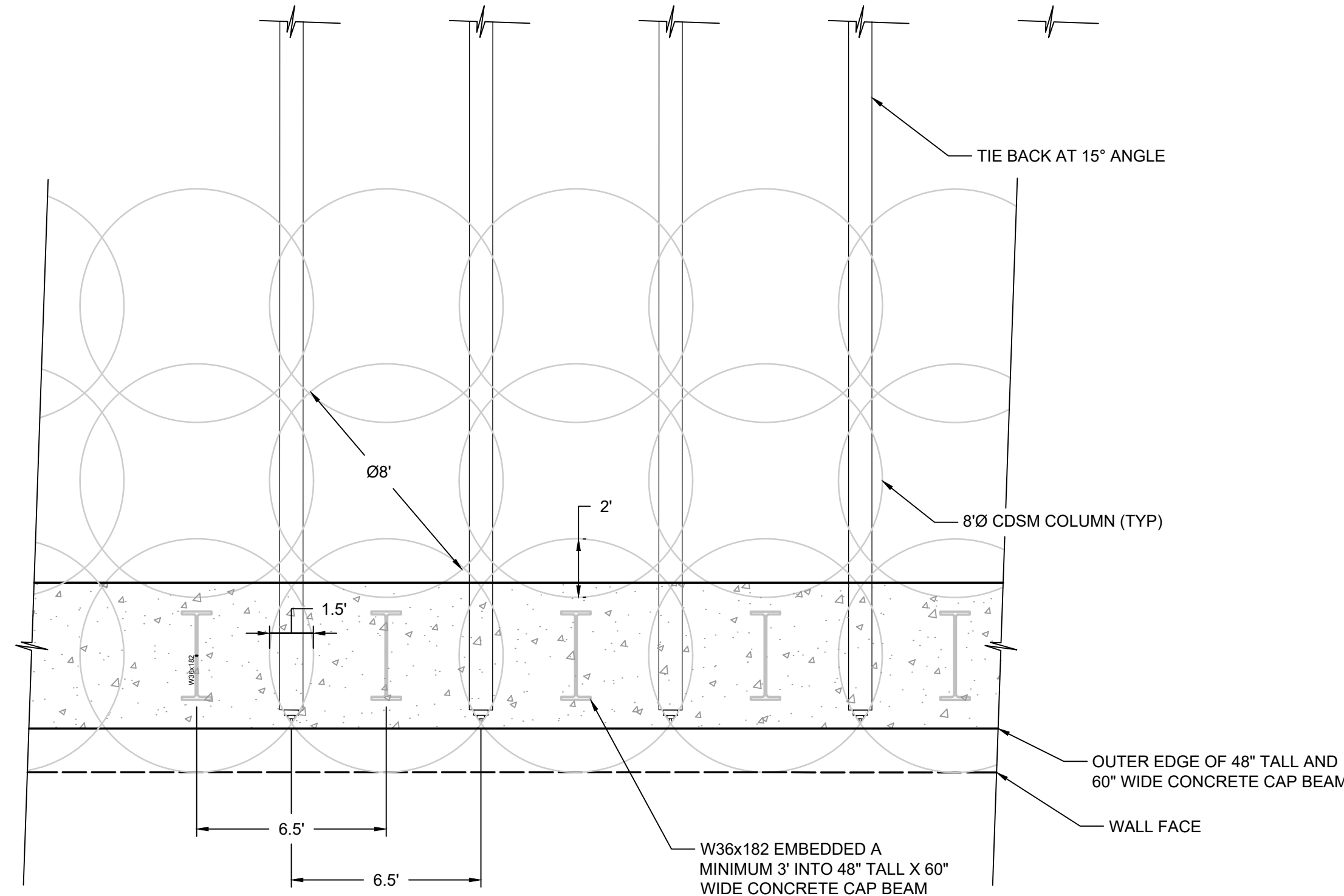
Geosyntec
consultants

ADDRESS:
CITY, STATE ZIP USA TELEPHONE:
XXX.XXX.XXXX

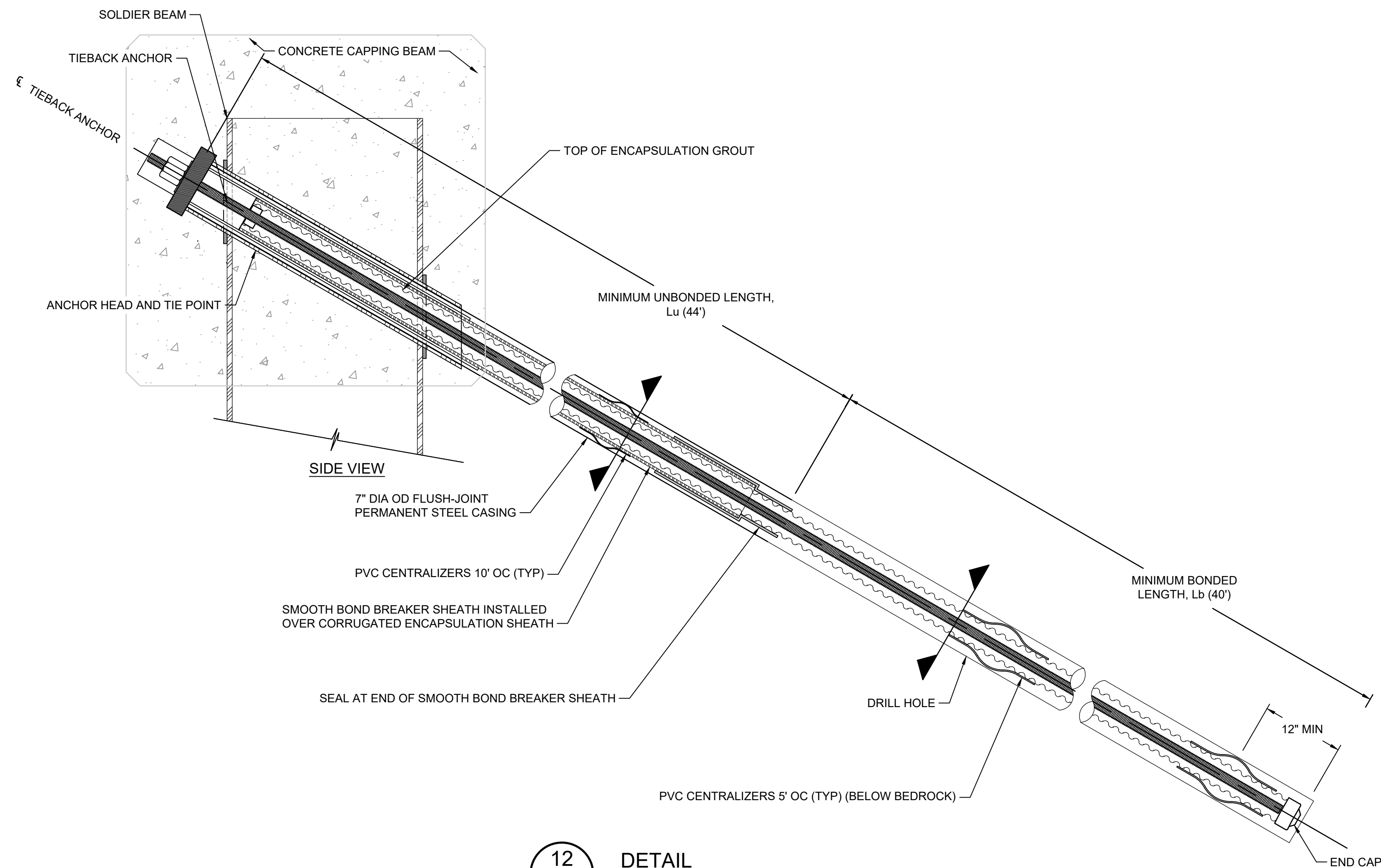
TITLE:	APRIL 2022
PROJECT:	PROJECT NO.: GST8006.06
SITE:	FILE: GST8006-06 C025
	DRAWING NO.: 24 OF 32

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DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

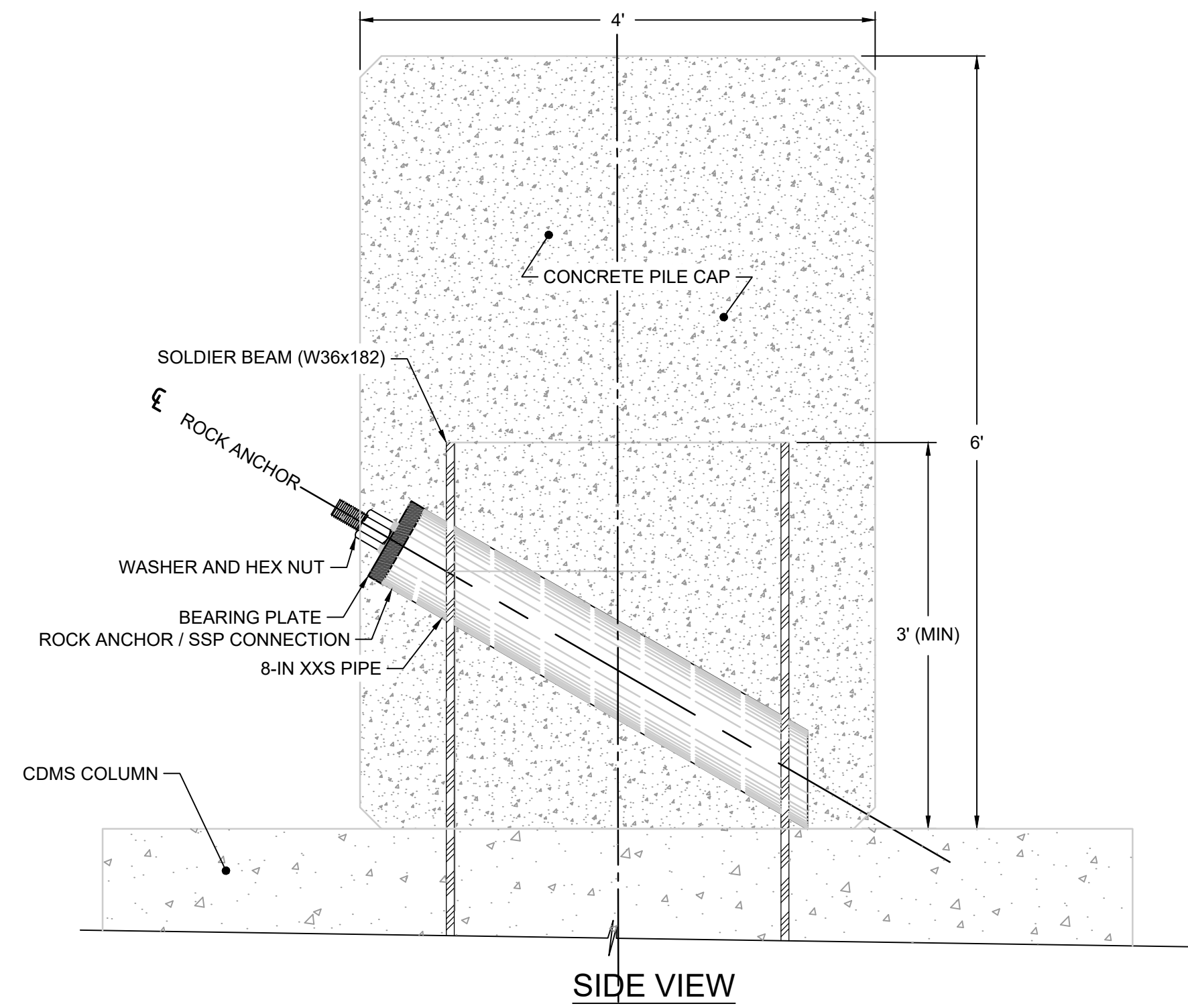
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10
20 **DETAIL**
CDSM COLUMN AND ANCHOR LAYOUT
SCALE: 1" = 4'
XREF: GST8006-06 C-DET-041



12
20 **DETAIL**
CDSM TIE-BACK ANCHOR
SCALE: 1" = 1'
XREF: GST8006-06 C-DET-041



11
20 **DETAIL**
CDSM CONCRETE CAP
NOTE: CAP BEAM REINFORCEMENT NOT SHOWN AND WILL BE INCLUDED IN 100% DESIGN DRAWINGS.
SCALE: 1" = 1'
XREF: GST8006-06 C-DET-041

- NOTES:
1. TIEBACKS WILL BE SPACED AT 6.5' ON CENTER AND WILL BE AT A 15 DEGREE ANGLE FROM THE HORIZONTAL. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 2. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

FOR REVIEW PURPOSES ONLY
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UNLESS SCALED.

DESIGN BY:	XXX
DRAWN BY:	XXX
CHECKED BY:	XXX
REVIEWED BY:	XXX
APPROVED BY:	XXX

CLIENT LOGO AREA

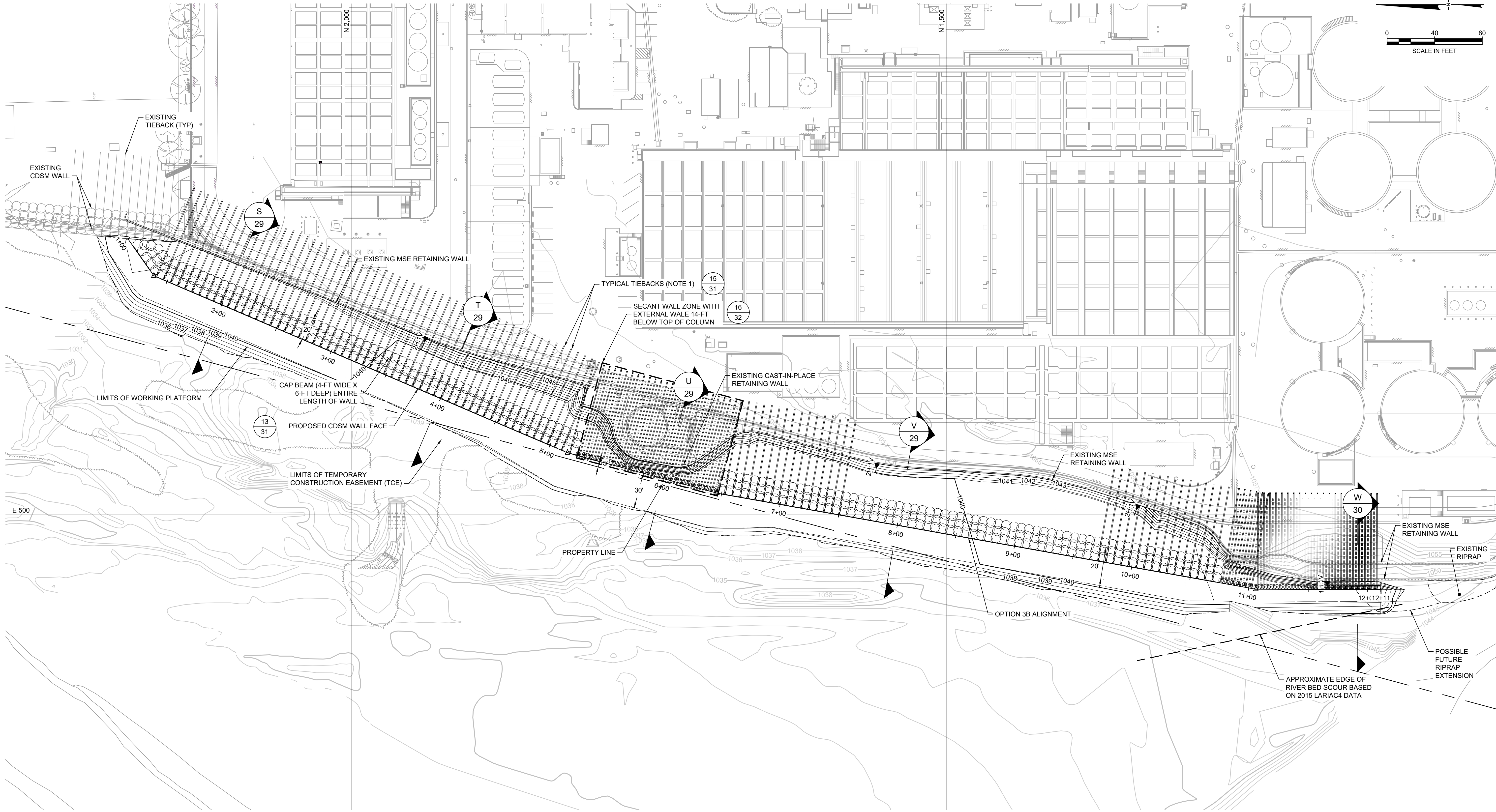
Geosyntec
consultants
ADDRESS: XXX,XXX,XXX
CITY: STATE, ZIP+4
TELEPHONE: XXX,XXX,XXX

TITLE:	OPTION 3A - CDSM WALL DETAILS
DATE:	APRIL 2022
PROJECT NO.:	GST8006-06
PROJECT:	VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL
FILE:	GST8006-06 C026.DWG
SITE:	VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA
DRAWING NO.:	25
OF	32

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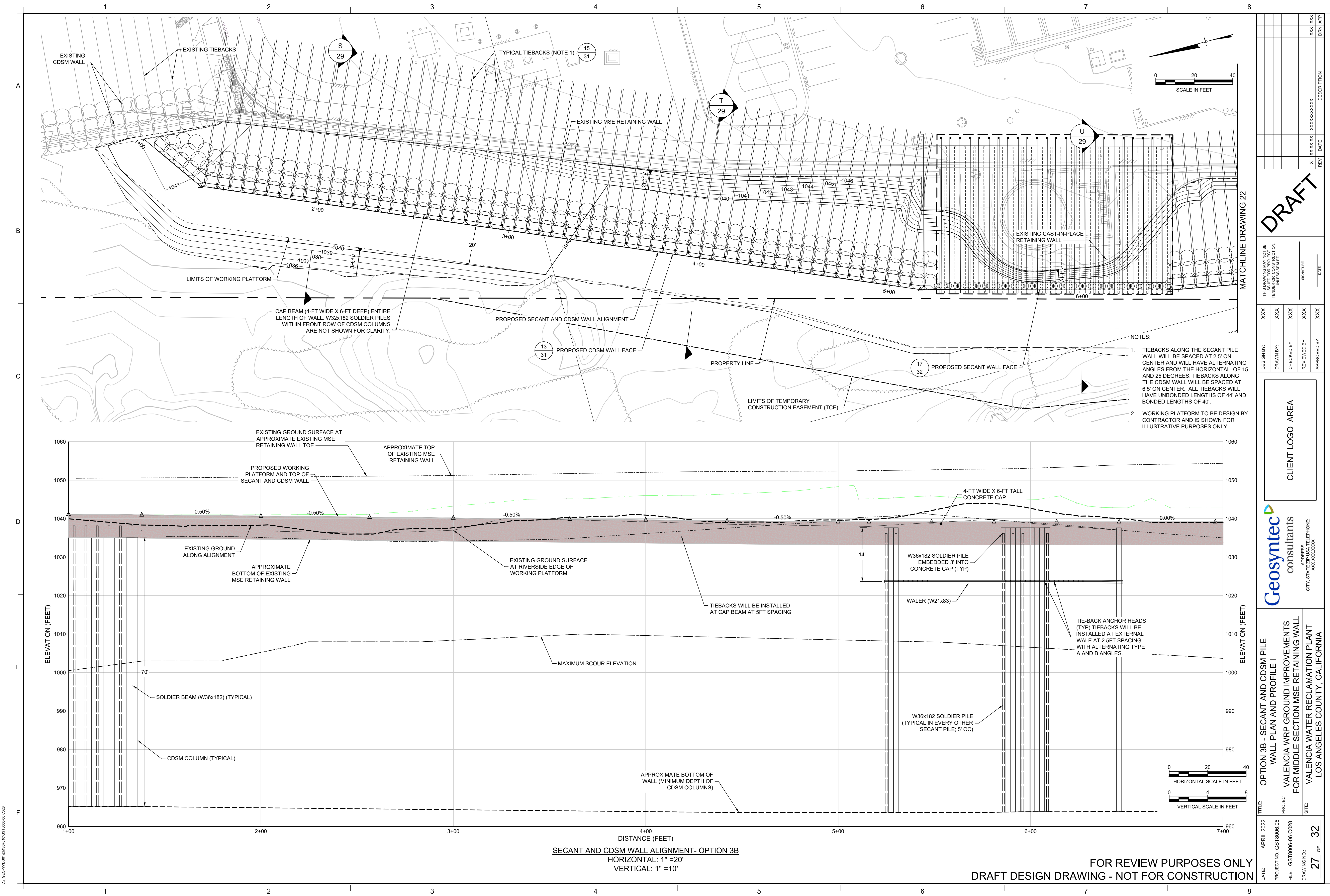
1 2 3 4 5 6 7 8



- NOTES:
1. TIEBACKS WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 2. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

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DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

DATE: APRIL 2022	TITLE: OPTION 3B - SECANT AND CDSM PILE WALL OVERVIEW PLAN	PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL	SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA
PROJECT NO. GST8006 06	FILE: GST8006-06 C027	DRAWING NO.: 26	OF 32
DESIGN BY: XXX	DRAWN BY: XXX	CHECKED BY: XXX	REVIEWED BY: XXX
APPROVED BY: XXX	DATE: XXX	SIGNATURE: XXX	DATE: XXX
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DRAFT			
CLIENT LOGO AREA			
Geosyntec consultants			
ADDRESS: XXX,XXX,XXX,XXX CITY: STATE, ZIP+4: XXX,XXX,XXX			
REVISIONS			
REV	DATE	DESCRIPTION	APP
XXX	XXX	XXXXXXXXXXXX	XXX

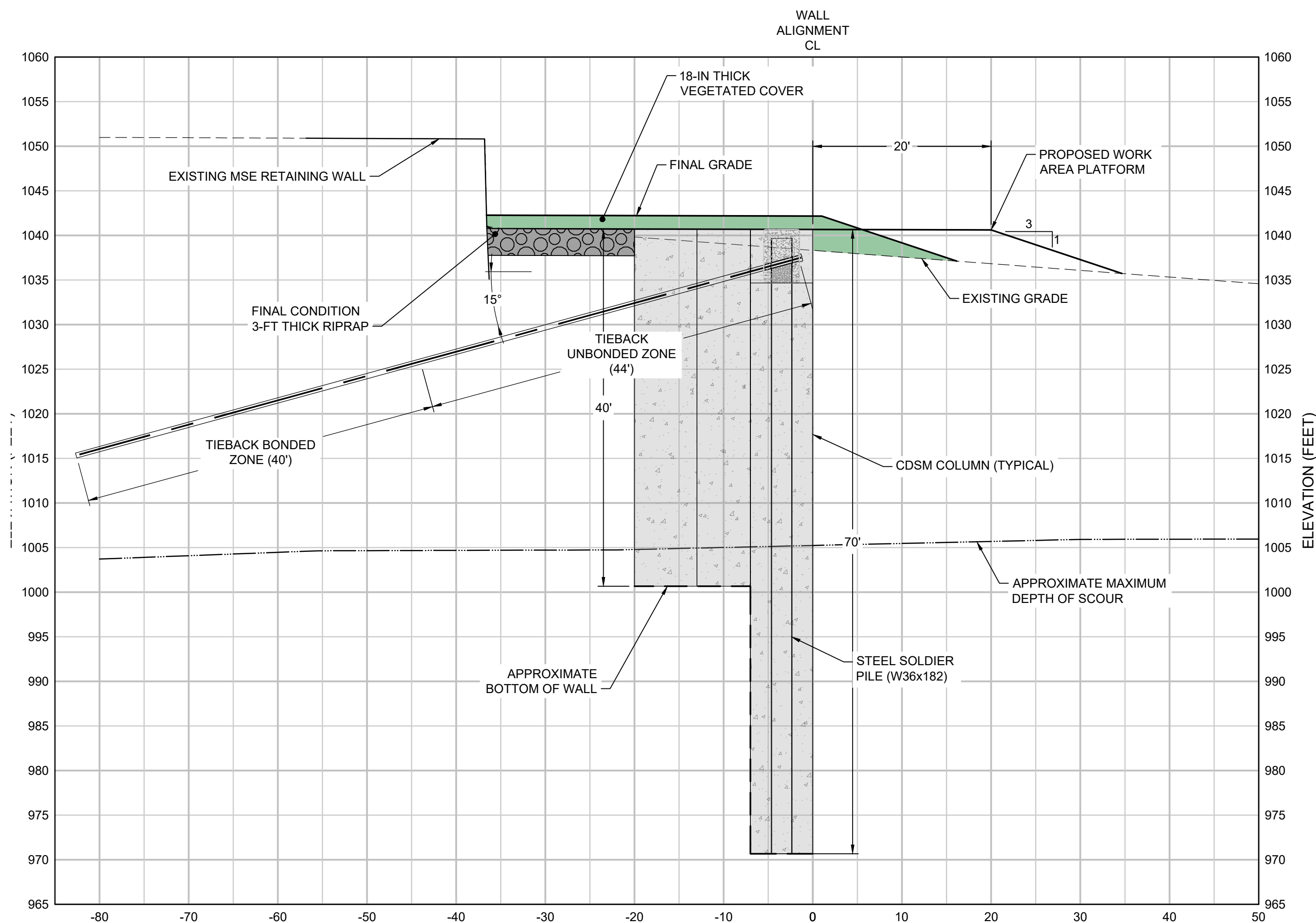


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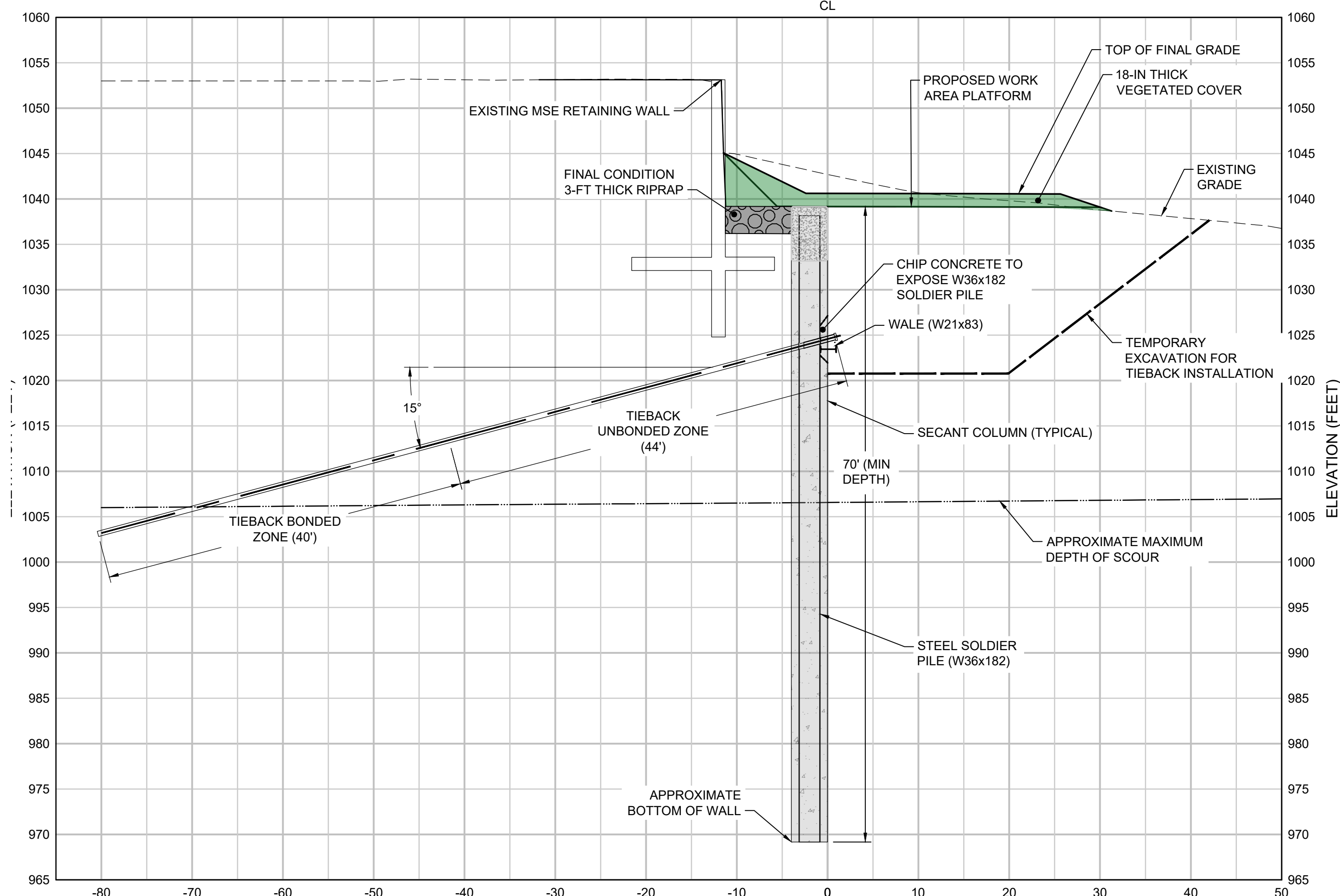
SECANT AND CDSM WALL ALIGNMENT- OPTION 3B
HORIZONTAL: 1"=20'
VERTICAL: 1"=10'

FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

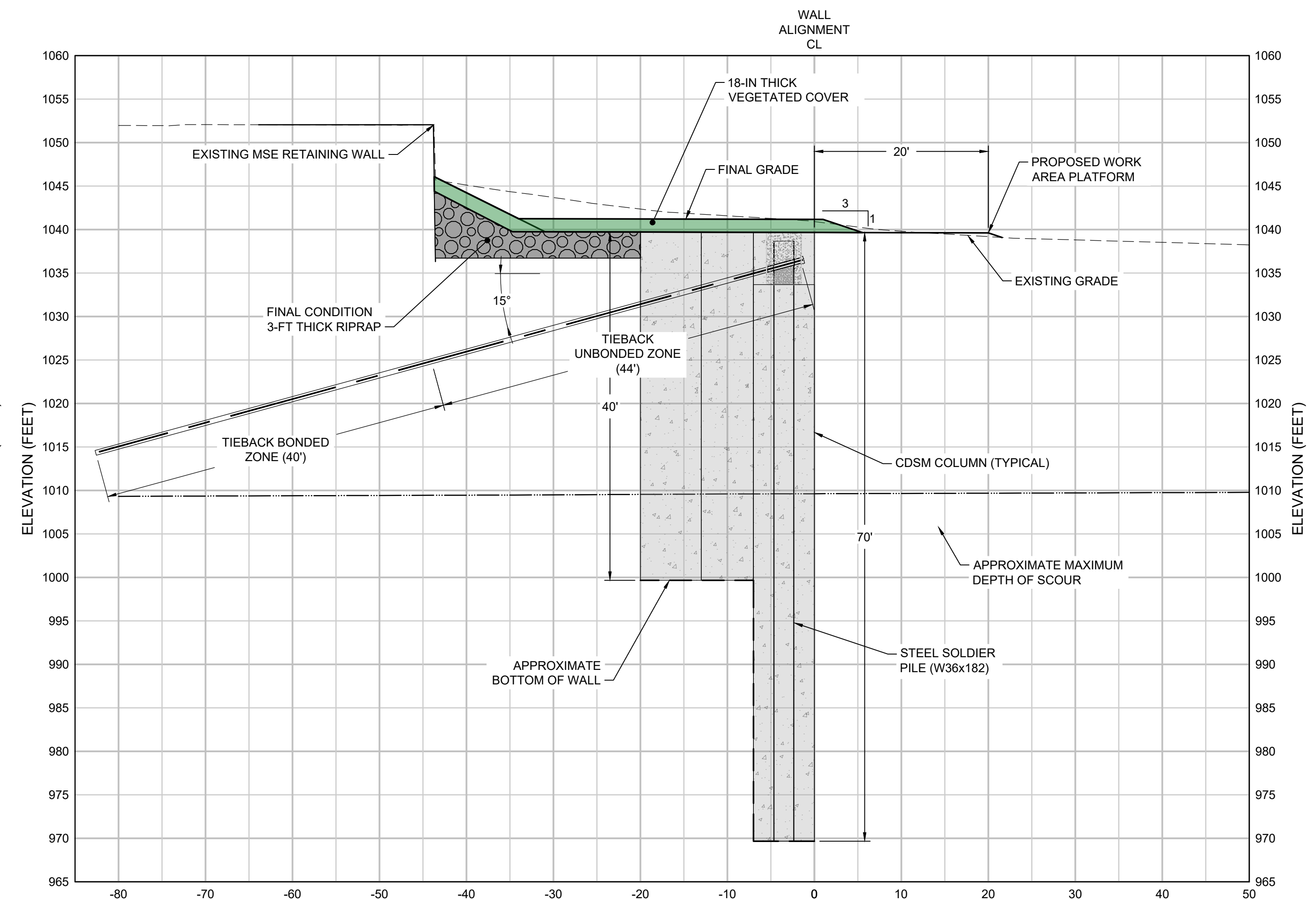
DATE: APRIL 2022		PROJECT NO.: GST8006 06		FILE: GST8006-06 C028		DRAWING NO.: 27 OF 32	
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		SHEET: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		TITLE: OPTION 3B - SECANT AND CDSM PILE WALL PLAN AND PROFILE I		PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL	
DESIGN BY: XXX		DRAWN BY: XXX		CHECKED BY: XXX		REVIEWED BY: XXX	
APPROVED BY: XXX		SIGNATURE: _____		DATE: _____		DATE: _____	
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT, TENDER OR CONSTRUCTION, UNLESS SIGNED.		CLIENT LOGO AREA		Geosyntec consultants		ADDRESS: XXX,XXX,XXX,XXX CITY, STATE: XXX,XXX,XXX	
DRAFT		DRAFT		DRAFT		DRAFT	



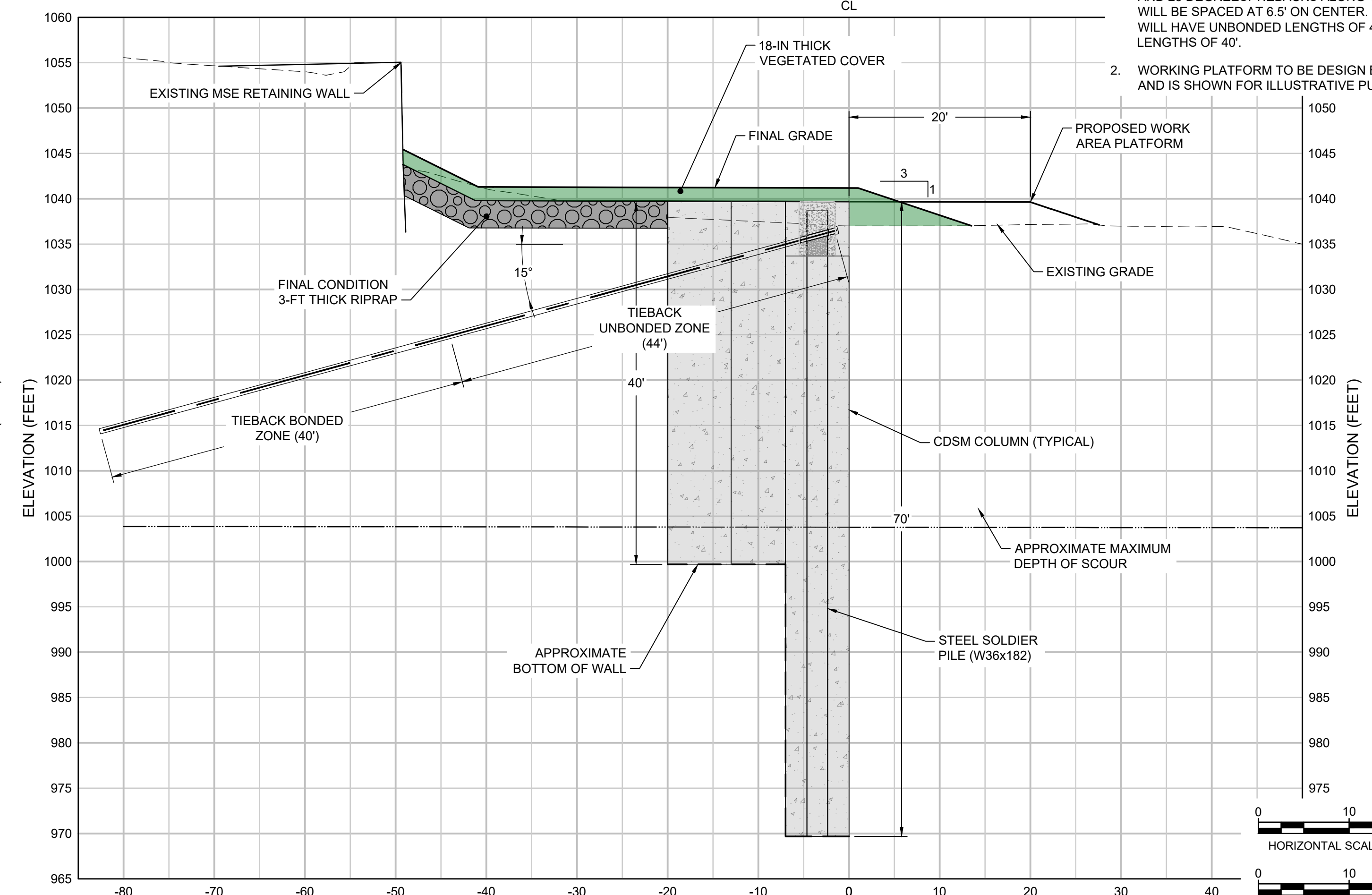
SECTION
SECANT AND CDSM WALL SECTION S-S



SECTION
SECANT AND CDSM WALL SECTION U-U



SECTION
SECANT AND CDSM WALL SECTION T-T



SECTION
SECANT AND CDSM WALL SECTION V-V

NOTES:

1. TIEBACKS ALONG THE SECANT PILE WALL WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS ALONG THE CDSM WALL WILL BE SPACED AT 6.5' ON CENTER. ALL TIEBACKS WILL HAVE UNBONDED LENGTHS OF 44' AND BONDED LENGTHS OF 40'.
2. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

DRAFT

CLIENT LOGO AREA

Geosyntec
consultants

ADDRESS
CITY, STATE ZIP USA TELEPHONE:
XXX.XXX.XXXX

OF TION 35 - SECTANT AND CDSM
WALL SECTIONS I
LENCIA WRP GROUND IMPROVEMENTS
MIDDLE SECTION MSE RETAINING WALL
ALENCIA WATER RECLAMATION PLANT
LOS ANGELES COUNTY, CALIFORNIA

DATE: APRIL 2022	PROJECT NO.: GST8006.06
PROJECT	FILE: GST8006-06 C030
SITE:	DRAWING NO.: 29 OF 32

V: 1" = 10'

FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION



1. TIEBACKS ALONG THE SECANT PILE WALL WILL BE SPACED AT 2.5' ON CENTER AND WILL HAVE ALTERNATING ANGLES FROM THE HORIZONTAL OF 15 AND 25 DEGREES. TIEBACKS ALONG THE CDSM WALL WILL BE SPACED AT 6.5' ON CENTER. ALL TIEBACKS WILL HAVE UNBONDED LENGTHS OF 44' AND BONDED LENGTHS OF 40'.
2. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

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UNLESS SEALED.

DESIGN BY:	XXX
DRAWN BY:	XXX
CHECKED BY:	XXX
REVIEWED BY:	XXX
APPROVED BY:	XXX

CLIENT LOGO AREA



WALL SECTIONS II

DATE: APRIL 2022

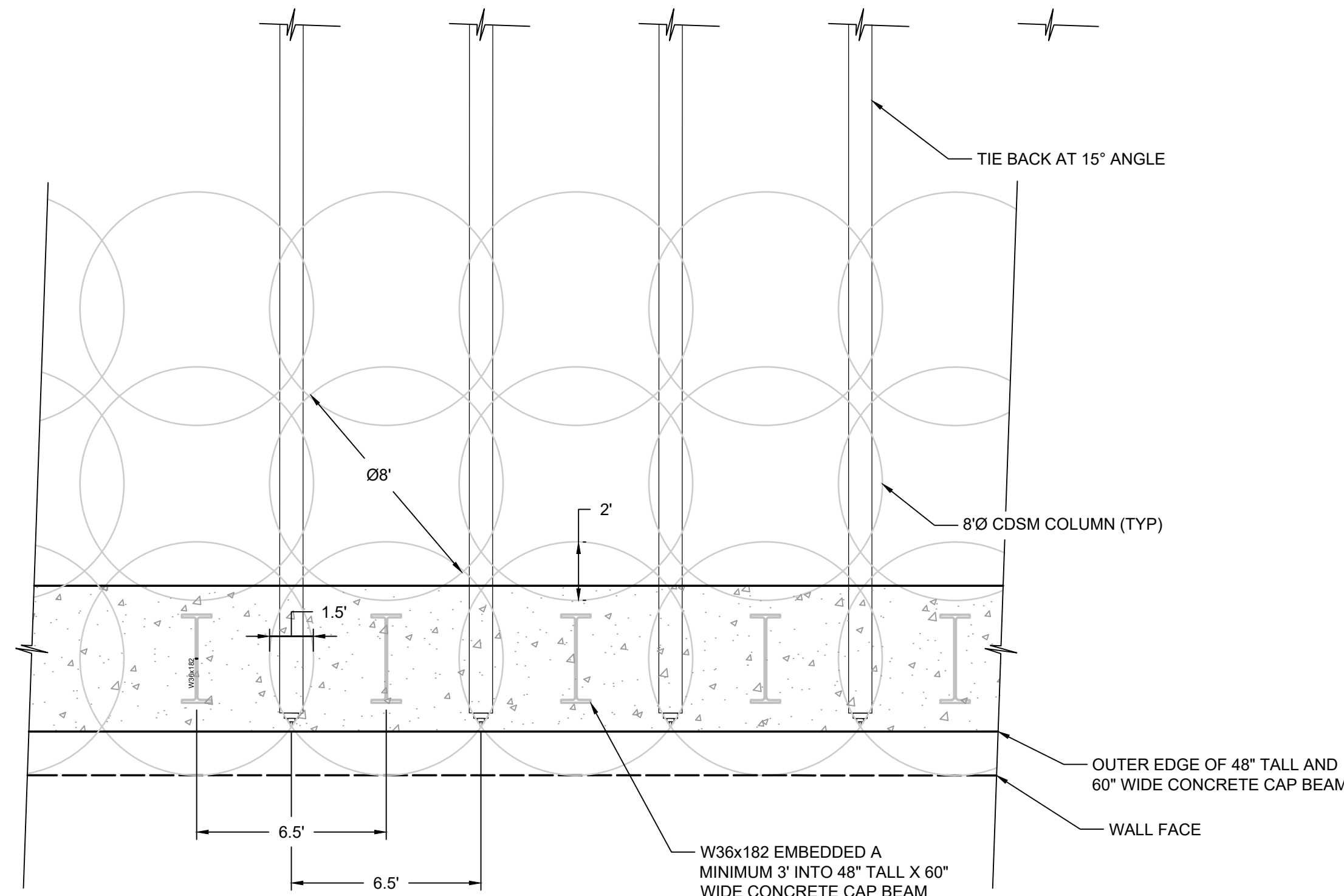
PROJECT: PROJECT NO.: GST8006.06

FILE: GST8006-06 C031

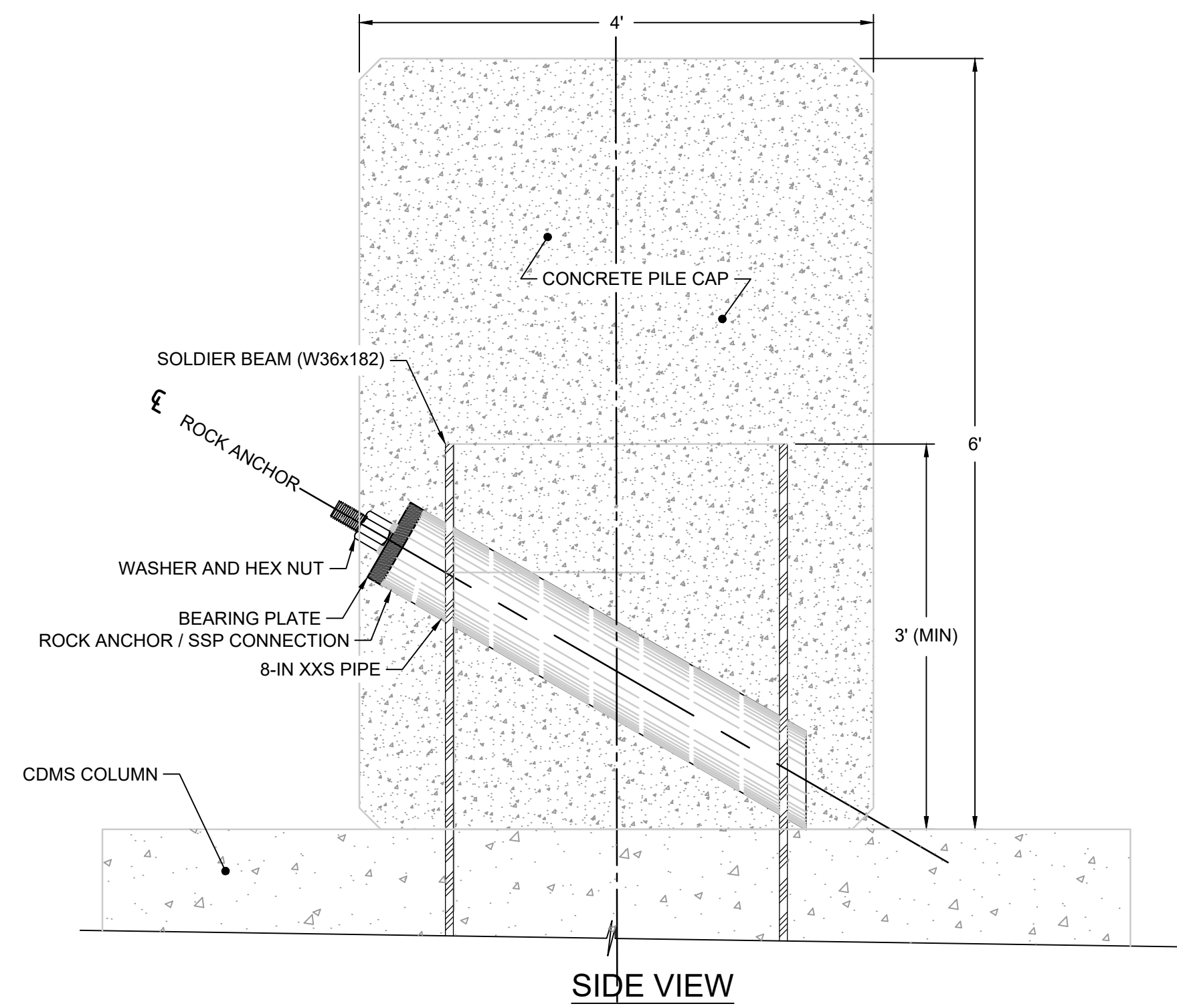
DRAWING NO.: 30 OF 32

SITE:

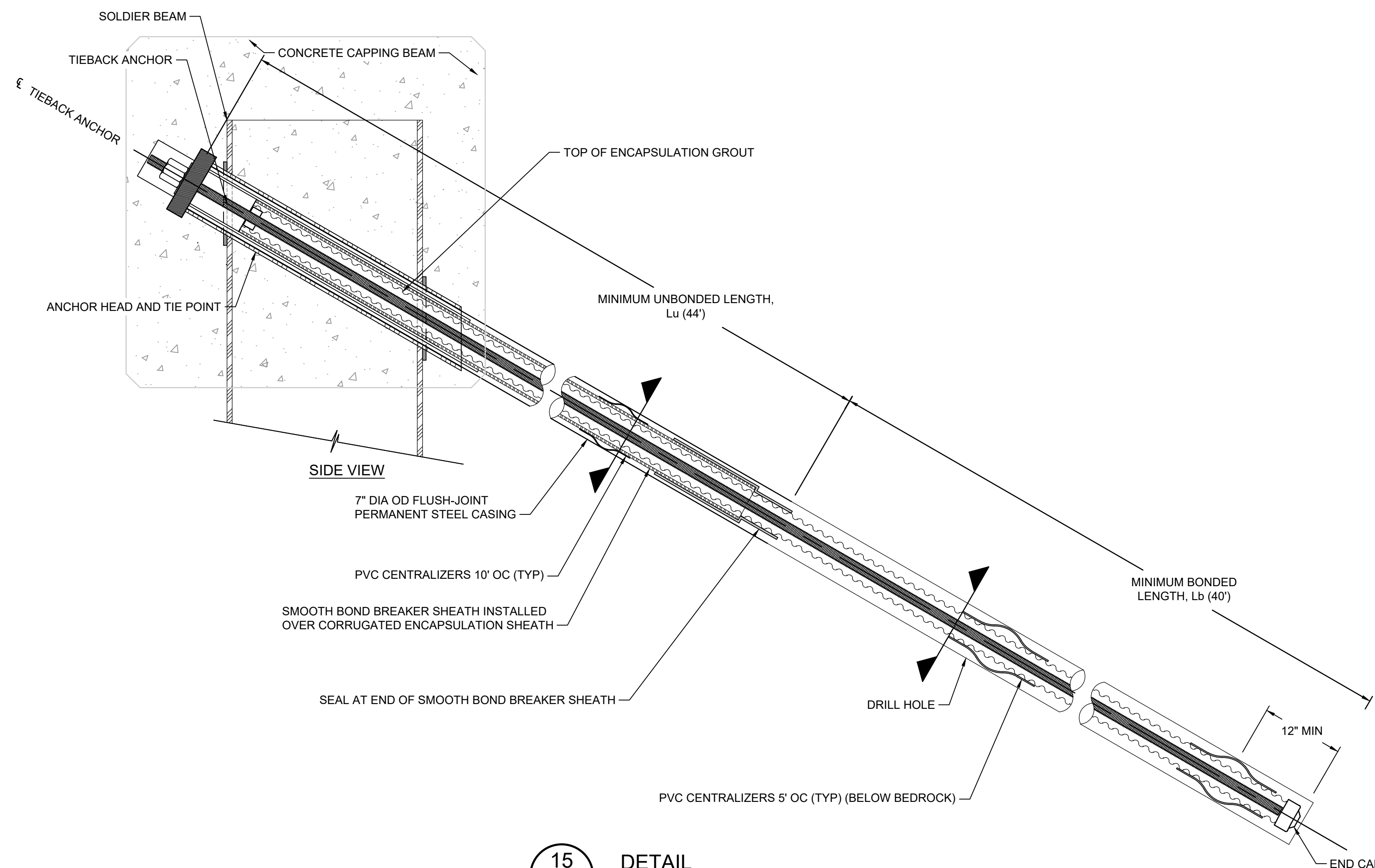
FOR REVIEW PURPOSES ONLY
DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION



13
26 **DETAIL**
CDSM COLUMN AND ANCHOR LAYOUT
SCALE: 1" = 4'
XREF: GST8006.06 C-DET-041



14
26 **DETAIL**
CDSM CONCRETE CAP
NOTE: CAP BEAM REINFORCEMENT NOT SHOWN AND WILL BE INCLUDED IN 100% DESIGN DRAWINGS.
SCALE: 1" = 1'
XREF: GST8006.06 C-DET-041



15
26 **DETAIL**
CDSM TIE-BACK ANCHOR
SCALE: 1" = 1'
XREF: GST8006.06 C-DET-041

- NOTES:
1. TIEBACKS WILL BE SPACED AT 6.5' ON CENTER AND WILL BE AT A 15 DEGREE ANGLE FROM THE HORIZONTAL. TIEBACKS SHALL HAVE UNBONDED LENGTHS OF 44 FT AND BONDED LENGTHS OF 40 FT.
 2. WORKING PLATFORM TO BE DESIGN BY CONTRACTOR AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

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DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

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CLIENT LOGO AREA

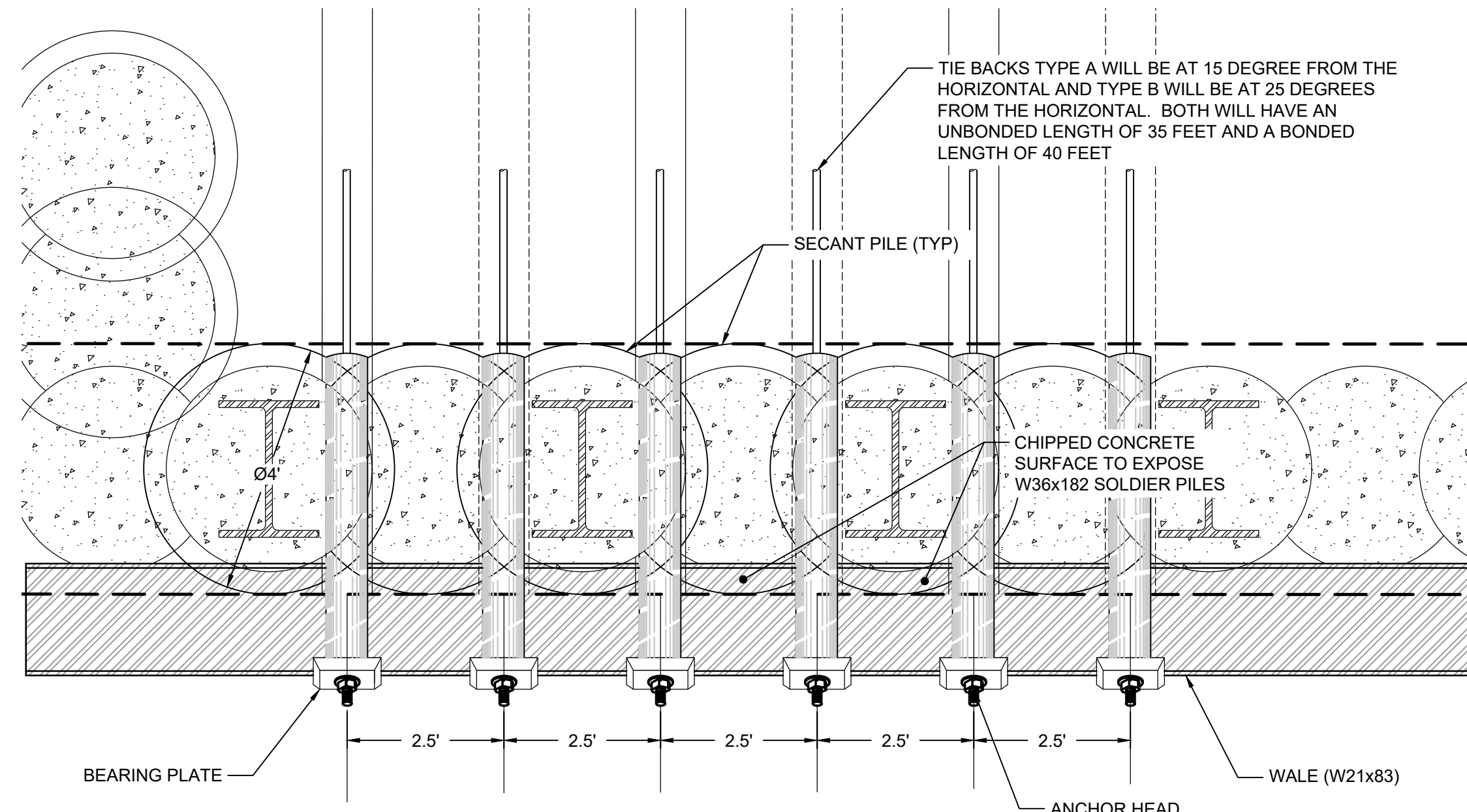
Geosyntec
consultants
ADDRESS: XXX,XXX,XXX
CITY: STATE, ZIP
TELEPHONE: XXX,XXX,XXX

TITLE: OPTION 3B - SECANT AND CDSM WALL DETAILS I
DATE: APRIL 2022
PROJECT NO: GST8006.06
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS
FOR MIDDLE SECTION MSE RETAINING WALL
FILE: GST8006-06 C032
SITE: VALENCIA WATER RECLAMATION PLANT
LOS ANGELES COUNTY, CALIFORNIA
DRAWING NO.: 31 OF 32

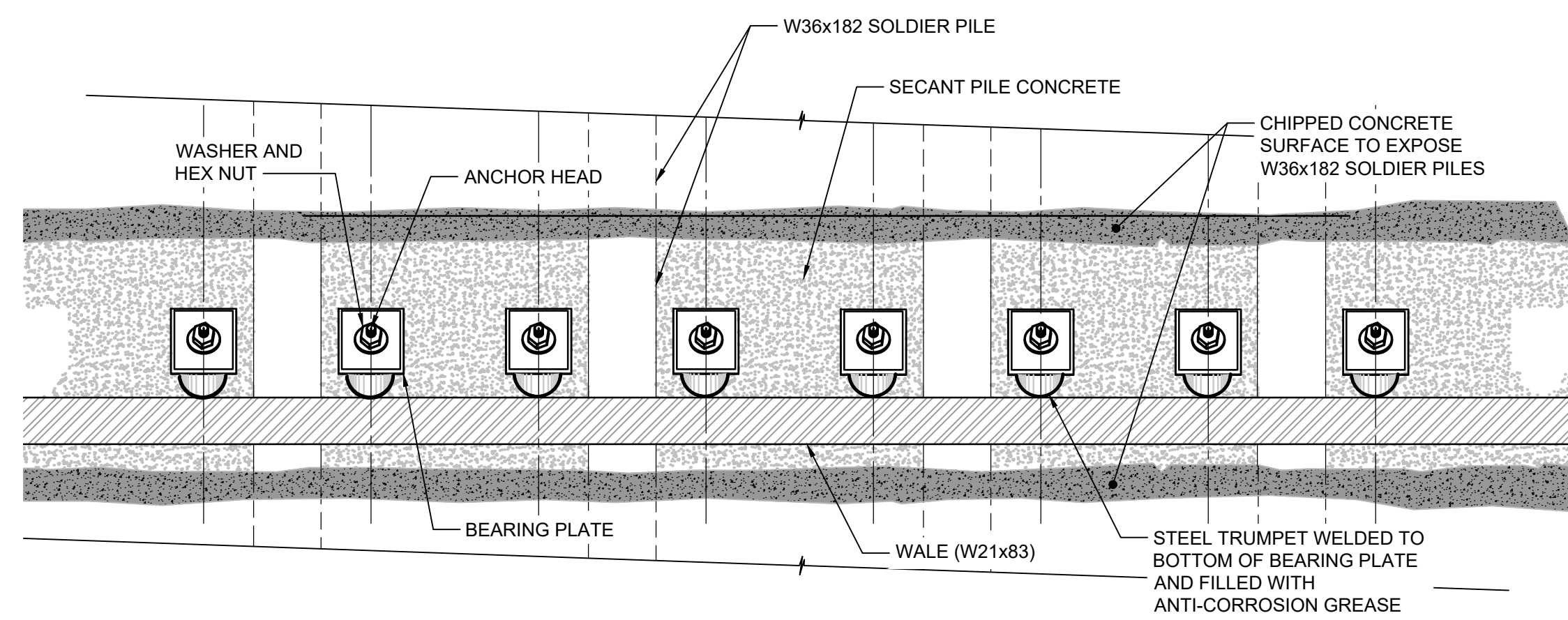
DESIGN BY:	XXX	THIS DRAWING MAY NOT BE REPRODUCED OR USED FOR CONSTRUCTION, UNLESS SPECIFICALLY NOTED.	DATE	XXX
DRAWN BY:	XXX	REVIEWED BY:	XXX	DATE
CHECKED BY:	XXX	APPROVED BY:	XXX	DATE
REVIEWED BY:	XXX	DESCRIPTION	XXX	DATE
APPROVED BY:	XXX	DRN APP	XXX	DATE

A
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1 2 3 4 5 6 7 8

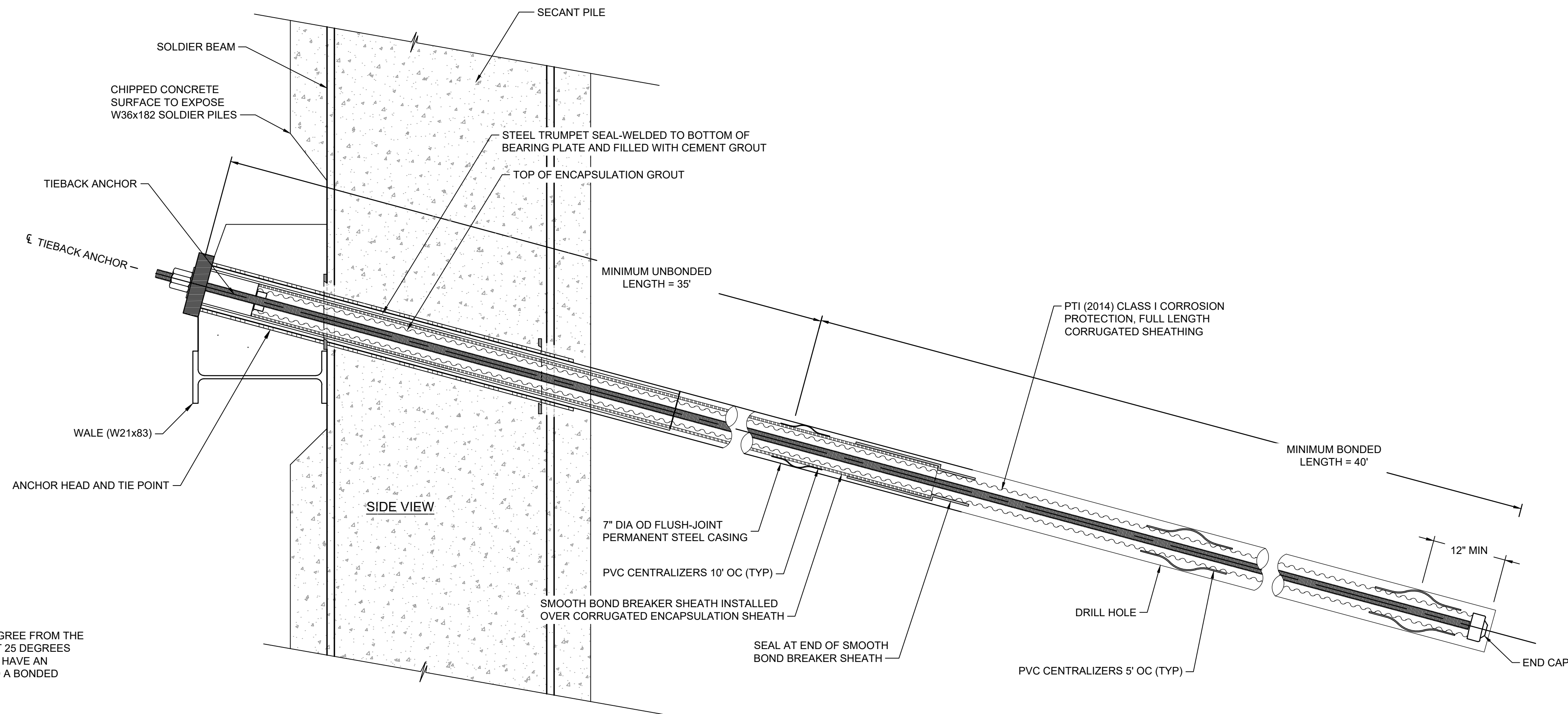


SECANT WALL WALER AND TIEBACKS PLAN

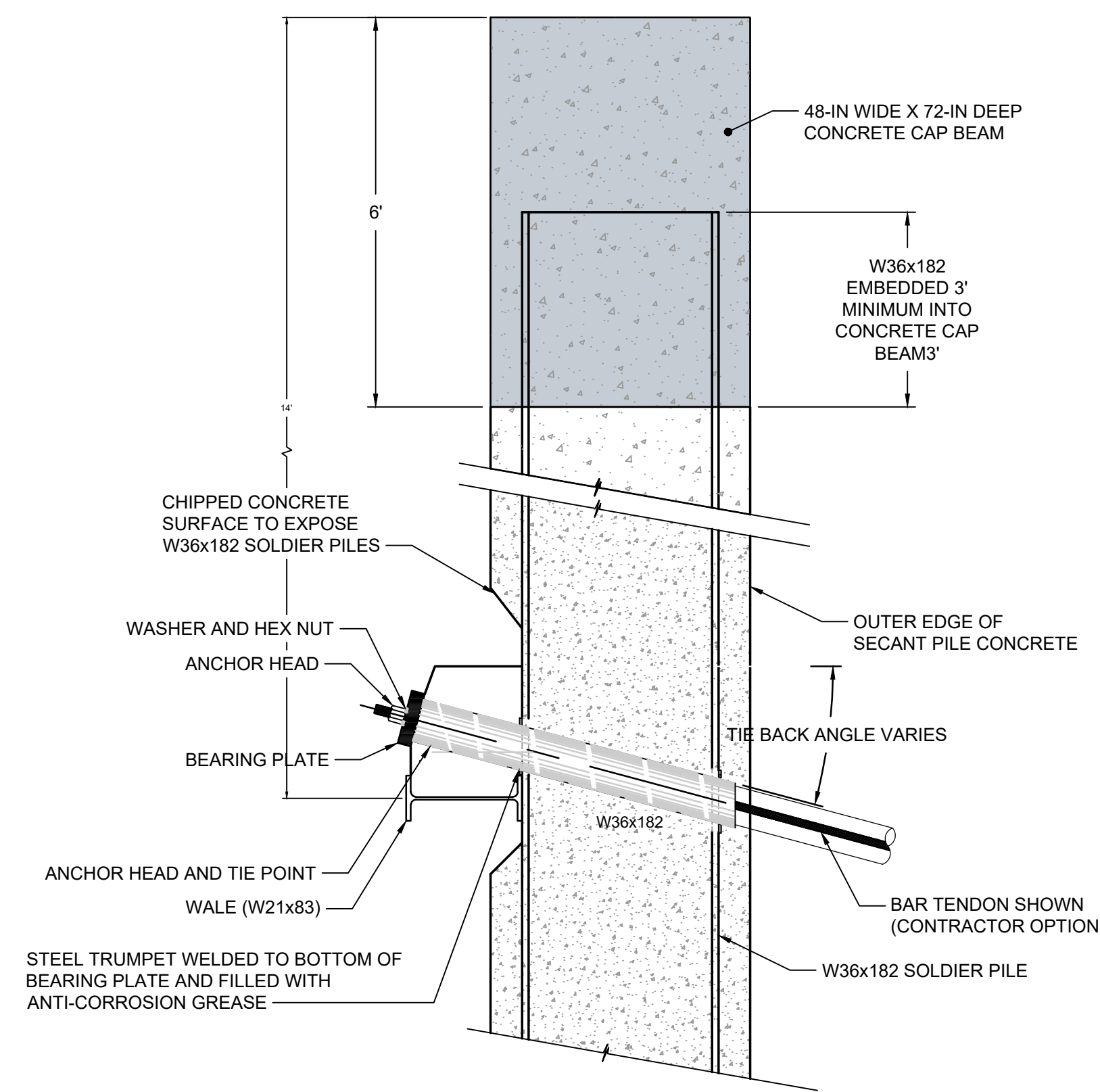


SECANT WALL WALER AND TIEBACKS ELEVATION

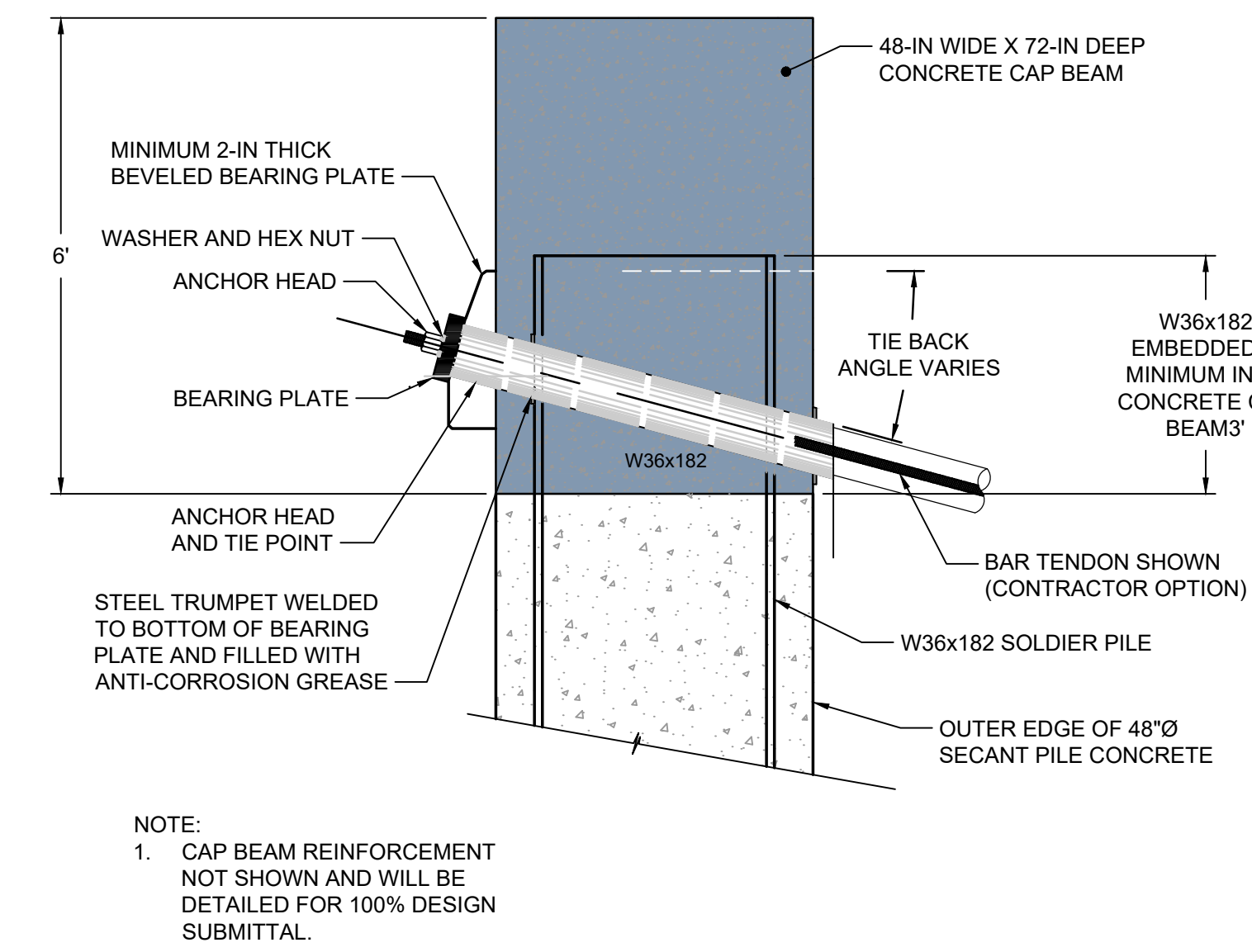
17
26
DETAIL
SECANT WALL COLUMN AND TIE-BACK LAYOUT
SCALE: 1" = 2'
XREF: GST8006.06 C-DET-032



16
26
DETAIL
SECANT WALL COLUMN AND TIE-BACK ELEVATION
SCALE: 1" = 1'
XREF: GST8006.06 C-DET-034



18
26
DETAIL
SECANT WALL TIE-BACK TYPE I
SCALE: 1" = 2'
XREF: GST8006.06 C-DET-034



19
26
DETAIL
SECANT WALL TIE-BACK TYPE II
SCALE: 1" = 2'
XREF: GST8006.06 C-DET-033

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DRAFT DESIGN DRAWING - NOT FOR CONSTRUCTION

DATE: APRIL 2022		PROJECT NO: GST8006.06		FILE: GST8006-06 C033		DRAWING NO: 32 OF 32	
PROJECT: VALENCIA WRP GROUND IMPROVEMENTS FOR MIDDLE SECTION MSE RETAINING WALL		SITE: VALENCIA WATER RECLAMATION PLANT LOS ANGELES COUNTY, CALIFORNIA		TITLE: OPTION 3B - SECANT AND CDSM WALL DETAILS II		CLIENT LOGO AREA	
DESIGN BY: XXX		DRAWN BY: XXX		CHECKED BY: XXX		REVIEWED BY: XXX	
APPROVED BY: XXX		SIGNATURE: _____		DATE: _____		DESCRIPTION: XXX	
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APPENDIX B

Example Equipment Specification Sheets

Secant Pile / CDSM Rig

Hydraulic Rotary Rig

SR-145

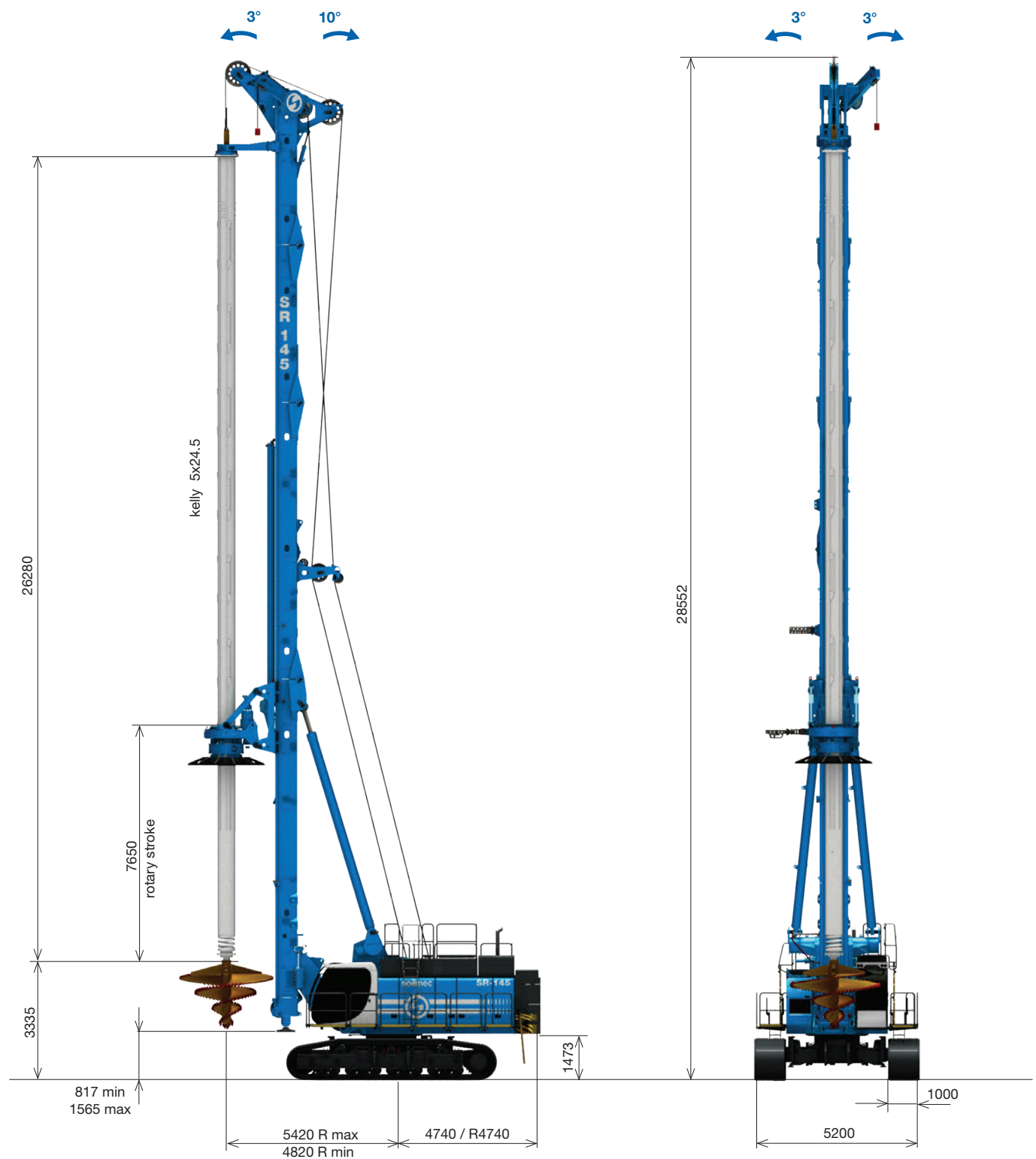
HIT



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Drilling and Foundation Equipment

SR-145 HIT Hydraulic Rotary Rig

LDP APPLICATIONS - Crowd system with cylinder

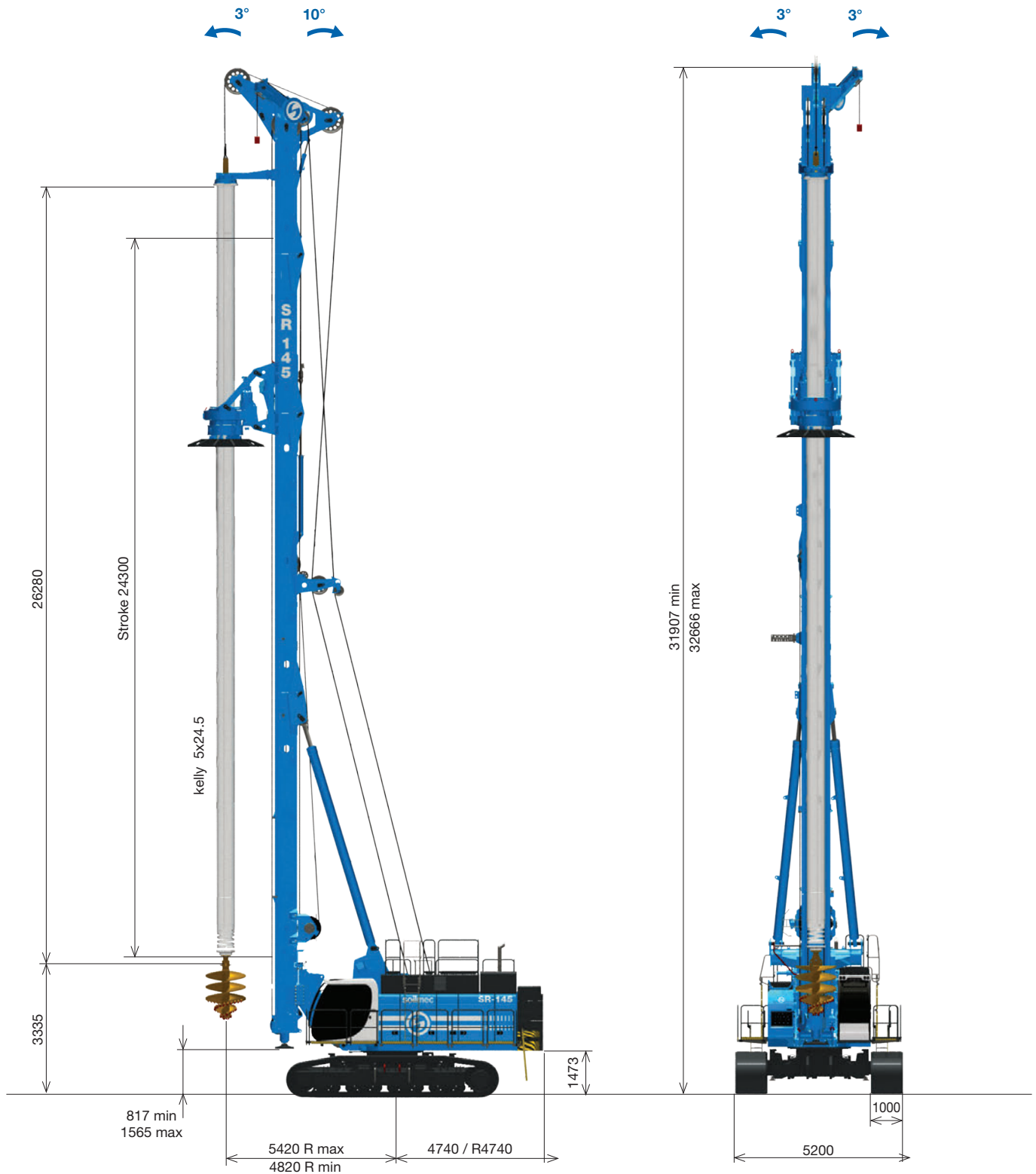


LDP_Large Diameter Piles - CCS version

Operating weight w/o kelly bar	144750 kg	319116 lb
Max pile diameter along mast	3000 mm	118 in
Max pile diameter with special kit (opt.)	3500 mm	138 in
Max pile depth - friction kelly	121 m	397 ft
Max pile depth - locking kelly	114 m	374 ft

SR-145 HIT Hydraulic Rotary Rig

LDP APPLICATIONS - Crowd system with winch

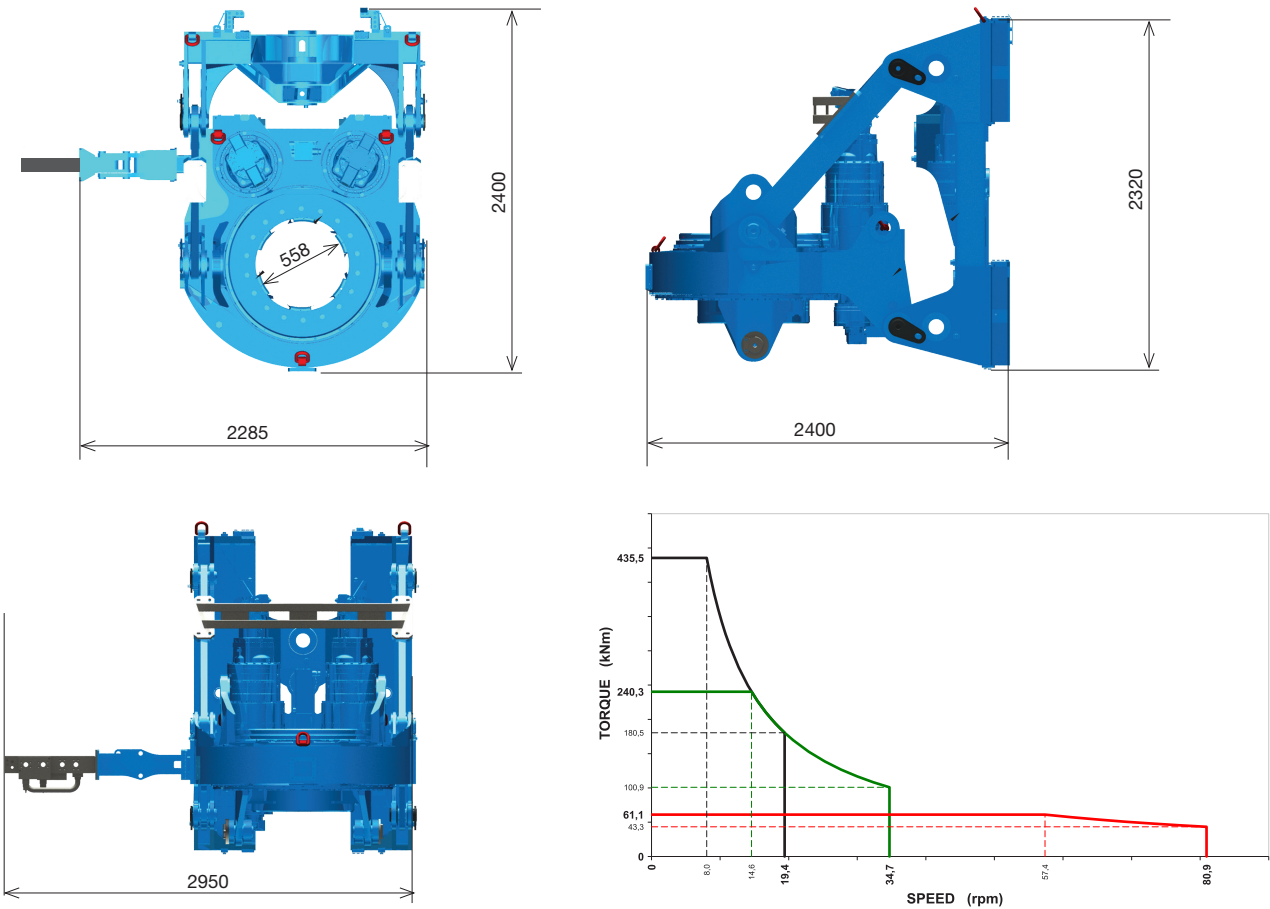


LDP Large Diameter Piles - WCS version

Operating weight w/o kelly bar	146200 kg	322313 lb
Max pile diameter along mast	2800 mm	110 in
Max pile diameter with special kit (opt.)	3300 mm	130 in
Max pile depth - friction kelly	121 m	398 ft
Max pile depth - locking kelly	114 m	374 ft

SR-145 HIT Hydraulic Rotary Rig

ROTARY TABLE

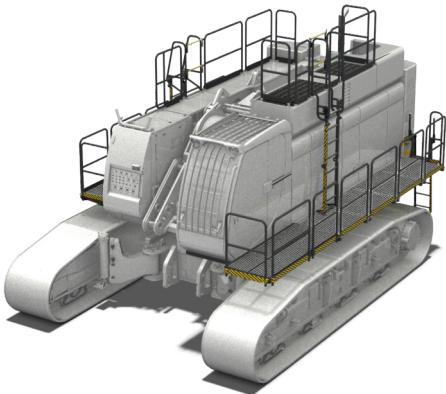


Rotary drive	Multigear version	Multigear version
- Max torque (intermittent)	435 kNm	320834 lbf*ft
- Rated torque	411 kNm	303133 lbf*ft
- Speed of rotation (1 st gear)	19,4 rpm	19.4 rpm
- Speed of rotation (3 rd gear)	81 rpm	81 rpm

SR-145 HIT Hydraulic Rotary Rig

Safety equipment compulsory for EC marking
 On request whenever EC marking is not needed

- Catwalks 900 mm (3 ft) wide
- Ladder and handrails for both access levels
- Acoustic alarm for rotation and translation
- Radio remote control for tramming on ramp
- Video-camera set with 5 cameras included
- Rearview mirrors
- Led lights
- Oil discharge conveying system
- Load cell for service winch



SR-145 HIT Hydraulic Rotary Rig

TECHNICAL DATA SHEET

CCS_Crowd Cylinder System		
- Stroke	7650 mm	301 in
- Crowd force pull (down/up)	345 / 412 kN	77558 / 92620 lbf
- Fast speed up/down	20 m/min	66 ft/min
- Slow speed up/down	5,5 m/min	18 ft/min
WCS_Crowd Winch System		
- Stroke	21300 mm	740 in
- Crowd force pull (down/up)	540 / 540 kN	121395 / 121395 lbf
- Fast speed up/down	33 m/min	108 ft/min
- Slow speed up/down	8,6 m/min	28 ft/min
Engine		
	CAT C18 Acert	CAT C Acert
- Rated output	470 kW @ 1800 rpm	630 HP @ 1800 rpm
- Engine conforms to Exhaust emission Standard	EU stage IV-US EPA Tier4f	EU stage IV-US EPA Tier4f
- Diesel tank capacity	1048 l	277 US gal
Main winch		
	controlled descent	controlled descent
- Line pull (1st layer)	420 kN	94418 lbf
- Rope diameter	36 mm	740 in
- Line speed (max.)	73 m/min	240 ft/min
Auxiliary winch		
	controlled descent	controlled descent
- Line pull (1st layer)	132 kN	29674 lbf
- Rope diameter	22 mm	740 in
- Line speed (max.)	71 m/min	233 ft/min
Hydraulic system		
- Flow rates (main circuits)	2x 444 l/min	2x 117 US gal/min
- Third pump flow	140 l/min	37 US gal/min
- Hydraulic oil tank capacity	1175 l	310 US gal
Undercarriage		
	variable gauge, telescoping removable sides	variable gauge, telescoping removable sides
- Overall width with retracted crawlers	3500 mm	138 in
- Overall width with extended crawlers	5200 mm	205 in
- Width of triple grouser track shoes	1000 mm	39 in
- Overall length of crawlers	6684 mm	263 in
- Traction force effective/nominal	813 kN	182766 lbf
- Travel speed	1,6 km/h	1.0 mph
Mast inclination (Backward/ Forward/Lateral)		
	10°/3°/3°	10°/3°/3°

STANDARD EQUIPMENT

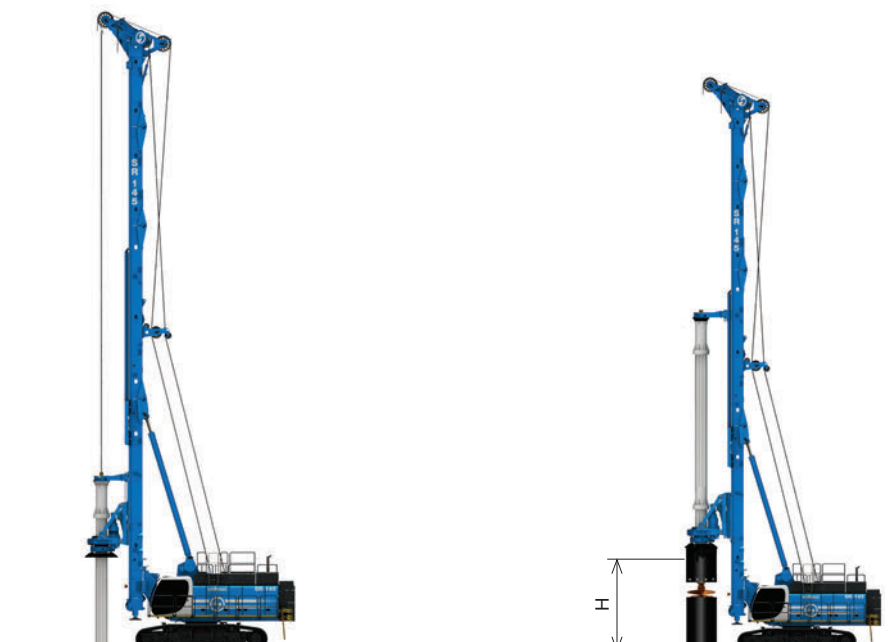
<ul style="list-style-type: none"> • Rotary table replaceable drive ribs • Emergency mode of operation for engine • Main and auxiliary winch controlled descent type with special grooving • Hoist limit switch on main and service rope • Swivel for main rope • Service rope parking point • GSM/GPRS/GPS modem kit • DMS system electronic monitoring and visualization system • Mast inclination measurement on X/Y axes (digital/ analog display) • Automatic vertical mast alignment • Depth measuring device • Rotary speed measuring device 	<ul style="list-style-type: none"> • Rotary power control • Variably stackable counterweight • Removable undercarriage • Variable gauge undercarriage • Wider triple grouser track shoes • Transport securing lugs on crawler units • Oscillator attachment brackets • Lower foldable mast element • Cardan joint • Flange for casing driving • Kelly swivel • Kelly guide • On board lighting set • On board tool set • Electric refuelling pump 	<ul style="list-style-type: none"> • High comfortable H-Cab 1050 mm (3,4 ft) wide • Protective roof grate (FOPS compliant) • Sliding door • Adjustable console with sliding support for DMS 12" touch screen • Engine and Diesel particulate diagnostic panel • Auto low idle system • 3 color warning light • Ergonomic seat with air suspension, fully-adjustable positioning and lumbar support • Heat and Air Conditioning control unit • Courtesy lights in the cab • Radio and CD player
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OPTIONAL EQUIPMENT

<ul style="list-style-type: none"> • Optional • Diesel Engine with EU Stage III A - US EPA Tier 3 motorization • Kit for disassembling undercarriage • Fiberglass canopies • Automatic greasing kit 	<ul style="list-style-type: none"> • Lubricator pump kit for rotary pads cradle • Central lubrication system • Flange for bucket opening • Hydraulic prearrangement for casing oscillator • Mast extension for special configuration • Mast ladder kit 	<ul style="list-style-type: none"> • Parachute safety kit • Automatic hydraulic kit for upper mast folding • Limit switch for rope winding and winches • Free fall service winch • Double roller auger cleaner • Prearrangement for VTH-1
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SR-145 HIT Hydraulic Rotary Rig

KELLY DRILLING SYSTEM



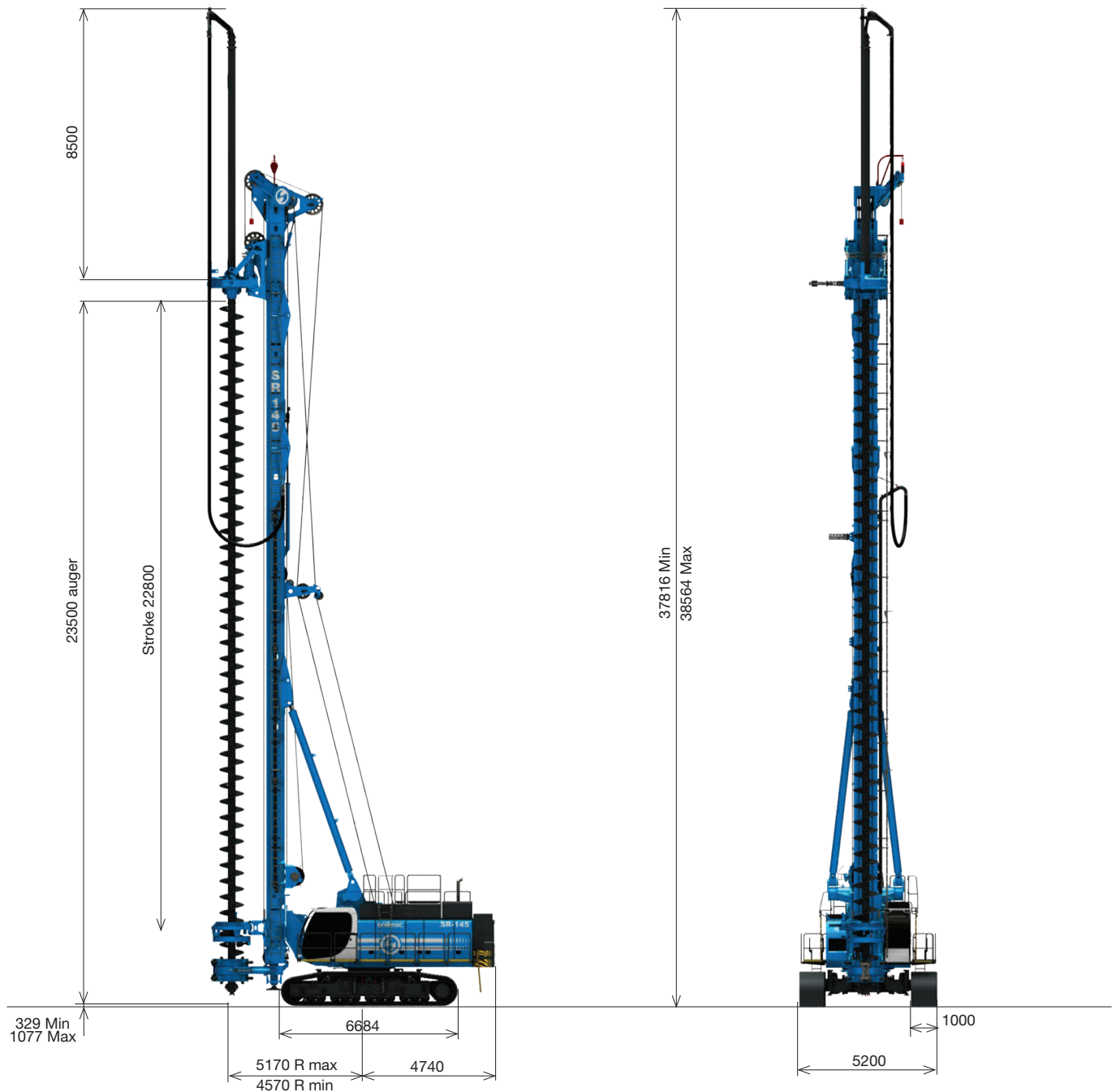
The diagram illustrates the SR-145 HIT Hydraulic Rotary Rig. It features a blue hydraulic rotary head mounted on a base. A vertical Kelly bar is shown, with a horizontal section view indicating the depth of the drilling system. The Kelly bar is composed of multiple sections, with the top section being the longest and the bottom section being the shortest. The depth of the Kelly bar is indicated by a vertical arrow labeled 'depth'.

	Drilling Depths	Kelly Dimensions	Depth		Weight		CCS SYSTEM		WCS SYSTEM	
							H		H	
		section x m	m	ft	kg	lb	m	ft	m ⁽¹⁾	ft
3 parts	BL HD	3 x 11	29,8	97,8	7,8	8,62	9,6	31,5	17,6	57,7
	BL HD	3 x 12	33,3	109,3	8,4	9,23	9,6	31,5	15,4	50,5
	BL HD	3 x 13,5	37,3	122,4	9,2	10,14	9,6	31,5	14,2	46,6
	BL HD	3 x 14,5	40,3	132,2	9,8	10,75	9,6	31,5	13,3	43,6
	BL HD	3 x 16	44,3	145,3	10,6	11,66	9,6	31,5	11,9	39,0
	BL HD	3 x 17,5	49,8	163,4	11,4	12,58	8,5	27,9	10,2	33,5
	BL HD	3 x 19,5	55,4	181,8	12,5	13,79	6,6	21,7	8,5	27,9
	BL HD	3 x 21,5	61,1	200,5	13,6	15,01	3,2	10,5	6,6	21,7
4 parts	FR/BL HD	4 x 11	39,2	128,6	9,2	10,14	9,6	31,5	17,6	57,7
	FR/BL HD	4 x 12	44,5	146,0	9,8	10,85	9,6	31,5	15,4	50,5
	FR/BL HD	4 x 13,5	49,1	161,1	10,8	11,91	9,6	31,5	14,2	46,6
	FR/BL HD	4 x 14,5	53,7	176,2	11,5	12,62	9,6	31,5	13,3	43,6
	FR/BL HD	4 x 16	59,0	193,6	12,4	13,69	9,6	31,5	11,9	39,0
	FR/BL HD	4 x 17,5	66,2	217,2	13,4	14,76	9,6	31,5	10,2	33,5
	FR/BL HD	4 x 19,5	73,5	241,1	14,7	16,18	8,5	27,9	8,5	27,9
	FR/BL HD	4 x 21,5	81,3	266,7	16,0	17,60	6,6	21,7	6,6	21,7
5 parts*	FR/BL HD	4 x 24,5	94,4	309,7	17,9	19,73	3,2	10,5	3,2	10,5
	FR/BL HD	5 x 16	73,5	241,1	14,5	16,00	9,6	31,5	11,9	39,0
	FR/BL HD	5 x 17,5	82,6	271,0	15,7	17,33	9,6	31,5	10,2	33,5
	FR/BL HD	5 x 19,5	91,8	301,2	17,3	19,09	8,5	27,9	8,5	27,9
	FR/BL HD	5 x 21,5	101,3	332,3	18,9	20,86	6,6	21,7	6,6	21,7
	FR/BL HD	5 x 24,5	117,8	386,5	21,3	23,51	3,2	10,5	3,2	10,5
	FR/BL	6 x 17,5	99,0	324,8	18,7	20,61	9,6	31,5	10,2	33,5
	FR HD	6 x 19,5	109,7	359,9	19,4	21,38	8,5	27,9	8,5	27,9
6 parts*	FR HD	6 x 21,5	121,0	397,0	22,0	24,25	6,6	21,7	6,6	21,7

* Rotary head derated

SR-145 HIT Hydraulic Rotary Rig

CFA APPLICATIONS Quick conversion kit

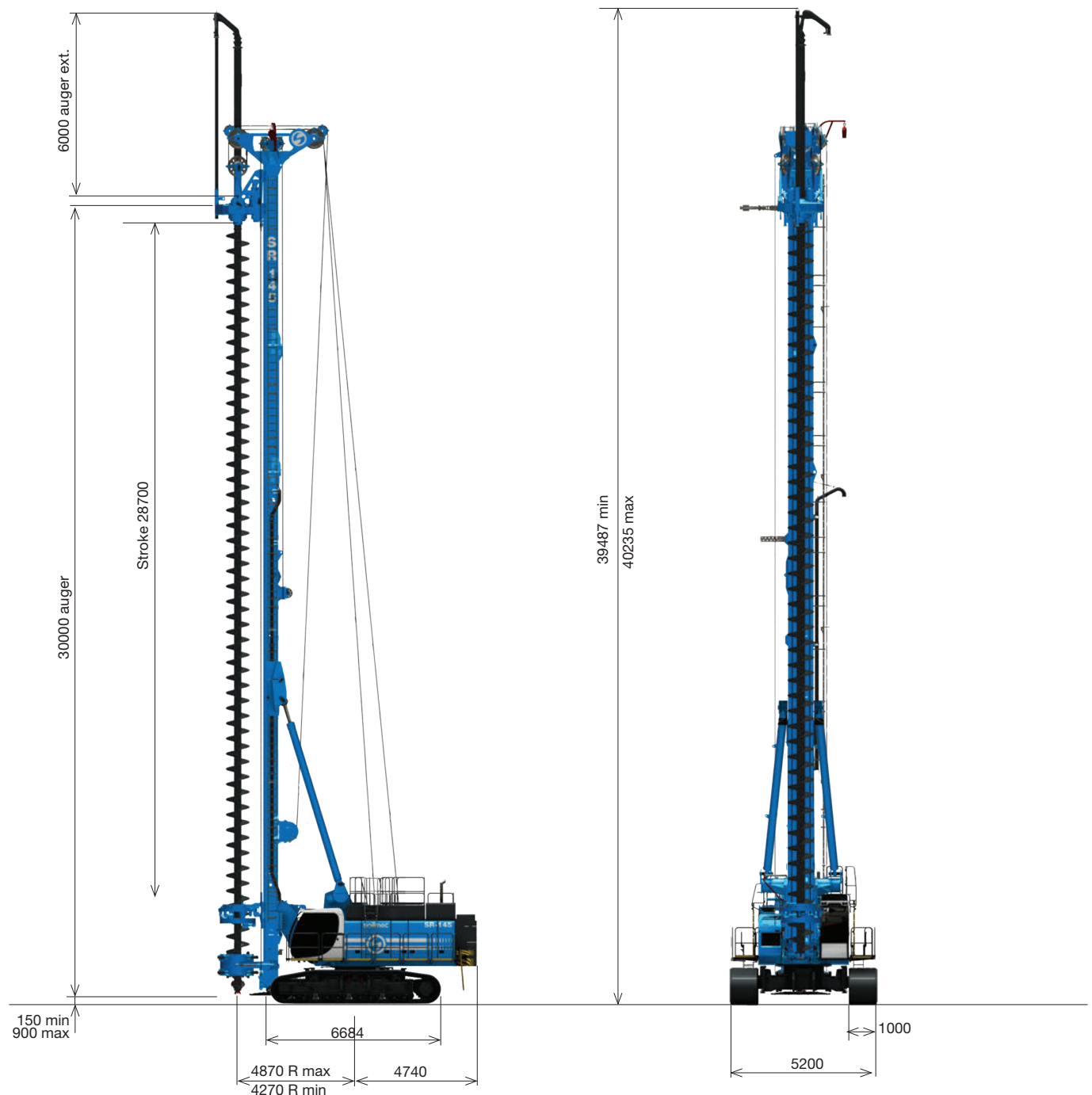


CFA Continuous Flight Auger - Quick conversion kit

- Operating weight c/w auger ext, w/o auger	146400 kg	322756 lb
- Max pile diameter	1200 mm	47.24 in
- Max pile depth with star auger cleaner 8,5 m auger ext.	32,5 m	107 ft
- Max pile depth with double roller auger cleaner 8,5 m auger ext.	31 m	102 ft
- Extraction force	1200 kN	269766 lbf
- Crowd force on auger	540 kN	121395 lbf

SR-145 HIT Hydraulic Rotary Rig

CFA APPLICATIONS 4° line pull



CFA Continuous Flight Auger - 4° Line pull

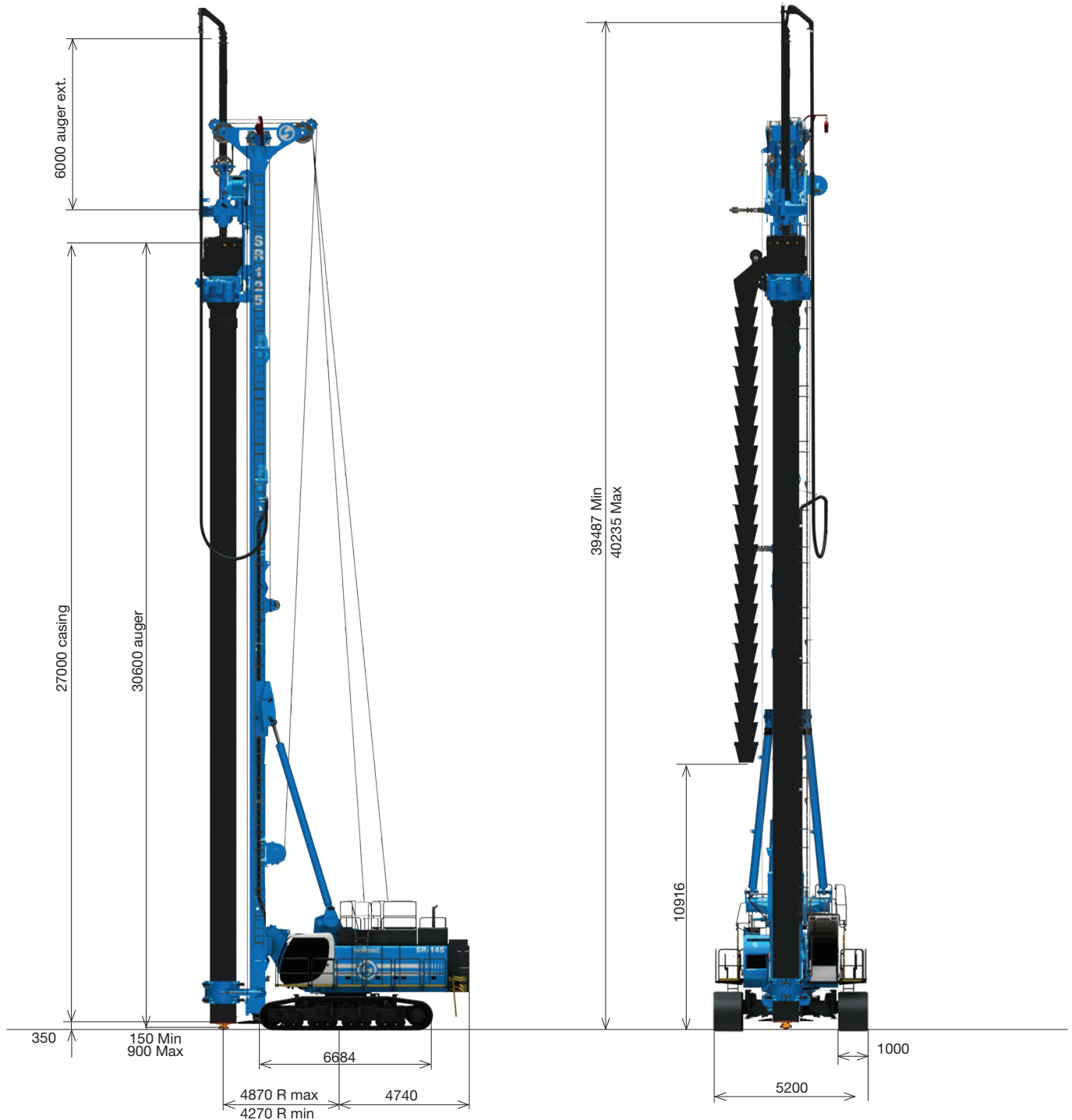
- Operating weight c/w auger ext, w/o auger	143500 kg	316363 lb
- Max pile diameter	1200 mm	47.24 in
- Max pile depth with star auger cleaner 6 m auger ext.	32 m	105 ft
- Max pile depth with double roller auger cleaner, with 6 m auger ext.	30,5 m	100 ft
- Extraction force	1362 kN	306184 lbf
- Crowd force on auger optional	540 kN	121395 lbf

CFA Continuous Flight Auger - 4° Line pull - Special version

- Operating weight c/w auger ext, w/o auger	145200 kg	320108 lb
- Max pile diameter	1200 mm	47.24 in
- Max pile depth with star auger cleaner 6 m auger ext.	36 m	118 ft
- Max pile depth with double roller auger cleaner, with 6 m auger ext.	34,5 m	113 ft
- Extraction force	962 kN	216262 lbf
- Crowd force on auger optional	540 kN	121395 lbf

SR-145 HIT Hydraulic Rotary Rig

CAP/CSP APPLICATION 4° Line pull

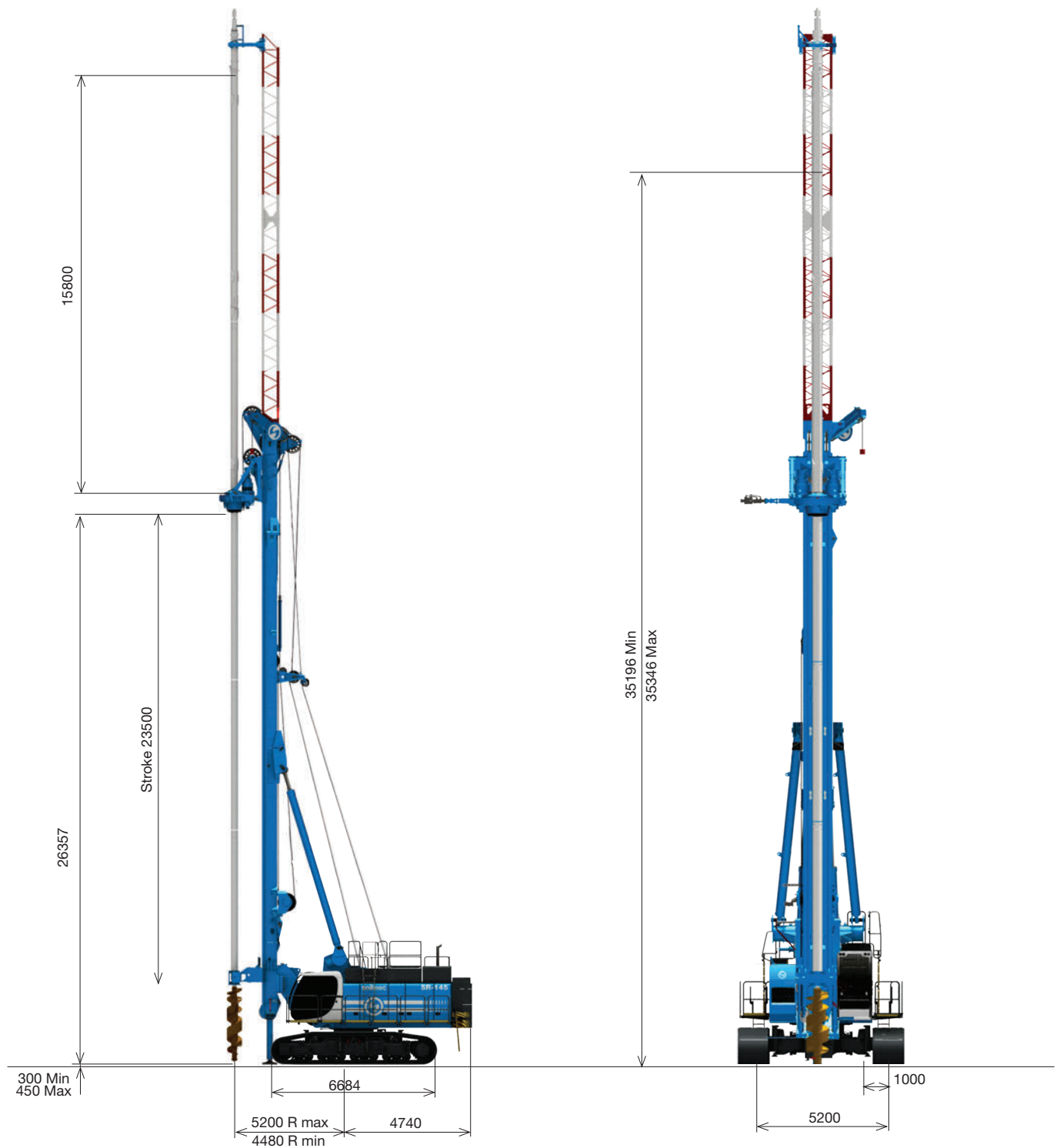


CAP/CSP Cased Augered & Secant Piles - 4°Line pull

- Operating weight c/w auger ext, w/o auger	158900 kg	350311 lb
- Max pile diameter	1200 mm	47.24 in
- Max pile depth with 6 m auger extension	29,3 m	96 ft
- Max pile depth with auger cleaner, with 6 m auger ext.	28,5 m	94 ft
- Max cased depth c/w - w/o auger cleaner	22/22,8 m	72/75 ft
- Casing max torque - intermittent	508 kNm	385001 lbf*ft
- Casing rated torque	480 kNm	362874 lbf*ft
- Casing speed of rotation (max)	11,6 rpm	8.9 rpm
- Casing pull up/down	540 kN	121395 lbf
- Auger max torque - intermittent	230 (up to 411) kNm	195451 lbf*ft
- Auger rated torque	411 kNm	184387 lbf*ft
- Auger speed of rotation (max)	29,9 rpm	17.4 rpm
- Auger pull up/down	962 / 400 kN	216262 / 89922 ft

SR-145 HIT Hydraulic Rotary Rig

DP/TCT APPLICATIONS Quick Conversion Kit

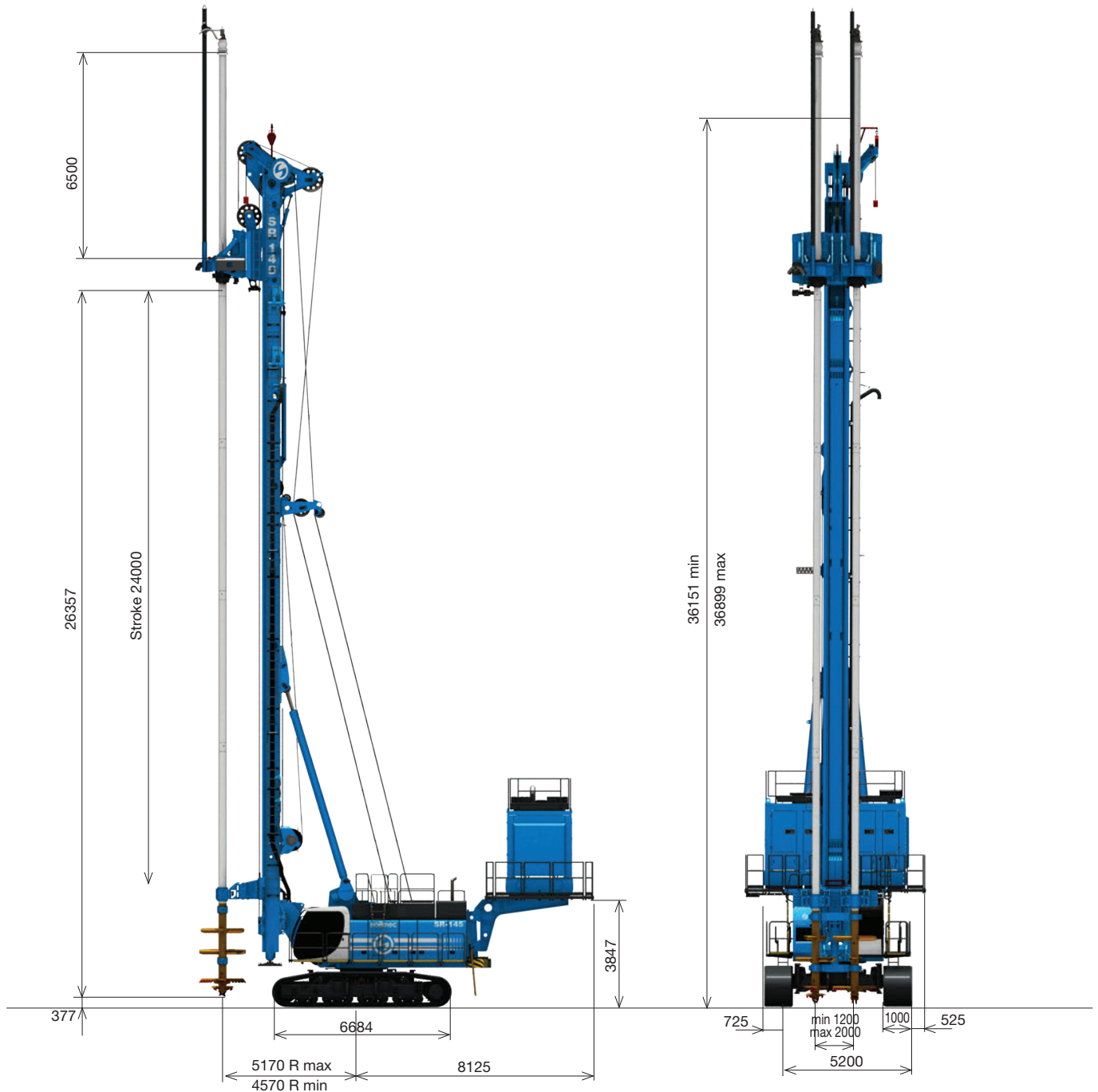


DP Displacement Piles - Quick conversion kit

- Max DP pile diameter	800 mm	31.50 in
- Max TCT pile diameter	1000 mm	39.37 in
- Max pile depth with 8,5 m string extension	31,5 m	103 ft
- Lattice mast extension	15,8 m	51.84 ft
- Max depth c/w lattice boom mast extension	39 m	127.95 ft

SR-145 HIT Hydraulic Rotary Rig

TJ/SOIL MIXING APPLICATIONS Quick Conversion Kit



TJ_Turbojet® - Quick conversion kit

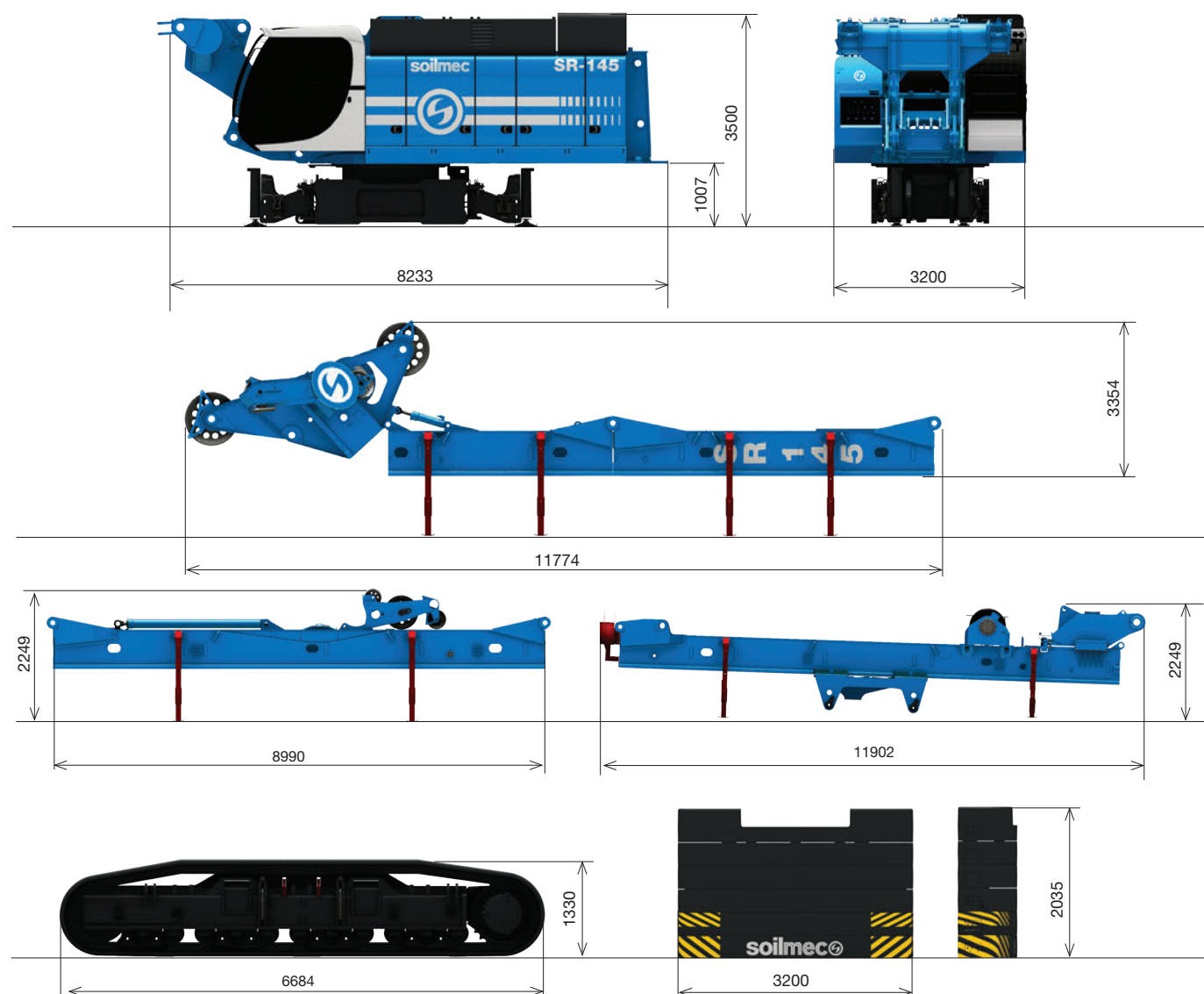
- Max treatment diameter	1500 mm	59.06 in
- Max pile depth with 8,5 m string extension	31,5 m	103 ft
- Lattice mast extension	15,8 m	51.84 ft
- Max depth c/w lattice boom mast extension	39 m	127.95 ft

TTJ_Twin Turbojet®

- Max treatment section	3500 x 1500 mm	138 x 59 in
- Max pile depth with 6,5 m string extension	30 m	98 ft
- Lattice mast extension	15,8 m	51.84 ft
- Max depth c/w lattice boom mast extension	36 m	118.11 ft

SR-145 HIT Hydraulic Rotary Rig

TRANSPORT, DIMENSIONS & WEIGHTS



Transport configuration

- Transport width with/without crawlers	3500 / 3200 mm	137.80 / 126 in
- Transport length with/without base mast	18100 / 8233 mm	713 / 321 in
- Transport height	3966 mm	156.14 in
- CCS Version - Transport weight std - min	92900 / 48200 kg	204807 / 106262 lb
- WCS Version - Transport weight std - min	95900 / 48200 kg	211421 / 106262 lb
- Mast base weight	15800 kg	34835 lb
- Mast intermediate part weight	5600 kg	12346 lb
- Mast upper part and cat head weight	7400 kg	16314 lb
- Side frames weight	26600 kg	58643 lb
- Counterweight (single elements 4/4,4)	26000 kg	57320 lb

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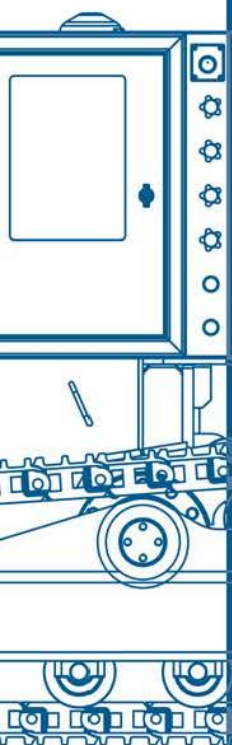
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Tieback Rig



HBR 605-4

Hydraulisches Bohrgerät
Hydraulic drill rig





Technical specifications / Technische Daten

Engine Type	Motor-Typ		
Deutz - Diesel	Deutz - Dieselmotor	CUMMINS B 6.7 - EU Stage V - US EPA Tier 4	
Rated output at 2000 rpm	Leistung bei 2000 U/min	186 kW	249 HP
Deutz - Diesel	Deutz - Dieselmotor	CUMMINS QSB 6.7 - EU Stage IIIA - US EPA Tier 3	
Rated output at 2000 rpm	Leistung bei 2000 U/min	172 kW	231 HP
Fuel tank capacity	Dieseltankinhalt	350 l	92 gal
AdBlue tank capacity	AdBluetankinhalt	57 l	15 gal

Hydraulic system	Hydrauliksystem	Load Sensing	Load sensing
Hydraulic pumps	Hydraulikpumpen		
1st circuit	1. Kreislauf	230 l/min	60 gpm
2nd circuit	2. Kreislauf	230 l/min	60 gpm
3rd circuit	3. Kreislauf	179 l/min	47 gpm
4th circuit	4. Kreislauf	58 l/min	15 gpm
5th circuit (optional)	5. Kreislauf (optional)	86/134 l/min	23/35 gpm
Hydraulic oil tank capacity	Hydrauliköltankinhalt	460 l	122 gal
Operating pressure	Systemdruck	320 bar	4,640 psi

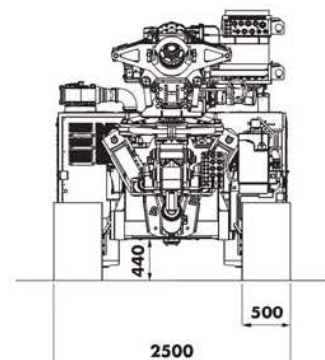
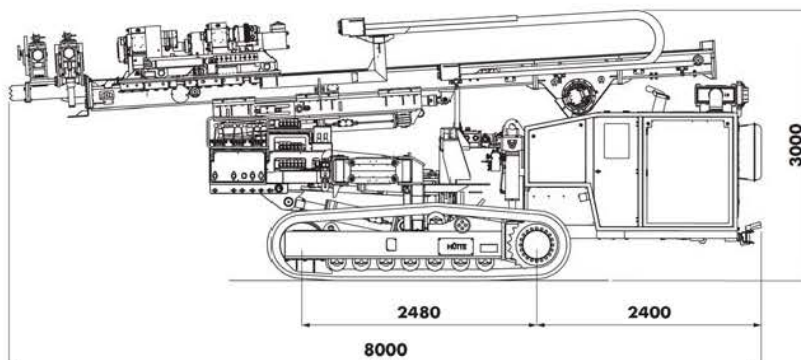
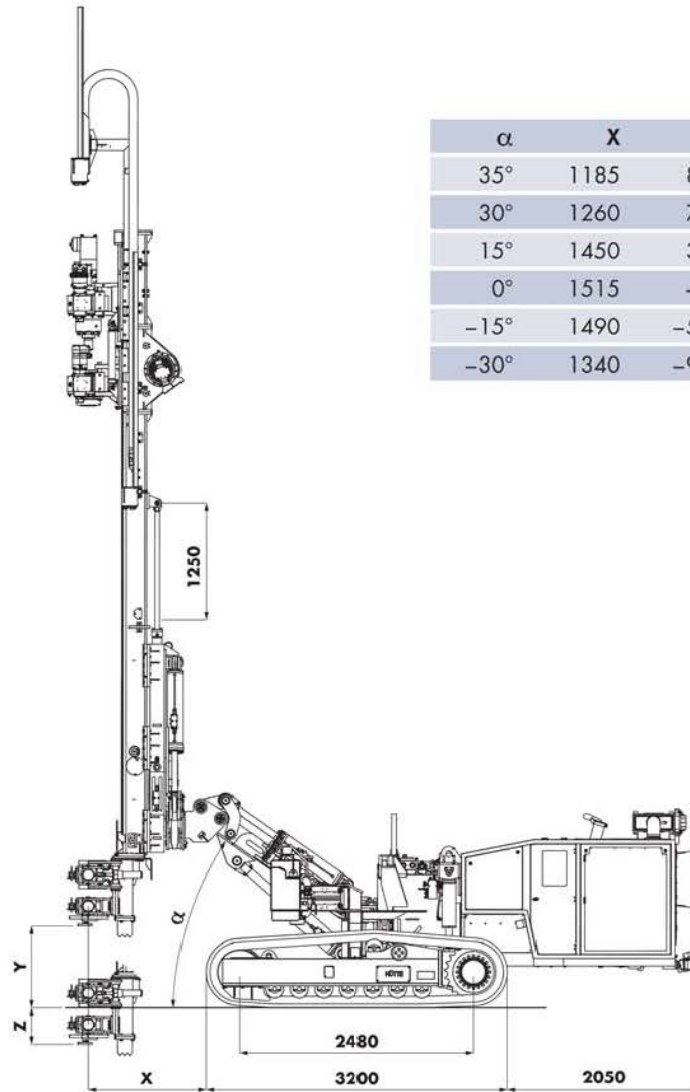
Machine crawler base	Raupenfahrwerk Maschine		
Travel speed max.	Fahrgeschwindigkeit max.	2,9 km/h	1.8 mph
Ground pressure	Bodendruck	6,7 kPa	9.5 psi
Overall width of undercarriage	Gesamtbreite	2500 mm	8.2 ft
3-web track shoes	3-Steg Bodenplatten	500 mm	19.7 in
Overall tracks length	Länge der Fahrschiffe	3200 mm	10.5 ft
Ground clearance	Bodenfreiheit	450 mm	17.7 in
Hydraulic track oscillator	Pendelmöglichkeit	+19° / -13°	+19° / -13°

Clamping and breaking devices	Klemm- und Brechvorrichtungen	CB2-1	CB3-2
Diameter	Durchmesser	67÷254 mm 2.6÷10 in	67÷324 mm 2.6÷12.7 in
O-Ring type diameter	Durchmesser O-Ring	89÷254 mm 3.5÷10 in	89÷324 mm 3.5÷12.7 in
Clamping force	Klemmkraft	196 kN 44,100 lbf	196 kN 44,100 lbf
Breaking torque	Brechmoment	25,5 kNm 18,800 lbf-ft	36 kNm 26,500 lbf-ft

Rotary heads	Kraftdrehköpfe		
Recommended	Empfohlen	HG28, HG20, HG13, T14, T20	

Hydraulic hammer	Hydraulikhammer		
Recommended	Empfohlen	HH1265 - HH1565 - HH1865 - HD4010 - HB45 - HB50	

Options	Optionen		
Cat head	Turmkrone		
Lateral slide	Gleitschlitten seitlich verschiebbar		
Winch type A2 - Fmax	Winde Typ A2 - Fmax.	20 kN	4,496 lbs
Flushing pump type Gamma 202	Spülpumpe Typ Gamma 202	50 bar / 180 l/min	725 psi / 47.5 gal/min
Flushing pump type Dynaset HPW220	Spülpumpe Typ Dynaset HPW220	220 bar / 50 l/min	3,190 psi / 13.2 gal/min
Flushing pump type Dynaset HPW90	Spülpumpe Typ Dynaset HPW90	90 bar / 150 l/min	1,300 psi / 39.6 gal/min
Casing crane	Gestängekran		

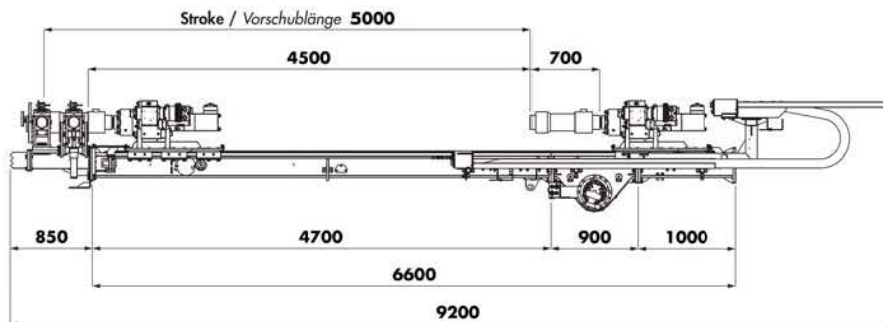


Overall length	Gesamtlänge	8000 mm	26.2 ft
Overall width	Gesamtbreite	2500 mm	8.2 ft
Overall height	Gesamthöhe	3000 mm	9.9 ft
Weight *	Gewicht *	17000 kg	37,500 lbs

* Depending on mounted equipment / Abhängig von der Geräteausrüstung

Mast DM 200 / Lafette Typ DM 200

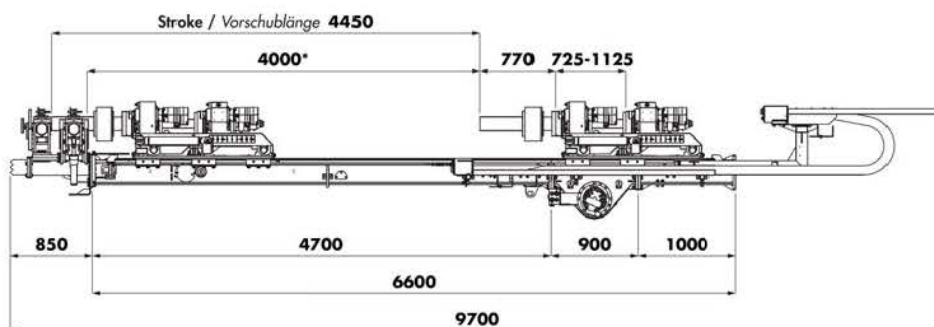
HYDRAULIC DRIFTER Hydraulikhammer



DOUBLE ROTARY HEAD UNIT DOPPELKOPFBOHRANLAGE

HG28 + HG13 on single trolley with lateral movement
Before lateral movement rotary heads have to be together

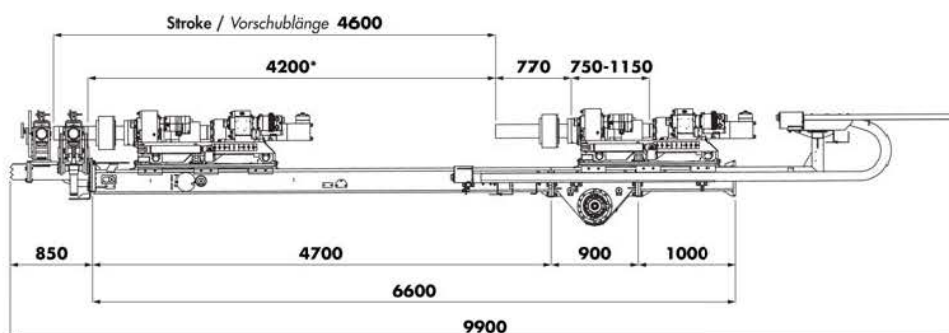
HG28 + HG13 auf einem Einzelschlitten mit seitlicher Verschiebung
Zur seitlichen Verschiebung müssen beide Drehantriebe zusammengefahren sein



* Not depending on axial movement cylinders
Unabhängig von axialer Verschiebung der Zylinder

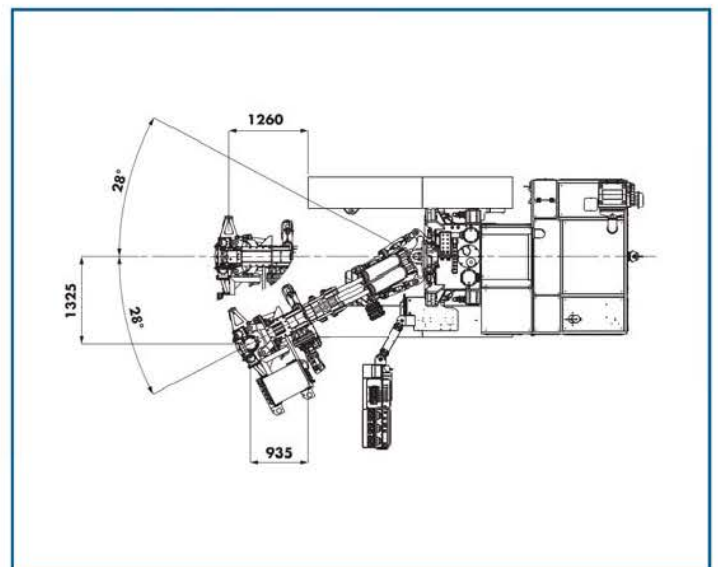
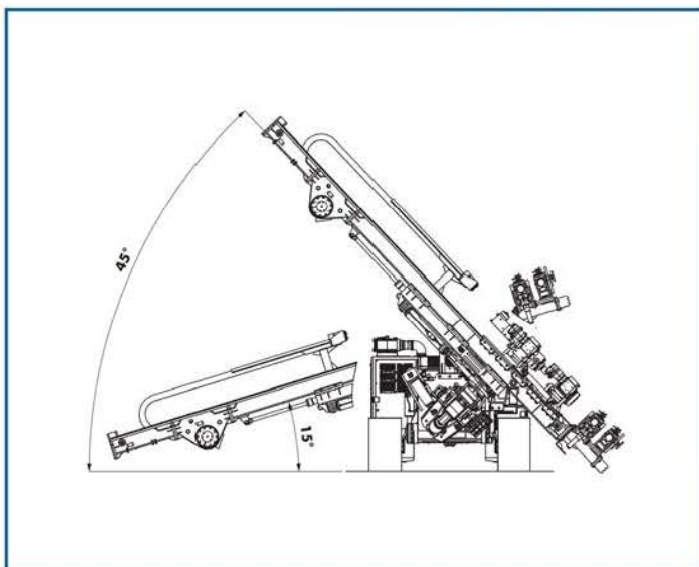
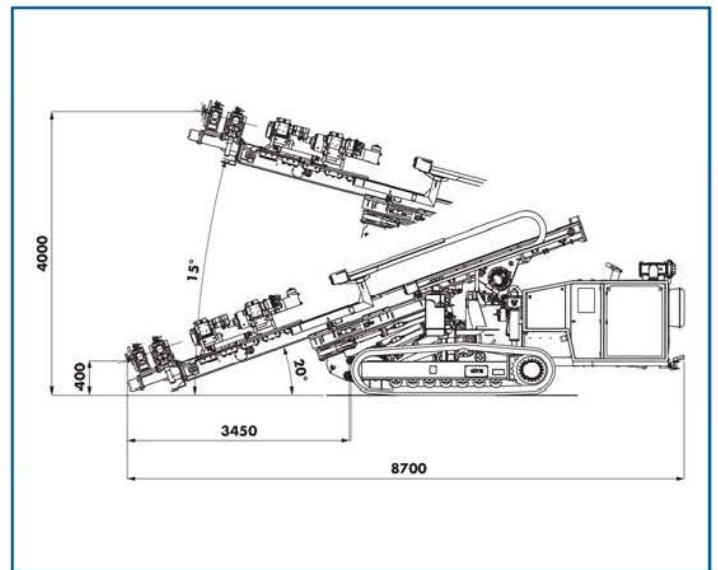
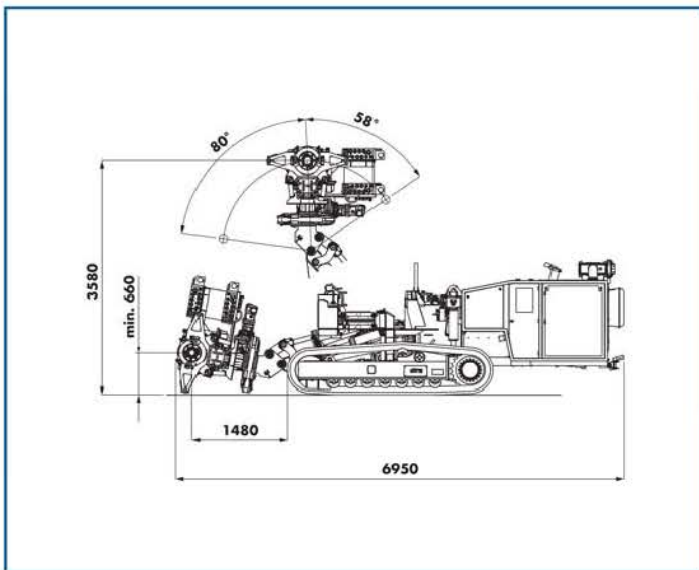
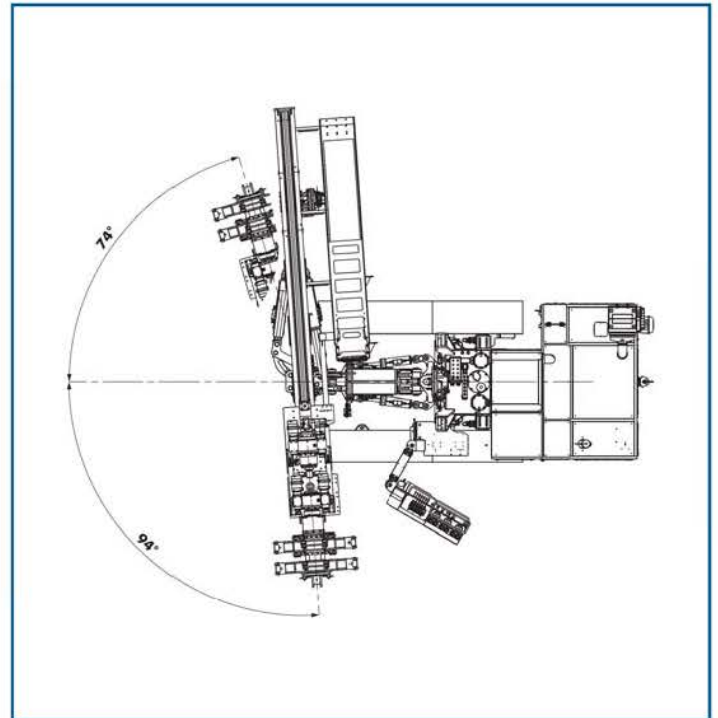
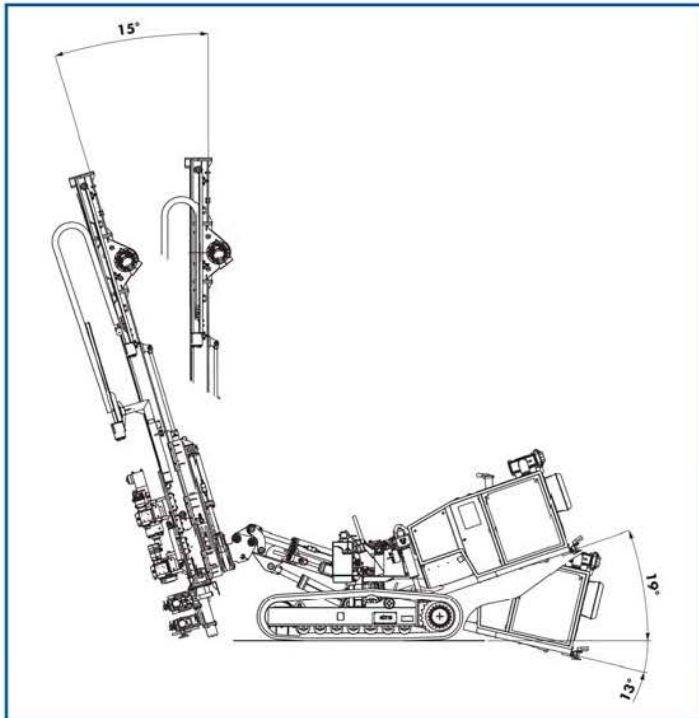
HG28 + HH1265 on single trolley
Before lateral movement rotary heads have to be together

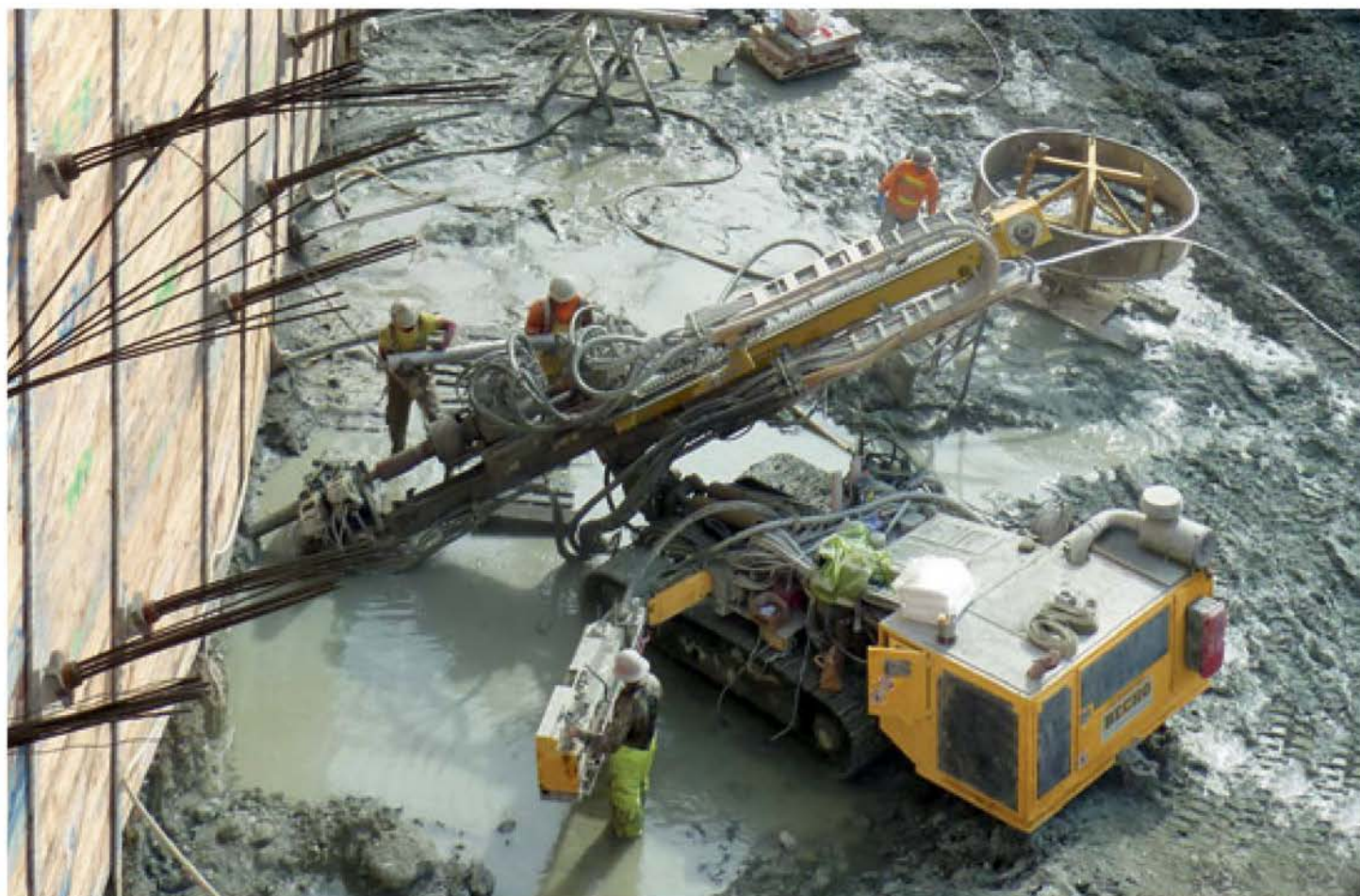
HG28 + HH1265 auf einem Einzelschlitten
Zur seitlichen Verschiebung müssen beide Drehantriebe zusammengefahren sein



* Not depending on axial movement cylinders
Unabhängig von axialer Verschiebung der Zylinder

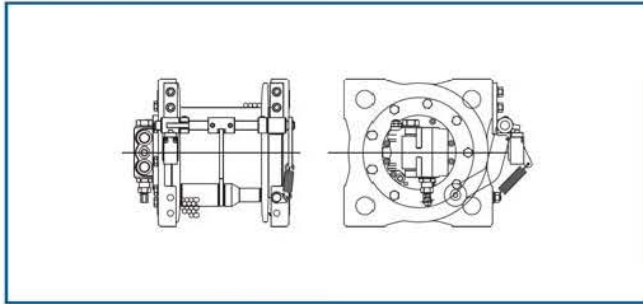
Drill mast	Bohrlafette	REDUCED DISPLACEMENT SCHALTSTUFE VORSCHUB		FULL DISPLACEMENT SCHALTSTUFE VORSCHUB	
Extraction force	Rückzugkraft	50 kN	11,250 lbs	100 kN	22,500 lbs
Crowd force	Vorschubkraft	50 kN	11,250 lbs	100 kN	22,500 lbs
Work crowd - extraction max. speed	Vorschub- / Rückzugsgeschwindigkeit	18 m/min	60 ft/min	10 m/min	32 ft/min
Fast crowd - extraction theoretical max. speed	Vorschub / Rückzug schnell	75 m/min	245 ft/min	40 m/min	130 ft/min





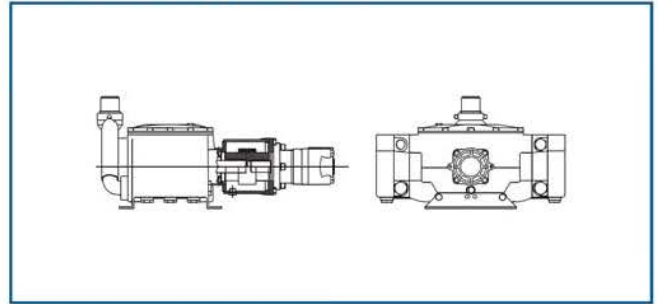


**Winch
Seilwinde**



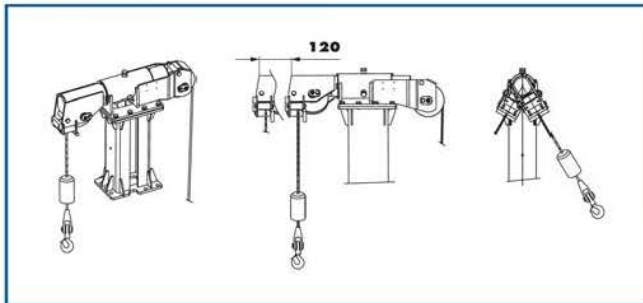
Winch type A2/A3 = 20/30 kN
Winde Typ A2/A3 = 4,500/6700 lbs

**Flushing pump type "Gamma"
Spülpumpe Typ "Gamma"**

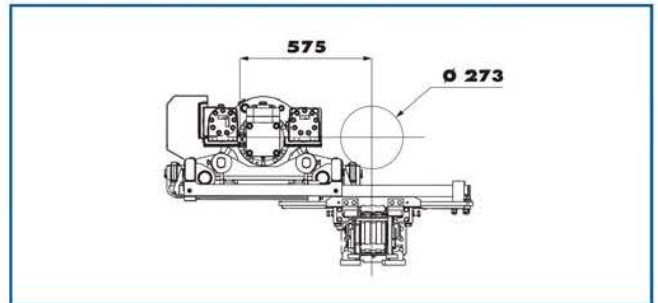


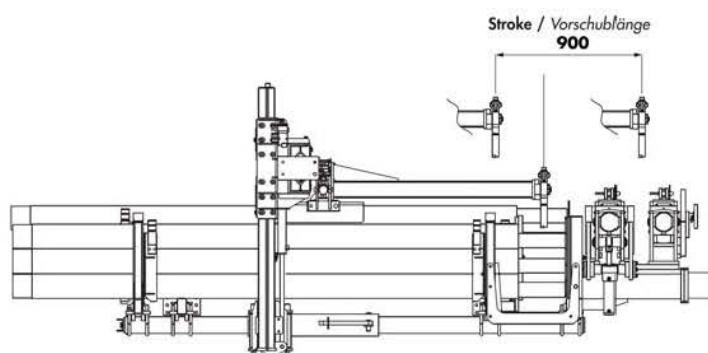
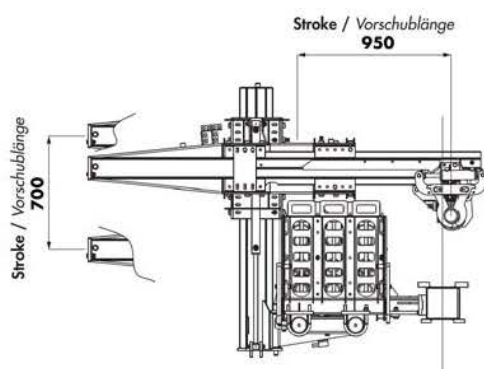
Qmax = 200 l/min. (53 gpm)
pmax. = 50 bar (725 psi)

**Cat head
Turmkrone**



**Lateral slide
Gleitschlitten seitlich verschiebbar**



Box magazine M1-2 / Kastenmagazin M1-2**Rods and casings
Innenrohr und Außenrohr**

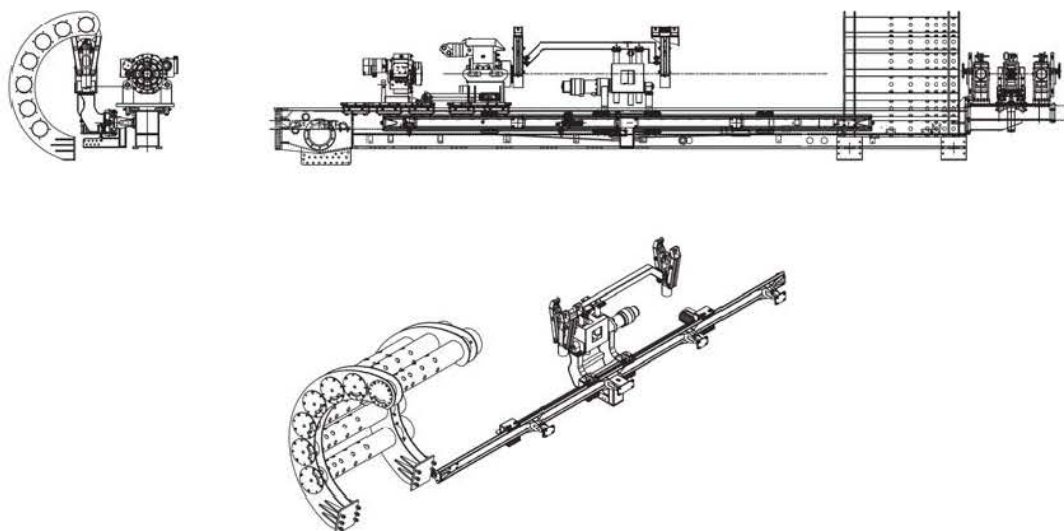
Casings Außenrohr	Rods Innenrohr	Quantity of casings/rods Anzahl der Rohre L 3000 mm no. / Stck.	Quantity of casings/rods Anzahl der Rohre L 2000 mm no. / Stck.
Ø mm	Ø mm		
152	88,9	6+6	9+9
	101,6		
133	76	8+8	11+11
	88,9		

**Rods / Innenrohr
L 2000/3000 mm**

Rods Innenrohr	Quantity Anzahl
mm	no. / Stck.
152,4	9
133	12
114,4	12
101,6	15
88,9	15

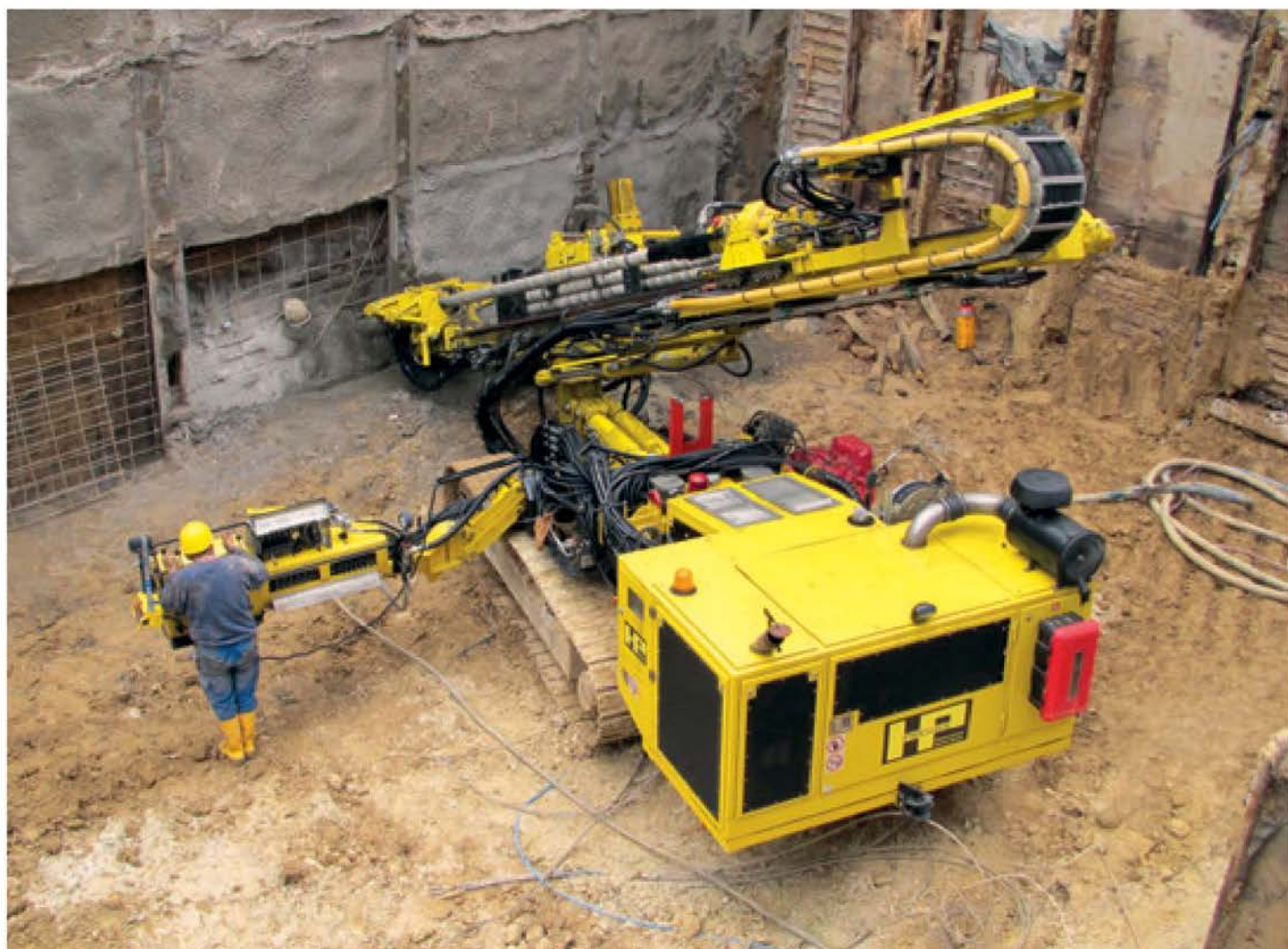
**Bar Anchors
Selbstbohranker**

Ø	Quantity Anzahl L 3000 mm no. / Stck.	Quantity Anzahl L 2000 mm no. / Stck.
mm		
103/52	6	10
85/48	10	15
72/45	15	15

Magazine M3-2 / Magazin M3-2

Rod diameter (mm) Durchmesser Innengestänge (mm)	Casing diameter (mm) Durchmesser Außengestänge (mm)	Quantity of rods Anzahl der Rohre	Length (mm) Länge (mm)
88,9	133	7 + 7	3000
101,6	152	7 + 7	3000
88,9 (76*)	152 (133*)	7 + 7	3000

* Mit speziellen Einsätzen / With special insert kits



All data contained in this brochure are indicative and does not take power losses into account. All data can be changed without notice.

Technische Änderungen ohne Vorankündigung und Verpflichtung gegenüber früher gelieferten Geräten. Die abgebildeten Geräte können Sonderausstattungen haben. Irrtum und Druckfehler vorbehalten.



Hütte Bohrtechnik GmbH

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Germany
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info.huette@casagrandegroup.com

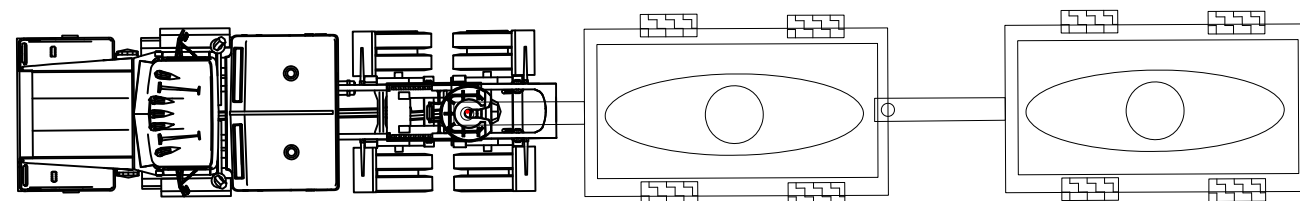
www.casagrandegroup.com

casagrande
group

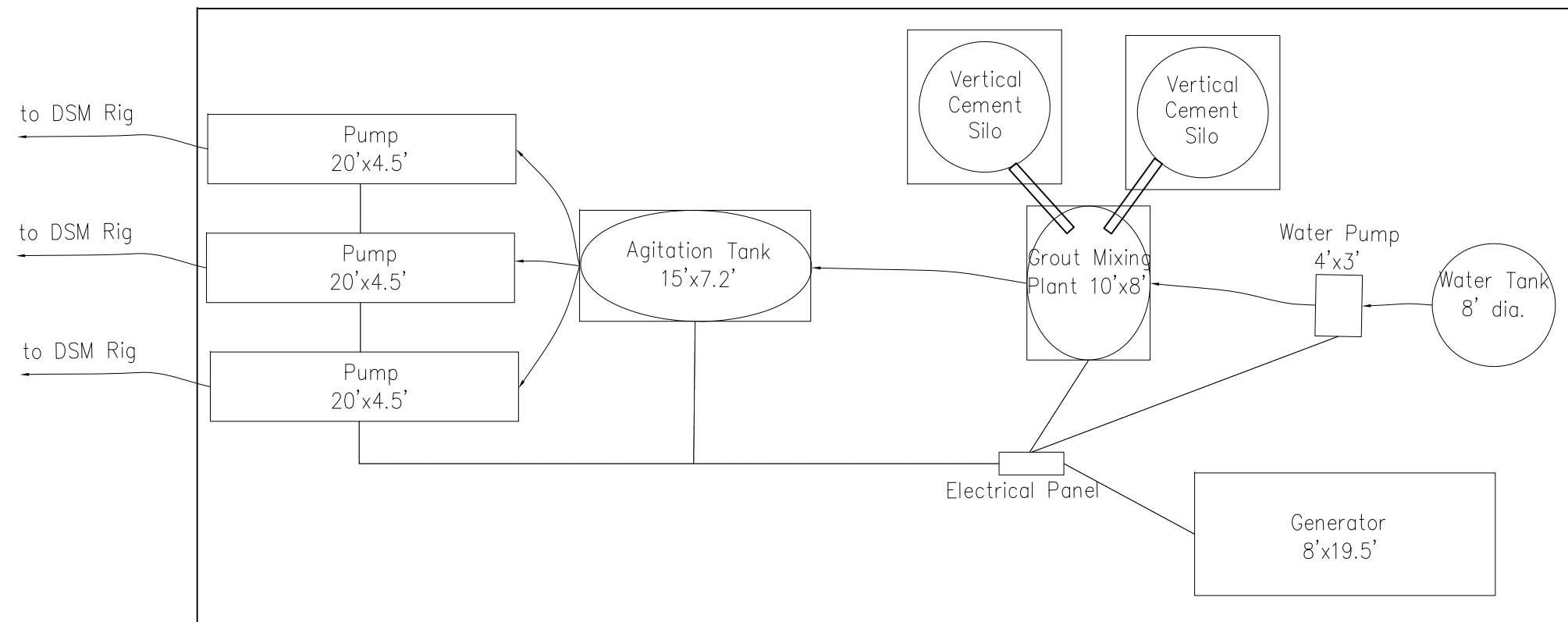


Mixing Plant Layout and Equipment

Cement Truck



CONTRACTOR'S
EQUIPMENT AND
BATCH PLANT AREA
(APPROX 40'X100')



Separate from the batch plant area, a staging area to be provided for superintendent container and tooling maintenance.



DATE	REVISION	DELTA

PROJECT NO:
DATE:
SCALE:
EASTING:
NORTHING:



DIVERSIFIED STORAGE SYSTEMS
(888) SILO-SYS (888) 745-6797

POSITIVE FEED SILOS



Silo Description

Portable Silos– specially designed portable vertical storage system for bulk powder products.

From 1200cf to 4800cf

Featured Options

- Dual Feed Positive Drive
- 7", 10" or 12" Diameter Auger
- 7.5hp to 25hp 3 Phase Motor & Gear Box Drive
- 150sq. ft to 400sq. ft. Dust Collector
- Starter Panel
- Upper & Lower Level Indicator with Light and Horn Alarm
- Cone Fluidizers
- Caged Ladder & Rail Package
- Heavy Duty Axle Trailer with Light Package
- Other Custom Options Available to Fit Your Needs



Pictures above are for general layout purposes. Many detail features are left out or may be different from actual silo.

Specifications	1400	2200	2800	4800
Storage in Cubic Ft	1400	2200	2800	4800
Ton Capacity **	60	96	123	210
Tank Diameter	8'-6"	12'	12'	12'
Height***	37'	33'-6"	39'-6"	59'-6"

APPLICATIONS: [Cement](#) - Fly Ash - [Lime](#) - CKD - [Sand](#) - Bentonite/Clay - [Calcium Carbonate](#) - Chemical Powder Products - [Agriculture Powder Products](#) - Food Grade Dry Bulk Products

**Cement can weigh between 88-94 lbs. per cubic foot depending on how aerated it is.

*** Height is standard silo with a 150sq ft dust collector.

1135 E. Wooley Rd. Ph # 805-247-0418
Oxnard CA, 93030 Fax # 805-247-0246

www.CementSilos.com

GROUT MIXING PLANT

Mixers and Stirrers



SGT-45
High performance
turbomixing unit



SGA-100
High performance
stirrer



BATCH MIXERS	version	structure	batch volume dm ³	mixing capacity * m ³ /h
SGT-6 →	manual	skid	250	6
SGT-12	automatic	procted skid	250	12
SGT-30	automatic	procted skid	1250	30
SGT-45	automatic	procted skid	2000	45

* mixing capacity is determined on C/W=1 (density 1,5 t/m³).

STIRRERS	structure	integrated booster pump n°	mixing axis n°	capacity m ³
SGA-5	skid	-	1	0.5
SGA-10 →	skid	-	1	1.0
SGA-30	skid	1 (optional)	1	3.0
SGA-45	skid	1 (optional)	1	4.5
SGA-100	skid	2 (optional)	2	10.0

Putzmeister

BSA SERIES | HIGH PRESSURE. HIGH PERFORMANCE TRAILER PUMPS

BSA SERIES



POWERFUL PERFORMANCE ACROSS MULTIPLE APPLICATIONS

PROVEN RELIABILITY

Only Putzmeister has the technology to combine both high output and high pressure in one pump. Our extended line of BSA Series trailer pumps, from the BSA 100 Series to the BSA 14000 Series, facilitate pumping in a wide variety of applications, such as high-rise and long-distance concrete pumping, tunnel construction, sludge pumping and other specialty jobs.

KEY ADVANTAGES

- High output and high pressure in one pump
- Convenient controls
- High pressure S-Valve
- RS 905 Hopper
- Rugged delivery cylinders
- Heavy-duty tandem axles
- Putzmeister's exclusive Free Flow Hydraulics
- Gate and diversion valves



PUTZMEISTER BSA SERIES ADVANTAGES

CONVENIENT CONTROLS

The control panel is fully enclosed for weatherproof wear and includes an emergency stop button. The remote control, with 33 ft. (10m) of cable, features pump on/off, pump forward/reverse and stroke change. An auxiliary hydraulic connection on the pump is standard for the 2100 and 14000 Series.

MAKING QUICK WORK OF TOUGH MIXES

Our powerful pumps handle the harshest mixes with pumpable consistencies down to a 0" slump, with a max 2.5" (63mm) aggregate size.



Optional high pressure flushing water pump for easier and more effective clean-out.



An auxiliary hydraulic connection is included on 2100 and 14000 pumps to operate stand-alone diversion or shutoff valves.

HEAVY-DUTY TANDEM AXLES

Designed for highway travel and job site use, the steel frame trailer is fully equipped with four manually-operated outriggers and a front jack stand with a support wheel on a tow bar.

RUGGED DELIVERY CYLINDERS

Special hard-chromed material cylinders and automatic central lubrication of the heavy-duty multi-piece piston cup assure long service life.



Optional rod/piston change-over system is designed to be fast and easy to facilitate output or pressure, when needed.



Easy access to engine provides quick maintenance.



RS 905 HOPPER

The RS 905 Hopper offers more standard features:

- Large capacity hopper
- 21.2 cu ft (600L) capacity (2100 and 14000 Series)
- Wide opening for simultaneous unloading of mixer trucks
- Rubber collar (2100 and 14000 Series)
- Agitator with safety switch-off
- Vibrator
- Gate with splash guard
- Central lubrication

HIGH PRESSURE S-VALVE

Ideal for high pressure applications, the S-Valve features a "thick-walled" construction that maximizes the valve's life to help reduce wear part costs. It also easily adjusts to compensate for wear. In addition, the S-Valve features:

- Hard-faced, wear-resistant alloys on the spectacle wear plate and automatic seal ring.
- Twin, single-acting hydraulic shift cylinders, mounted outside the hopper, for better protection and easy adjustments.
- Optional carbide wear parts.

GATE AND DIVERSION VALVES

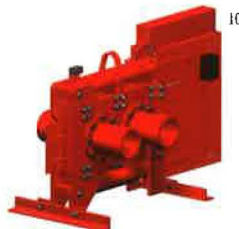
Gate valves and hydraulic diversion valves are completely leak-proof to meet modern pipeline requirements, while hydraulic diversion valves are also ideal for use with two or more delivery lines.



GVM 2/2



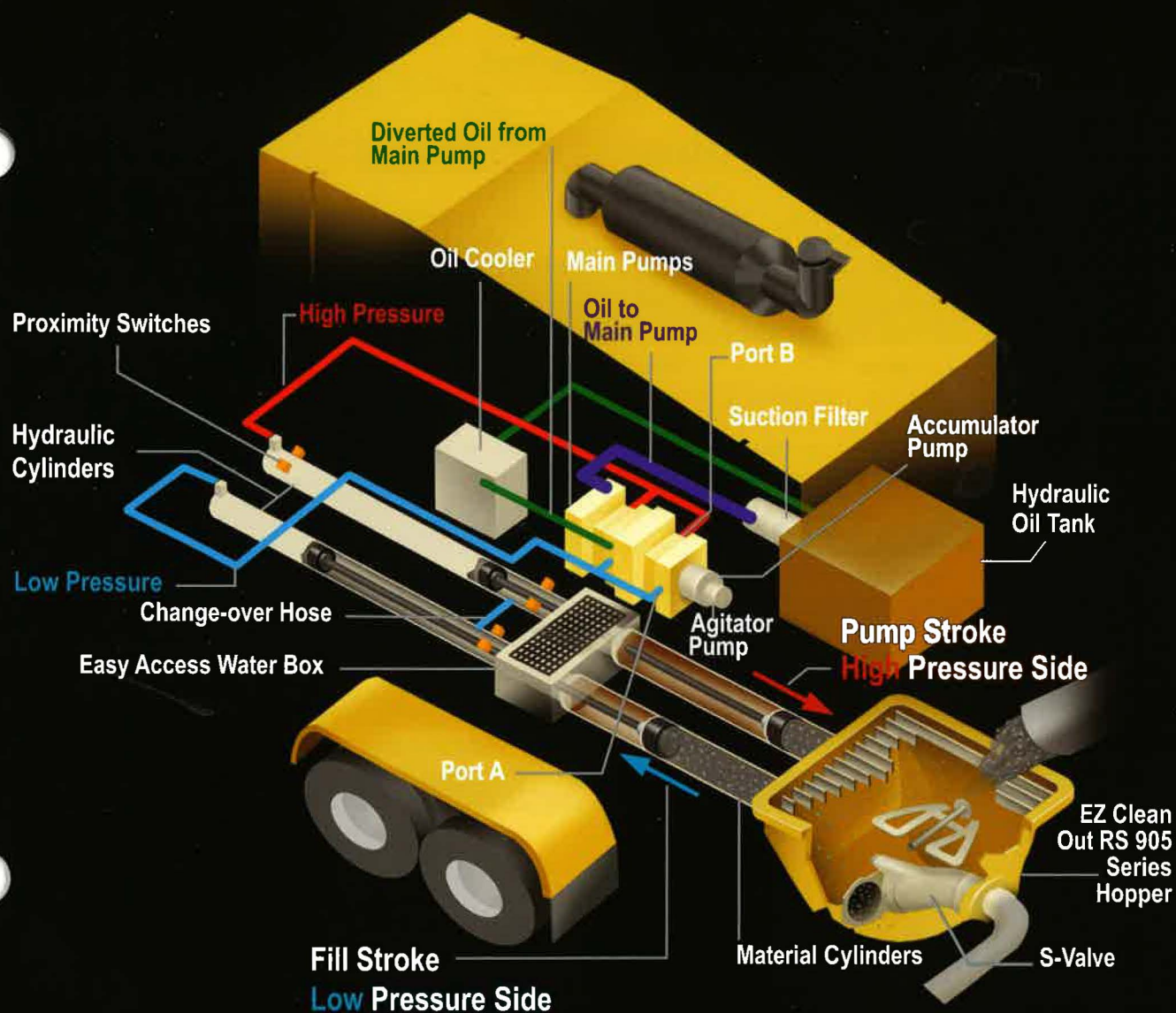
GVHM 2/2



DVH 5/2



SDVH 3/2



PUTZMEISTER | FREE FLOW HYDRAULICS

FREE FLOW HYDRAULICS IN A CLOSED LOOP SYSTEM

Simple and reliable, Putzmeister's closed loop, free flow hydraulics (FFH) design provides a smoother, more controllable and economical approach to pumping. The pump has a fully adjustable volume control to allow very slow pumping while retaining full concrete pressure. Convenient to use and easy to service, this exclusive system is known for its performance and reliability worldwide.

KEY ADVANTAGES OF PUTZMEISTER'S FREE FLOW HYDRAULICS

- Changes in material pressure in the delivery line are reduced to ensure smooth pumping and a consistent concrete flow.
- Intelligent design minimizes wear-inducing pressure peaks, increases service life and makes our pumps extremely powerful.
- Greater pump output is due to the efficient use of all available energy.
- Rapid change-over of the stroke means higher outputs, a smoother flow of concrete and less boom bounce.

PUTZMEISTER BSA SERIES | SPECIFICATIONS

Performance	BSA 100-D	BSA 120-D	BSA 2109 H-D*	BSA 2110 HP-D
Maximum Theoretical Output				
Rod Side	104 yd ³ /hr (80m ³ /hr)	114 yd ³ /hr (87m ³ /hr)	124 yd ³ /hr (95m ³ /hr)	133 yd ³ /hr (102m ³ /hr)
Piston Side	70 yd ³ /hr (54m ³ /hr)	77 yd ³ /hr (59m ³ /hr)	75 yd ³ /hr (57m ³ /hr)	92 yd ³ /hr (70m ³ /hr)
Maximum Theoretical Pressure				
Rod Side	910 psi (63 bar)	1,030 psi (71 bar)	1,320 psi (91 bar)	2,176 psi (150 bar)
Piston Side	1,360 psi (94 bar)	1,540 psi (106 bar)	2,205 psi (152 bar)	3,190 psi (220 bar)*
Maximum Size Aggregate	2.5" (63mm)	2.5" (63mm)	2.5" (63mm)	2.5" (63mm)
Technical Information				
Material Cylinders	8" x 55" (200 x 1,400mm)	8" x 55" (200 x 1,400mm)	8" x 83" (200 x 2,100mm)	8" x 83" (200 x 2,100mm)
Maximum Strokes per Minute				
Rod Side	32	37	24	26
Piston Side	22	25	15	18
Variable Volume	0 to full	0 to full	0 to full	0 to full
S-Valve	S-2015D	S-2015D	S-2015D	S-2015D
Hard-chromed Cylinders	Standard	Standard	Standard	Standard
Hydraulic System	TK	FFH-HD	FFH-EL	FFH-EL
Hydraulic System Pressure	4,500 psi (310 bar)	5,075 psi (350 bar)	5,075 psi (350 bar)	5,075 psi (350 bar)
Hydraulic Cylinders	4.3" x 2.5" (110 x 63mm)	4.3" x 2.5" (110 x 63mm)	5.1" x 3.2" (130 x 80mm)	6.3" x 3.5" (160 x 90mm)
Hopper				
Model	RS 905A	RS 905A	RS 900H	RS 905HF
Capacity	14 cu ft (400L)	14 cu ft (400L)	21.2 cu ft (600L)	21.2 cu ft (600L)
Height	52" (1,321mm)	52" (1,321mm)	51" (1,295mm)	50" (1,270mm)
Outlet Diameter	6" HD/SK150	6" HD/SK150	ZX150	ZX150
Engine				
Diesel Engine	Deutz TCD2012L062V	Deutz TCD2012L062V	Deutz	Deutz
Engine Horespower	197 hp (147kW)	197 hp (147kW)	268 hp (200kW)	443 hp (330kW)
Trailer				
Trailer Type	Tandem axles	Tandem axles	Tandem axles	Tandem axles
Dimensions				
Length	228" (5,791mm)	228" (5,791mm)	259" (6,586mm)	268" (6,813mm)
Width	72" (1,829mm)	72" (1,829mm)	78" (1,977mm)	78" (1,977mm)
Height	94" (2,387mm)	94" (2,387mm)	104" (2,639mm)	99" (2,502mm)
Weight (approx.)	9,000 lbs (4,083kg)	9,000 lbs (4,083kg)	13,600 lbs (6,170kg)	20,000 lbs (9,700kg)

BSA 100 SERIES



- Durable, global-use flatpack components.
- Long-distance pumping capabilities.

BSA 2100 SERIES



- High performance — long stroke.
- Designed for jobs extending up to 800 ft (244m).

Performance	BSA 14000 HP-D 7"	BSA 14000 HP-D 8" *	BSA 14000 HP-D 11"	BSA 14000 SHP-D 7"
Maximum Theoretical Output				
Rod Side	107 yd ³ /hr (82m ³ /hr)	133 yd ³ /hr (102m ³ /hr)	260 yd ³ /hr (200m ³ /hr)	93 yd ³ /hr (71m ³ /hr)
Piston Side	71 yd ³ /hr (54m ³ /hr)	92 yd ³ /hr (70m ³ /hr)	182 yd ³ /hr (139m ³ /hr)	47 yd ³ /hr (36m ³ /hr)*
Maximum Theoretical Pressure				
Rod Side	2,638 psi (185 bar)	2,176 psi (150 bar)	1,146 psi (79 bar)	3,190 psi (220 bar)
Piston Side	3,771 psi (260 bar)	3,190 psi (220 bar)*	1,668 psi (115 bar)	3,626 psi (250 bar)*
Maximum Size Aggregate	2.5" (63mm)	2.5" (63mm)	2.5" (63mm)	2.5" (63mm)
Technical Information				
Material Cylinders	7" x 83" (180 x 2,100mm)	8" x 83" (200 x 2,100mm)	11" x 83" (280 x 2,100mm)	7" x 83" (180 x 2,100mm)
Maximum Strokes per Minute				
Rod Side	26	26	26	22
Piston Side	17	18	18	11
Variable Volume	0 to full	0 to full	0 to full	0 to full
S-Valve	S-1812D	S-1812D	S-2318	S-1812D
Hard-chromed Cylinders	Standard	Standard	Standard	Standard
Hydraulic System	FFH-EL	FFH-EL	FFH-EL	FFH-EL
Hydraulic System Pressure	5,075 psi (350 bar)	5,075 psi (350 bar)	5,075 psi (350 bar)	Consult Factory
Hydraulic Cylinders	6.3" x 3.5" (160 x 90mm)	6.3" x 3.5" (160 x 90mm)	6.3" x 3.5" (160 x 90mm)	7.9" x 5.5" (200 x 140mm)
Hopper				
Model	RS 905HF	RS 905HF	RS 907A	RS 905 SHP F
Capacity	21.2 cu ft (600L)	21.2 cu ft (600L)	21.2 cu ft (600L)	21.2 cu ft (600L)
Height	51" (1,295mm)	51" (1,295mm)	51" (1,295mm)	51" (1,295mm)
Outlet Diameter	ZX125	ZX125	ZX125	ZX125
Engine				
Diesel Engine	Caterpillar	Caterpillar	Caterpillar	Caterpillar
Engine Horespower	630 hp (470kW)	630 hp (470kW)	630 hp (470kW)	630 hp (470kW)
Trailer				
Trailer Type	Tandem axles	Tandem axles	Tandem axles	Tandem axles
Dimensions				
Length	264" (6,708mm)	264" (6,708mm)	264" (6,708mm)	294" (7,478mm)
Width	77" (1,950mm)	77" (1,950mm)	77" (1,950mm)	88" (2,229mm)
Height	117" (2,972mm)	117" (2,972mm)	117" (2,972mm)	118" (3,005mm)
Weight (approx.)	23,800 lbs (10,800kg)	23,800 lbs (10,800kg)	23,800 lbs (10,800kg)	23,800 lbs (10,800kg)

BSA 14000 SERIES



- Most powerful concrete pump.
- Multiple cylinder sizes available to fit any job requirements.

Maximum theoretical values listed. Maximum output and pressure cannot be achieved simultaneously. Minimum slump and maximum aggregate size are dependent upon concrete mix design, site conditions and pipeline diameter.

Specifications subject to change without prior notice. Maximum theoretical values listed above.

* SBU Standard

* Special equipment configurations required to operate on piston side.



Not all parts are created equal. Putzmeister offers longer lasting, better performing parts under increased wear conditions. Our in-stock inventory includes more than 20,000 parts totaling more than \$40 million dollars. This means greater savings and less downtime.

CUSTOMER SUPPORT AND SERVICE

In addition to 24/7 technical support, Putzmeister has experienced Field Service Technicians available for equipment start-ups. Comprehensive operators manuals are enhanced by classroom and hands-on service training.

Photos and drawings are for illustrative purposes only.

Authorized Distributor



Putzmeister

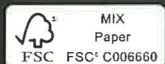
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Crane

Manitowoc 11000-1

Product Guide

ASME B30.5

Metric / Imperial



Features

- 100 t (110 USt) capacity
- 61,0 m (200 ft) heavy-lift boom
- Max boom + jib combination:
57,9 m (190 ft) + 18,3 m (60 ft)
- 213 kW (285 HP) engine
- 163 m/min (535 fpm) maximum line speed
- 113 kN (25,200 lb) rated line pull

Features

Energy saving systems

Green-Engine mode conserves fuel during full speed drum operation under load, at a lower engine RPM. Other available options include Green-Winch Mode and Auto Idling Stop Mode.



Self-erecting counterweight

Eliminates the need for an assist crane, and also allows for reduced counterweight chart operation.



Retractable crawlers

Crawlers can be extended and retracted for better jobsite maneuverability. On some models, these crawlers can also ship attached for easier transport and quicker setup.



Contents

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Boom combinations	15
Heavy-lift boom range / charts	16
Fixed jib boom range / load charts	18
Clamshell	21
Manitowoc Crane Care	22

Specifications

Upperworks



Engine

HINO J08E-UV, 6 cylinder, water-cooled diesel, direct fuel injection with turbocharger, 213 kW (285 HP) at 2100 high-idle RPM. Maximum torque 1017 N•m (750 lb•ft) net at 1,600 rpm; Interim Tier 4/ Stage IIIB (Required for sale in the US/Canada/ Europe; requires "Ultra Low Sulfur Diesel")

HINO J08E-VM, 6 cylinder, water-cooled diesel, direct fuel injection with turbocharger, 213 kW (285 HP) at 2100 high-idle RPM. Maximum torque 1017 N•m (750 lb•ft) net at 1,600 rpm; Tier 3 (Required for sale outside the US/Canada/Europe)

One diesel fuel tank, 400 liters (105 gallons) capacity.

Two 12 volt 136 AH capacity batteries, 24 volt system and 90 amp alternator.

All wiring harnesses and connectors are numbered for easier servicing. Machine is equipped with individual fused branch circuits.



Controls

Full-flow hydraulic control system for constant variable pressure to front and rear drums, boom hoist brakes and clutches. Controls respond instantly to the touch, delivering smooth function operation.



Hydraulic system

All three variable displacement piston-type pumps are driven by a heavy-duty pump drive. One of these pumps is used in the left propel circuit and hook hoist circuit, and can accommodate an optional third circuit. Another is used in the right propel circuit, boom hoist circuit and hook hoist circuit. The third variable displacement pump is used in the swing circuit. In addition, two gear pumps are used in the control system and auxiliary equipment, and two gear pumps serve the brake cooling system.

Maximum pressure rating 31.9 MPa (4,630 psi)

Load hoist, boom hoist and propel . . . 2 Piston pumps
Swing 1 Piston pump

Control system and auxiliary 2 Gear pumps

Brake cooling system 2 Gear pumps

Reservoir capacity: 440 liter (116 US gallon)

Cooling: oil-to-air heat exchanger

Filtration: full-flow and bypass type with replaceable paper elements.



Drums

Front and rear drums for load hoist powered by variable displacement piston-type motors, driven through planetary reducers. Powered hoisting/ lowering and free-fall operation is standard. Drum turn indicators for front and rear drums are also standard.

Drums: (front and rear) 614 mm (24.2") P.C.D. x 617 mm (24.3") wide drums, grooved for 26.0 mm wire rope.

Brakes: Counterbalance valve and spring set hydraulically released multiple disk brake mounted on hoist motor. External ratchet is fitted for locking drum.

Wire rope capacity:

Front drum 235 m (771 ft) working length

Rear drum 160 m (525 ft) working length

Line speed: Single line on the first drum layer

Hoisting: 120m/min (390 ft/min)

Lowering: 120m/min (390 ft/min)

▶ **Optional third drum**: grooved for 22 mm wire rope; free-fall is optional.

Wire rope working length 145m (476').



Swing system

Swing unit: Powered by a hydraulic piston-type motor driving spur gears through planetary reducers, the swing system provides 360° rotation.

Swing brake: A spring-set, hydraulically released multiple-disc brake is mounted on swing motor.

Swing lock: 4-Position lock for transportation.

Rotating bed turntable: Single-row ball bearing with an integral internally cut swing gear.

Swing speed: 4.0 rpm



Boom support system

Single drum powered by a hydraulic axial piston motor through a planetary reducer.

Brake: A spring-set, hydraulically released multiple-disc brake is mounted on the boom hoist motor. An external ratchet is fitted for locking the drum.

Drum: Single drum, grooved for 16 mm diameter wire rope. Boom hoist reeving is 12-part line.

Wire Rope Capacity:

Drum 150 m (492 ft) working length.

Specifications

Line speed: Single line on first drum layer.

Hoisting 70m/min (230 ft/min)

Lowering 70m/min (230 ft/min)



Gantry

This high folding type gantry is fitted with a sheave frame for boom hoist reeving. It provides full up, full down positions.



Counterweight

Upper weight (5 pieces): 31,300 kg (69,000 kg)
Carbody weight (2 pieces): 14,400 kg (31,750 lb)



Operator's cab

Totally enclosed, full vision cab fitted with tinted safety glass and opening front window. A fully adjustable, highbacked seat with arm rests. Short handle control levers; electronic twist grip hand throttle. An air conditioner, a signal horn and windshield wiper are standard.

Lights:

- 2 - Front flood lights
- 1 - Cab inside light

Safety device

New easy to read at a glance LMI and maintenance display.

Lowerworks



Carbody

The durable carbody features steel welded construction with extendible axles.



Crawlers

Crawler assemblies can be hydraulically extended for wide-track operation or retracted for transportation.

Crawler belt tension adjusted with hydraulic jack and maintained by shims between idler block and frame.

The independent hydraulic propel drive is built into each crawler side frame. Each drive consists of a hydraulic motor propelling a driving tumbler through a planetary gearbox. Hydraulic motor and gear box are built into the crawler side frame within the shoe

width. The track rollers are sealed for maintenance-free operation.

Crawler brakes: multiple disk type, spring set hydraulically released parking brakes are built into each propel drive.

Crawler shoes

914 mm (36") wide crawler.

Travel speed

(High/Low) 1.73/1.2 km/h (1.07/0.71 mph)

Attachments



Boom

Welded lattice construction using tubular, high-tensile steel chords with pin connections between sections.

Two idler sheaves and three point sheaves are standard.

Basic boom length 12,2 m (40'). Basic boom consists of the boom butt 5,8 m (19') and boom top 6,39 m (21').

Optional boom inserts are welded lattice construction with tubular, high-tensile steel chords and pin connections on each one of 3,0 m (10'), 6,1 m (20') and 12,2 m (40') inserts.

Maximum total length of boom 61,0 m (200').



Fixed jib

The optional fixed jib employs welded lattice construction with tubular, high-tensile steel chords with pin connections between sections.

Basic jib length 9,14 m (30'). Basic jib length consists of jib butt section 4,57 m (15') and jib top 4,57 m (15').

Optional jib boom inserts of 3,0 m (10'), 6,1 m (20') are available for extension capabilities up to 18 m (60').

Maximum total length of boom and jib 57,9 m (190') + 18 m (60') is 76,2 m (250').

Tool and accessories

A set of tools and accessories are furnished.

Optional Equipment

Optional: Blocks and hooks each with roller bearing sheaves grooved for 26.0 mm diameter wire rope, and roller bearing swivel with hook latch.

Specifications

- ▶ 11.3 t swivel hook and weight ball, 460 kg
(15 USt ball hook, 1,310 lb wedge socket for 26 mm wire rope.)
- ▶ 35 t hook block, 700 kg with one 617 mm Nominal O.D. roller bearing sheave.
(40 USt hook block, 2,311 lb with three 24" Nominal O.D. roller bearing sheaves.)
- ▶ 70 t hook block, 900 kg, three 617 mm Nominal O.D. roller bearing bearing sheaves.
(75 USt hook block, 3,820 lb, with four 24" Nominal O.D. roller bearing sheaves.)
- ▶ 90 t hook block, 1 300 kg, with four 617 mm Nominal O.D. roller bearing sheaves.
(110 USt hook block, 2,946 lb with four 24" Nominal O.D. roller bearing sheaves.)
- ▶ Optional: Detachable upper boom point with one 575 mm Nominal outer diameter roller bearing steel sheave grooved for 26mm rope for liftcrane.
- ▶ Machine inclination sensor.
- ▶ Swing angle detection and angle limiter.
- ▶ Counterweight detection.
- ▶ Hydraulic tagline.
- ▶ External lamp for overload alarm.

Working weight

Approximately 90,000 kg (198,500 lb) including upperworks and lowerworks, full upper counterweights, full carbody counterweights, and 12,2 m (40') basic boom.

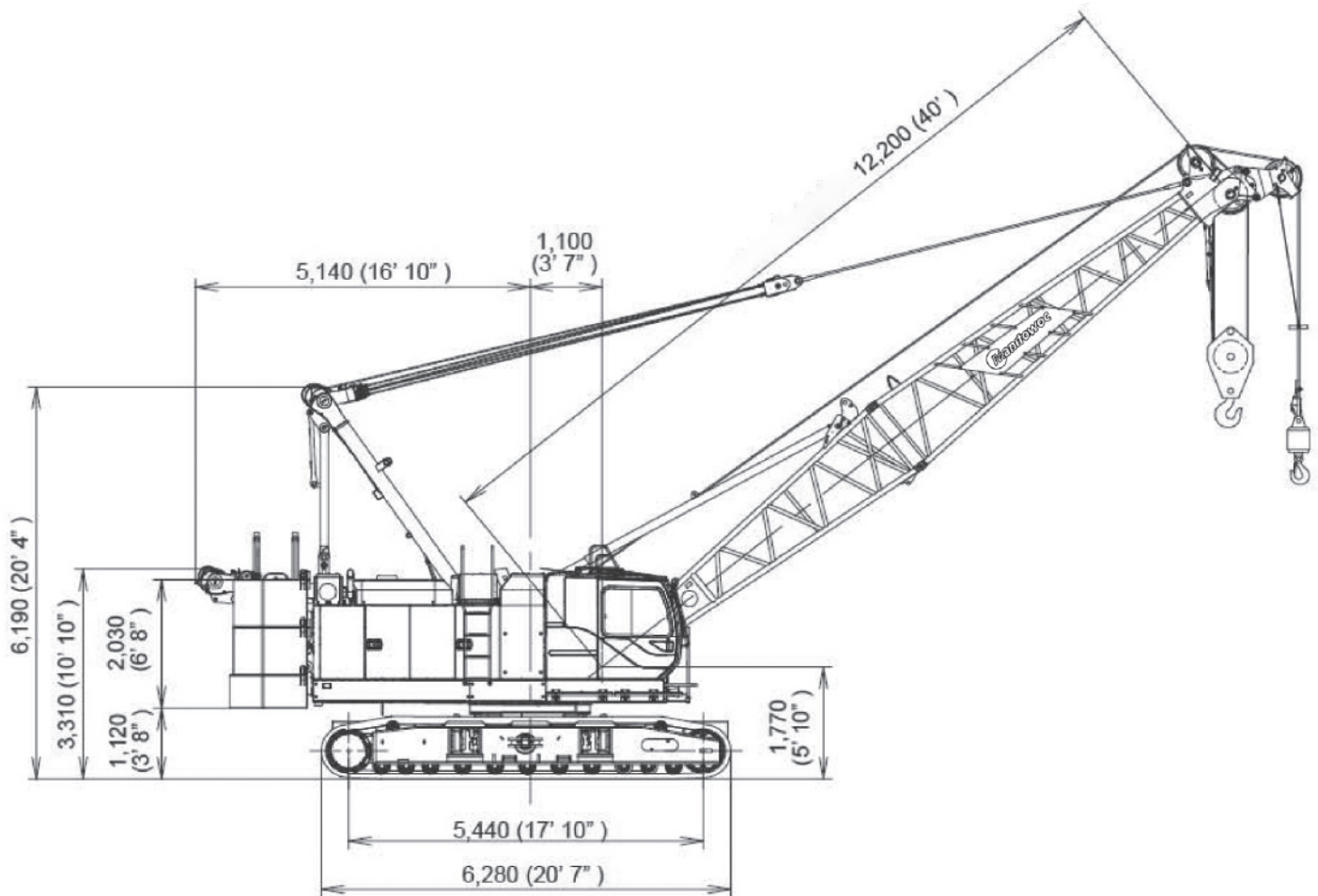
Ground pressure

Approximately 88.8 kPa (12.9 psi) with basic boom and no load.

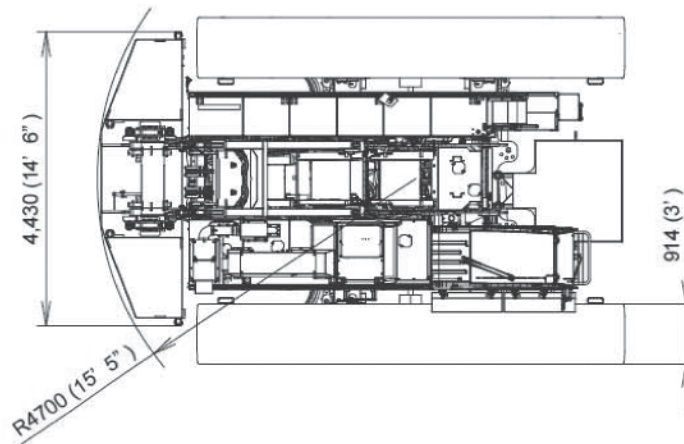
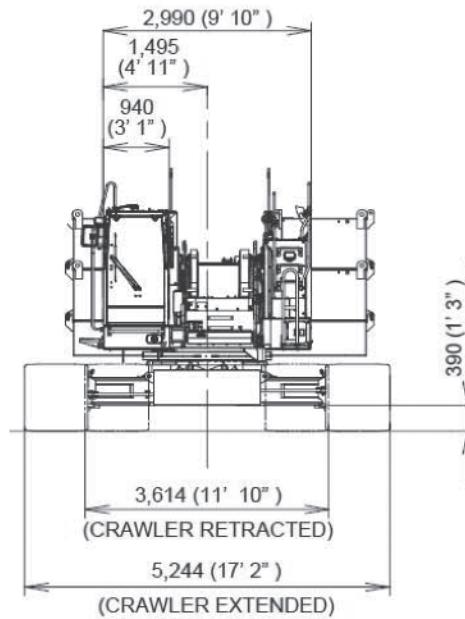
Gradeability

With basic boom: 40%.

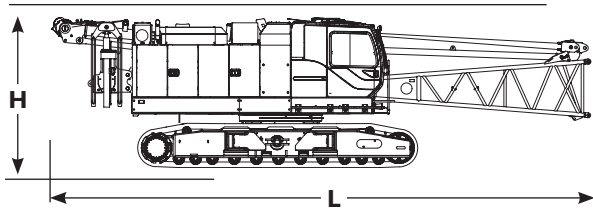
Specifications



Outline dimensions

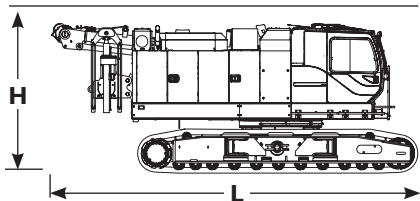


Outline dimensions



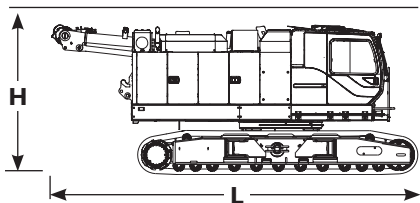
Upperworks		x 1
Length	12,09 m	39' 8"
Width	3,61 m	11' 10"
Height	3,32 m	10' 11"
Weight	43 150 kg	95,128 lb

Note: Weight includes base machine, crawler, gantry, maximum hoist and whip lines on drums, boom butt, full hydraulic fluid reservoir, and one third tank of fuel.



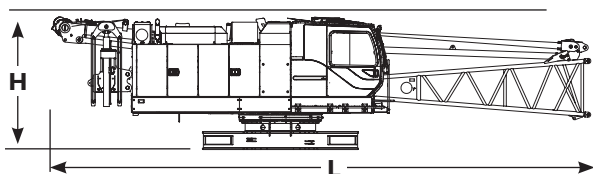
Upperworks		x 1
Length	8,21 m	26' 11"
Width	3,61 m	11' 10"
Height	3,32 m	10' 11"
Weight	41 090 kg	90,586 lb

Note: Weight includes base machine, crawler, gantry, maximum hoist and whip lines on drums, full hydraulic fluid reservoir, and one third tank of fuel.



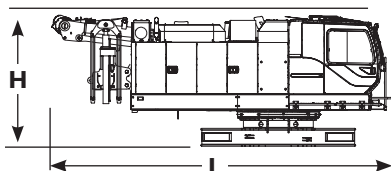
Upperworks		x 1
Length	8,21 m	26' 11"
Width	3,61 m	11' 10"
Height	3,32 m	10' 11"
Weight	40 220 kg	88,668 lb

Note: Weight includes base machine, crawler, gantry, maximum hoist and whip lines on drums without self-removal unit, full hydraulic fluid reservoir, and one third tank of fuel.



Upperworks without crawlers		x 1
Length	12,09 m	39' 8"
Width	2,99 m	9' 10"
Height	2,93 m	9' 8"
Weight	27 870 kg	61,442 lb

Note: Weight includes base machine, gantry, maximum hoist and whip lines on drums, boom butt, full hydraulic fluid reservoir, and one third tank of fuel.

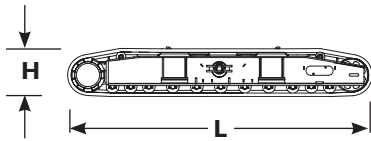


Upperworks without crawlers		x 1
Length	7,70 m	25' 3"
Width	2,99 m	9' 10"
Height	2,93 m	9' 8"
Weight	25 810 kg	56,900 lb

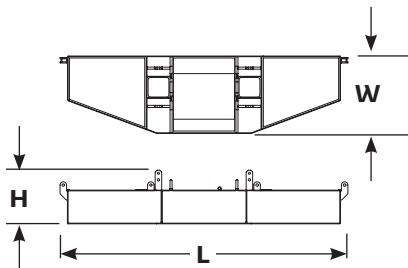
Note: Weight includes base machine, gantry, maximum hoist and whip lines on drums, full hydraulic fluid reservoir, and one third tank of fuel.

Option

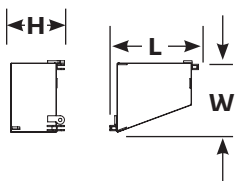
Outline dimensions



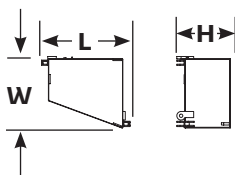
Crawlers		x 2
Length	6,28 m	20' 7"
Width	0,91 m	3' 0"
Height	0,98 m	3' 3"
Weight	7 640 kg	16,843 lb



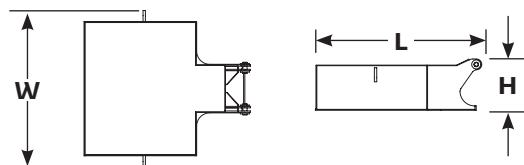
Upper counterweight		x 1
Length	4,43 m	14' 6"
Width	1,19 m	3' 11"
Height	0,83 m	2' 9"
Weight	8 310 kg	18,320 lb



Upper counterweight (R)		x 2
Length	1,45 m	4' 9"
Width	1,17 m	3' 10"
Height	0,88 m	2' 11"
Weight	5 750 kg	12,677 lb

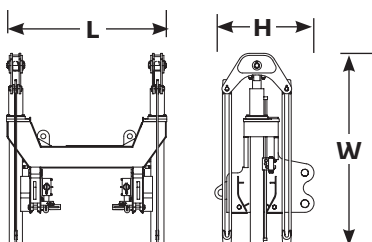


Upper counterweight (L)		x 2
Length	1,45 m	4' 9"
Width	1,17 m	3' 10"
Height	0,88 m	2' 11"
Weight	5 750 kg	12,677 lb

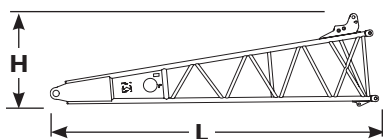


Carbody counterweight		x 2
Length	1,90 m	6' 3"
Width	1,79 m	5' 10"
Height	0,59 m	1' 11"
Weight	7 200 kg	15,873 lb

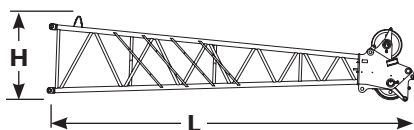
Outline dimensions



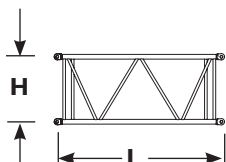
Self removal unit		x 1
Length	1,59 m	5' 3"
Width	1,90 m	6' 3"
Height	0,98 m	3' 3"
Weight	870 kg	1,918 lb



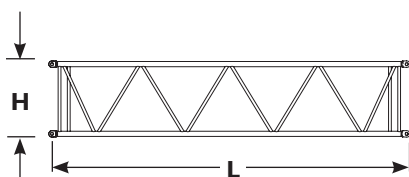
Boom butt 5,8 m (19')		x 1
Length	5,97 m	19' 7"
Width	1,49 m	4' 11"
Height	1,70 m	5' 7"
Weight	1 475 kg	3,252 lb



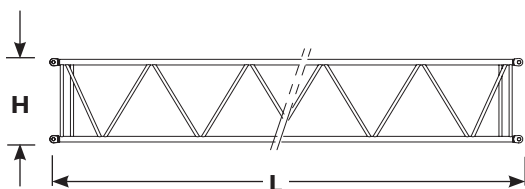
Boom top 6,4 m (21')		x 1
Length	6,91 m	22' 8"
Width	1,50 m	4' 11"
Height	1,31 m	4' 4"
Weight	1 170 kg	2,580 lb



Boom insert 3,0 m (10')		x 1,2
Length	3,16 m	10' 4"
Width	1,49 m	4' 11"
Height	1,31 m	4' 4"
Weight	310 kg	685 lb



Boom insert 6,10 m (20')		x 1,2
Length	6,21 m	20' 5"
Width	1,49 m	4' 11"
Height	1,31 m	4' 4"
Weight	520 kg	1,145 lb

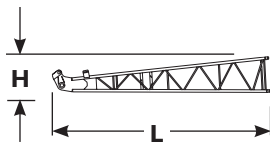


Boom insert 12,2 m (40')		x 1,2,3
Length	12,31 m	40' 5"
Width	1,49 m	4' 11"
Height	1,31 m	4' 4"
Weight	960 kg	2,115 lb

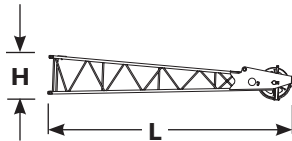
Note: Use one "A" type insert with lug required for any boom combinations that require a 12,2 m (40') insert.

Option

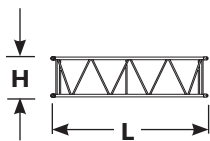
Outline dimensions



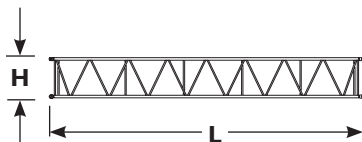
Fixed jib butt x 1		
Length	4,81 m	15' 9"
Width	0,80 m	2' 8"
Height	0,80 m	2' 8"
Weight	200 kg	440 lb



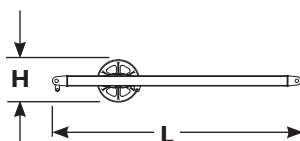
Fixed jib top x 1		
Length	5,00 m	16' 5"
Width	0,79 m	2' 7"
Height	0,80 m	2' 8"
Weight	280 kg	617 lb



Fixed jib insert 3,0 (10') x 1		
Length	3,11 m	10' 2"
Width	0,80 m	2' 8"
Height	0,80 m	2' 8"
Weight	100 kg	220 lb



Fixed jib insert 6,1 m (20') x 1		
Length	6,16 m	20' 3"
Width	0,80 m	2' 8"
Height	0,80 m	2' 8"
Weight	180 kg	395 lb



Fixed jib strut x 1		
Length	3,62 m	11' 11"
Width	0,84 m	2' 9"
Height	0,62 m	2' 0"
Weight	250 kg	550 lb

Winch performance data

Line pull		
	Rated line pull kg (lb)	*Maximum line pull kg (lb)
Front drum	11 420 (25,200)	21,200 (46,800)
Rear drum	11 420 (25,200)	21,200 (46,800)
Optional 3rd drum	7 700 (17,000)	15,600 (34,400)

* Maximum line pull is not based on wire rope strength.

Wire rope specifications				
Use	Specs	Diameter mm	Working length m (ft)	Breaking strength kg (lb)
Front drum	IWRC C/O 6 X Fi (29)	26,0	235 (771)	54 430 (120,000)
Rear drum	IWRC C/O 6 X Fi (29)	26,0	160 (525)	54 430 (120,000)
Boom hoist drum	IWRC C/O 6 X Fi (31)	16,0	150 (492)	21 410 (47,200)
Optional 3rd drum	IWRC C/O 6 X Fi (29)	22,0	145 (476)	37 000 (81,600)

Front and rear winch						
Layer		Line speed m/min (ft/min)				
		1	2	3	4	5
Single line pull kg (lb)						
Rated line pull	0 (0)	125 (410)	133 (436)	142 (466)	151 (495)	160 (525)
	2 268 (5,000)	124 (406)	132 (434)	141 (463)	150 (492)	159 (522)
	4 536 (10,000)	108 (355)	108 (355)	108 (355)	108 (355)	108 (355)
	6 804 (15,000)	72 (237)	72 (237)	72 (237)	72 (237)	72 (237)
	9 072 (20,000)	54 (177)	54 (177)	54 (177)	54 (177)	54 (177)
	11 340 (25,000)	43 (142)	43 (142)	43 (142)	43 (142)	43 (142)
	13 608 (30,000)	36 (118)	36 (118)	36 (119)	38 (126)	41 (133)
	15 876 (35,000)	32 (104)	34 (111)	36 (118)	38 (125)	—
	18 144 (40,000)	32 (104)	34 (111)	—	—	—

NOTE: Line speeds and line pull based on single line.
Line pulls are not based on wire rope strength.

Load chart notes

- Rated loads included in the charts are the maximum allowable freely suspended loads at a given boom length, boom angle and load radius, and have been determined for the machine standing level on firm supporting surface under ideal operating conditions. The user must limit or de-rate rated loads to allow for adverse conditions (such as soft or uneven ground, out-of-level conditions, wind side loads, pendulum action, jerking or sudden stopping of loads, inexperience of personnel, multiple machine lifts, and traveling with a load).
- Capacities do not exceed 75% of minimum tipping loads. Capacities based on factors other than machine stability such as structural competence are shown by asterisk * in the charts located in the operator's crane cab.
- The machine must be reeved and set-up as stated in the operation manual and all the instruction manuals. If these manuals are missing, obtain replacements. Boom backstops are required for all boom lengths. Gantry must be in the fully raised position for all operations. Crawlers must be fully extended and be locked in position. The crane must be leveled to within 1% on a firm supporting surface.
- Do not attempt to lift where no radius or load is listed as crane may tip or collapse.
- Attempting to lift more than rated loads may cause machine to tip or collapse. Do not tip machine to determine capacity.
- Weight of hooks, hook blocks, slings and other lifting devices are a part of the total load. Their total weight must be subtracted from the rated load to obtain the weight that can be lifted.
- When lifting over boom point with jib or upper boom point installed, rated loads for the boom must be deducted as shown below.

Jib length m (ft)	Upper boom point	9,1 (30)	12,2 (40)	15,2 (50)	18,3 (60)
Deduct kg (lb)	200 (420)	1200 (2,500)	1700 (3,700)	2400 (5,100)	3100 (6,700)

- The total load that can be lifted by the fixed jib is limited by rated jib loads. The total load that can be lifted with the upper boom point is limited by rated upper boom point loads.

- Boom lengths for fixed jib mounting are 24,4 m (80 ft) to 57,9 m (190 ft).
- The total load that can be lifted by the upper boom point is: the rated load for the boom (without upper boom point installed) minus 200 kg (420 lb); however, the upper boom point rated load should not exceed 10 800 kg (24,000 lb).
- An upper boom point cannot be used on a 61 m (200 ft) boom length.
- The boom should be erected over the front of the crawlers, not laterally. When erecting and lowering the boom with a length of 57,9 m (190 ft) with jib, blocking must be placed at the end of the crawlers. See operator's manual for details.
- Least stable position is over the side.
- Maximum hoist load for number of reeving parts of line for hoist rope.

Maximum load for main boom

No. of parts of line	1	2	3	4	5
Maximum loads kg (lb)	11 420 (25,200)	22 861 (50,400)	34 292 (75,600)	45 722 (100,800)	57 153 (126,000)

No. of parts of line	6	7	8
Maximum loads kg (lb)	68 583 (151,200)	80 014 (176,400)	100 000 (220,000)

Maximum load for fixed jib

No. of parts of line	1
Maximum loads kg (lb)	10 800 (24,000)

Maximum load for upper boom point

No. of parts of line	1
Maximum loads kg (lb)	10 800 (24,000)

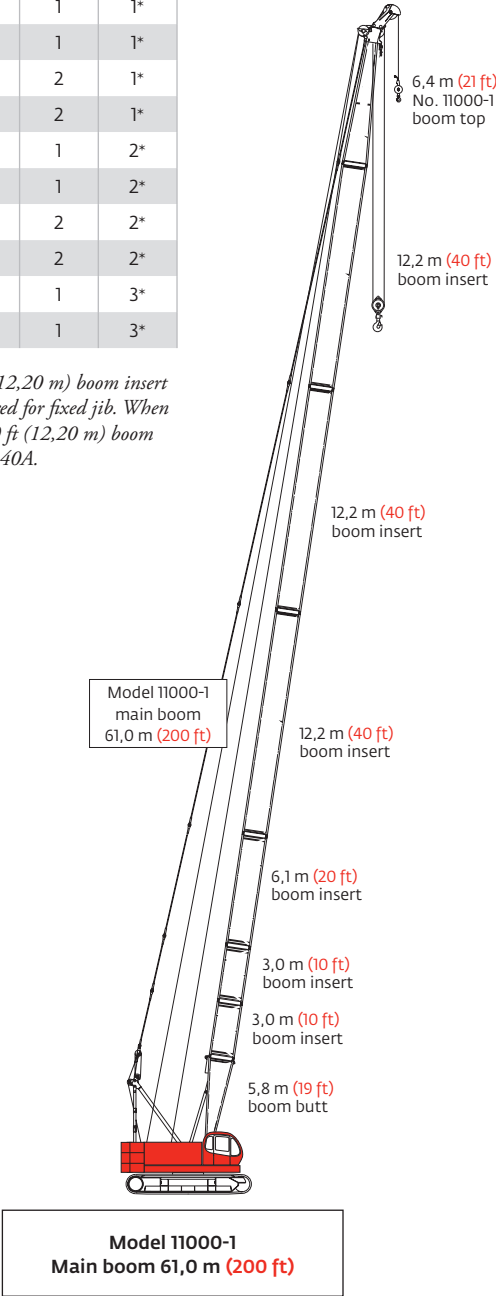
- Lifting capacities listed apply only to the machine as originally manufactured for and supplied by Manitowoc Cranes, Inc. Modifications to this machine or use of equipment other than that specified can reduce operating capacity.
- Designed and rated to comply with ASME Code B30.5.

Operation of this equipment in excess of rated loads or disregard of instruction voids the warranty.

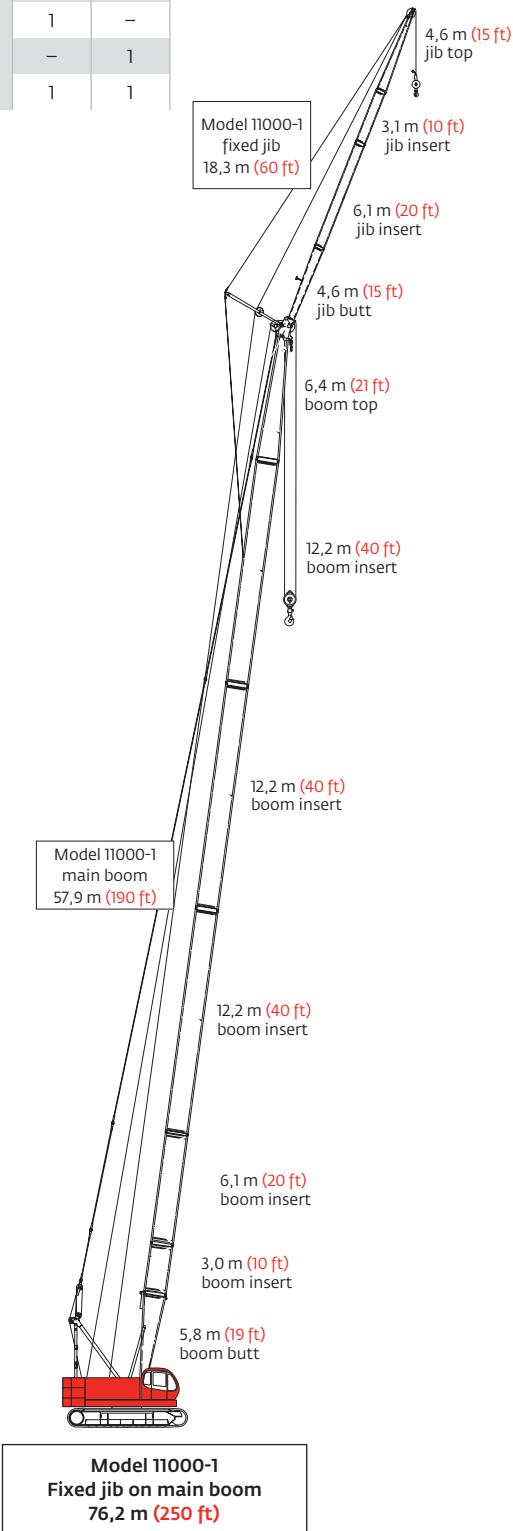
Boom combinations

No. 11000-1 heavy-lift boom combinations			
Boom length m (ft)	Boom inserts		
	3,1 m (10 ft)	6,1 m (20 ft)	12,2 m (40 ft)
12,2 (40)	—	—	—
15,2 (50)	1	—	—
18,3 (60)	2	—	—
21,3 (70)	1	1	—
24,4 (80)	2	1	—
27,4 (90)	1	2	—
30,5 (100)	2	2	—
33,5 (110)	1	1	1*
36,6 (120)	2	1	1*
39,6 (130)	1	2	1*
42,7 (140)	2	2	1*
45,7 (150)	1	1	2*
48,8 (160)	2	1	2*
51,8 (170)	1	2	2*
54,9 (180)	2	2	2*
57,9 (190)	1	1	3*
61,0 (200)	2	1	3*

* NOTE: One 40 ft (12,20 m) boom insert with lug 40A is required for fixed jib. When no jib is installed a 40 ft (12,20 m) boom can be used instead of 40A.

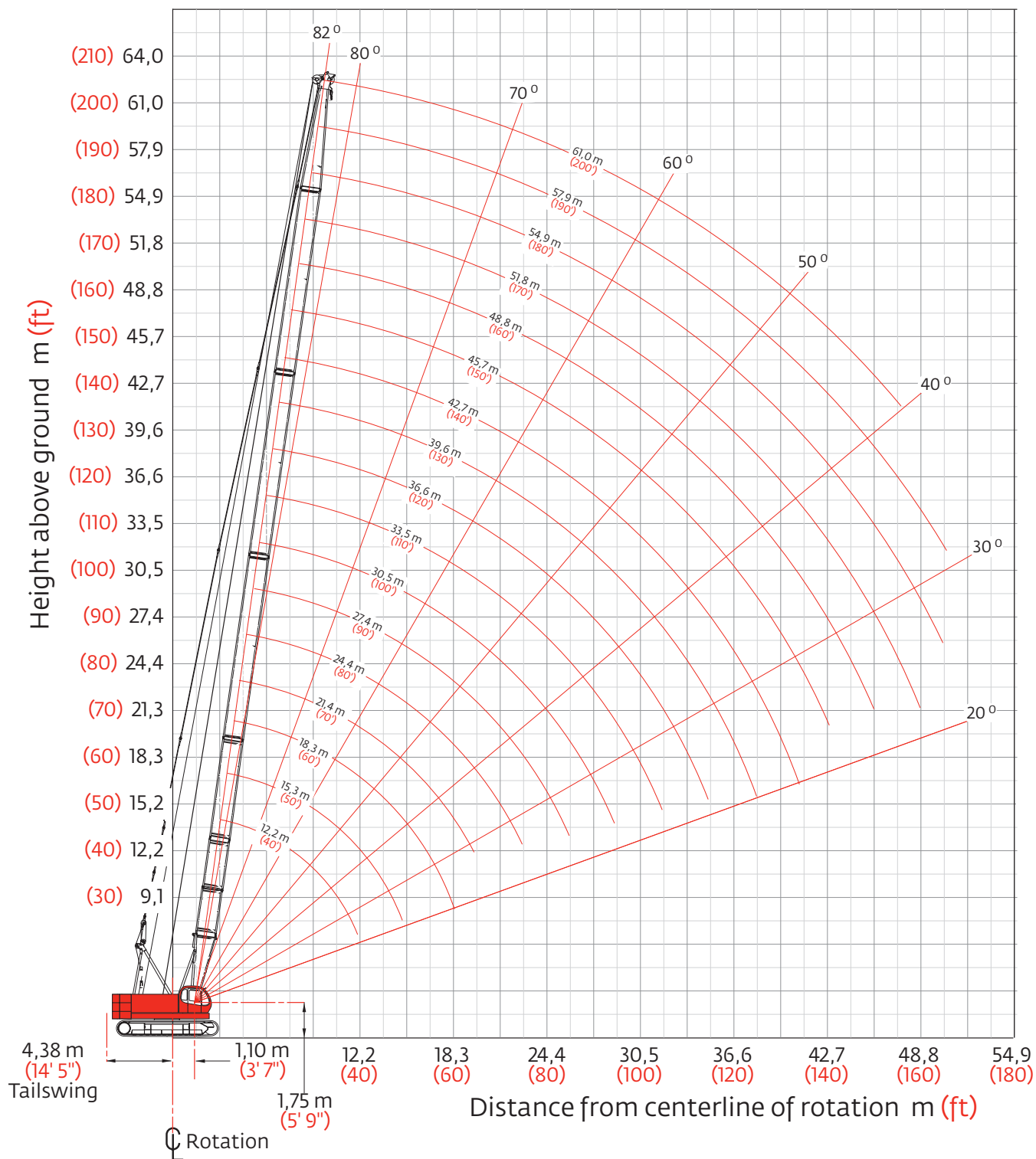


No. 11000-1 fixed jib combinations		
Fixed jib length m (ft)	Fixed jib inserts	
	3,1 m (10 ft)	6,1 m (20 ft)
9,1 (30)	—	—
12,2 (40)	1	—
15,2 (50)	—	1
18,3 (60)	1	1



Heavy-lift boom range diagram

No. 11000-1 main boom



Heavy-lift boom load charts

Model 11000-1 liftcrane boom capacities – 11000-1 main boom

31,3 t (69,000 lb) upper counterweight + 14,4 t (31,750 lb) carbody counterweight

360° Rating

kg (lb) x 1 000

Boom m (ft)	12,2 (40)	15,2 (50)	18,3 (60)	21,3 (70)	24,4 (80)	27,4 (90)	30,5 (100)	33,5 (110)	36,6 (120)	39,6 (130)	42,7 (140)	45,7 (150)	48,8 (160)	51,8 (170)	54,9 (180)	57,9 (190)	61,0 (200)
Radius																	
3,3 (11)	100,0* (220.0*)																
3,5 (12)	98,3* (213.3*)	96,7* (213.2*)	90,9* (-)														
4,0 (14)	90,3* (188.1*)	90,2* (187.8*)	90,1* (187.4*)														
4,5 (16)	81,0* (165.5*)	80,9* (165.3*)	80,7* (164.8*)	68,4* (151.0*)	- (151.0*)												
5,5 (18)	66,8* (147.8*)	66,7* (147.4*)	66,4* (146.9*)	66,4* (146.7*)	66,3* (146.5*)	57,0* (125.8*)	56,9* (123.6*)										
6,0 (20)	61,3* (132.8)	61,1* (132.4)	61,0* (132.2)	61,0* (132.2)	60,8* (131.8)	56,5* (124.0)	56,3* (100.6)	45,7* (100.8*)									
7,0 (24)	49,3 (101.3)	49,1 (101.0)	49,0 (100.8)	49,2 (101.3)	49,1 (101.0)	48,4* (100.8)	48,3* (80.2)	44,7* (96.5*)	43,7* (94.2*)	38,6* (85.1*)	33,0* (72.9*)						
8,0 (28)	40,1 (80.9)	40,0 (80.7)	39,9 (80.5)	40,1 (80.8)	39,9 (80.5)	39,9 (80.5)	39,8 (61.3)	39,6* (80.2)	39,4* (79.9)	37,7* (78.2*)	32,5* (70.8*)	28,1* (61.3*)	- (50.2*)				
10,0 (34)	29,4 (61.7)	29,4 (62.0)	29,2 (61.6)	29,4 (62.0)	29,2 (61.6)	29,2 (61.6)	29,1 (48.9)	29,1 (61.3)	29,0 (61.1)	28,9 (60.9)	28,5* (60.5)	26,5* (57.2*)	22,4* (49.2*)	19,7* (43.2*)	17,4* (38.2*)	15,4* (33.8*)	13,7* (30.3*)
12,0 (40)	21,6* (45.9*)	23,1 (49.8)	22,9 (49.3)	23,1 (49.8)	22,9 (49.3)	22,9 (49.3)	22,7 (43.4)	22,7 (48.9)	22,6 (48.7)	22,5 (48.4)	22,4 (48.2)	22,2* (48.0)	21,3* (46.6*)	18,7* (41.2*)	16,5* (36.4*)	14,6* (32.2*)	13,0* (28.7*)
14,0 (44)		18,8 (44.3)	18,7 (43.8)	18,9 (44.1)	18,7 (43.8)	18,7 (43.7)	18,5 (32.3)	18,5 (43.4)	18,4 (43.0)	18,3 (42.8)	18,2 (42.6)	18,1 (42.4)	18,1* (42.1*)	17,6* (40.0*)	15,6* (35.1*)	13,8* (31.1*)	12,3* (27.7*)
16,0 (55)			15,9 (32.9)	16,0 (33.2)	15,8 (32.7)	15,7 (32.5)	15,6 (21.4)	15,6 (32.3)	15,4 (32.0)	15,3 (31.6)	15,2 (31.4)	15,1 (31.2)	15,2 (31.4)	15,1* (31.2)	14,5* (30.8*)	13,0* (28.1*)	11,6* (24.9*)
22,0 (75)					10,5 (22.1)	10,4 (21.8)	10,2 (15.8)	10,2 (21.4)	10,1 (21.2)	9,9 (20.9)	9,8 (20.5)	9,7 (20.3)	9,8 (20.5)	9,7 (20.3)	9,5 (19.9)	9,5 (19.9)	8,7* (18.5*)
28,0 (95)							7,4 (-)	7,4 (15.6)	7,2 (15.3)	7,1 (15.0)	6,9 (14.6)	6,9 (14.4)	6,9 (14.5)	6,7 (14.3)	6,6 (14.0)	6,6 (13.9)	6,4 (13.5)
32,0 (110)								6,2 (-)	6,0 (12.6)	5,8 (12.1)	5,7 (11.9)	5,6 (11.7)	5,7 (11.7)	5,6 (11.5)	5,4 (11.1)	5,3 (11.0)	5,2 (10.6)
36,0 (120)										5,0 (10.8)	4,8 (10.3)	4,7 (10.3)	4,7 (10.1)	4,5 (9.8)	4,4 (9.6)	4,4 (9.4)	4,2 (9.2)
38,0 (130)										4,6 (-)	4,4 (9.2)	4,3 (8.9)	4,3 (8.9)	4,1 (8.7)	4,1 (8.5)	4,0 (8.2)	3,8 (7.8)
40,0 (140)											4,1 (-)	3,9 (8.0)	3,9 (7.9)	3,8 (7.7)	3,7 (7.4)	3,6 (7.2)	3,4 (6.5)
44,0 (150)													3,4 (7.1)	3,2 (6.8)	3,1 (6.5)	3,0 (6.3)	2,6* (5.2)
48,0 (160)														2,7 (5.9)	2,6 (5.6)	2,5 (5.3)	
52,0 (165)															2,3 (5.1)	2,1 (4.6)	

*Rated loads based on factors other than machine stability such as structural competence.

Meets ASME B30.5 Requirements – Capacities do not exceed 75% of static tipping load.

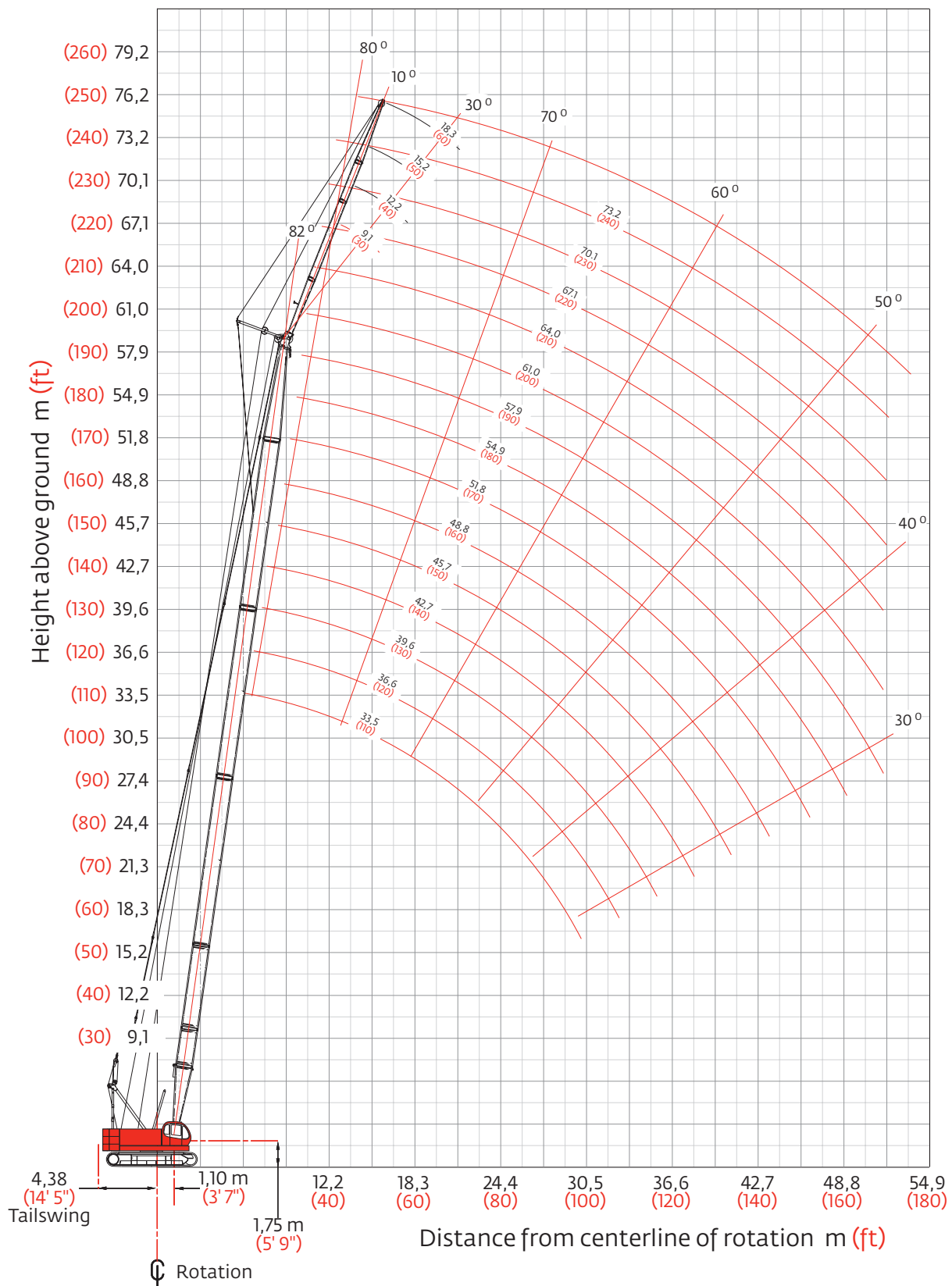
NOTICE: This capacity chart is for reference only and must not be used for lifting purposes.

For complete chart, refer to www.cranelibrary.com.

Meets ASME B30.5 Requirements - Capacities do not exceed 75% of static tipping load.
NOTICE: This capacity chart is for reference only and must not be used for lifting purposes.

Fixed jib range diagram

No. 11000-1 fixed jib on main boom



Fixed jib load charts

Model 11000-1 liftcrane jib capacities

No. 11000-1 fixed jib on main boom

28 800 kg (63,500 lb) upper counterweight, 7 300 kg (16,100 lb) carbody counterweight crawler extended

360° Rating

kg (lb) x 1 000

10° offset

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)	10,8 (24.0)				
12,0 (40)	10,8 (24.0)	10,8 (24.0)	10,8 (24.0)		
14,0 (50)	10,8 (24.0)	10,8 (24.0)	10,8 (24.0)	10,8 (24.0)	— (19.4)
18,0 (60)	10,8 (24.0)	10,8 (24.0)	10,8 (24.0)	10,7 (23.7)	8,4 (18.6)
24,0 (80)	8,0 (17.3)	7,8 (16.8)	7,4 (16.1)	7,2 (15.5)	6,9 (14.8)
30,0 (100)	5,9 (12.8)	5,7 (12.2)	5,3 (11.5)	5,0 (10.9)	4,7 (10.2)
36,0 (120)		4,5 (—)	3,9 (8.5)	3,7 (7.9)	3,3 (7.2)
42,0 (140)			2,9 (6.1)	2,7 (5.8)	2,3 (4.8)
44,0 (150)			2,7 (—)	2,4 (4.7)	2,0 (3.9)
48,0 (160)				1,7 (3.6)	1,5 (—)
52,0 (170)				1,4 (—)	

30° offset

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)					
12,0 (40)	9,5 (21.0)				
14,0 (50)	9,2 (19.5)	9,4 (20.6)	— (21.0)		
18,0 (60)	8,0 (17.5)	8,5 (18.6)	9,2 (20.1)	9,5 (21.0)	8,2 (18.2)
24,0 (80)	6,7 (14.8)	7,3 (15.9)	7,6 (16.6)	7,4 (16.0)	7,2 (15.5)
30,0 (100)		6,0 (—)	5,4 (11.8)	5,2 (11.2)	4,9 (10.6)
36,0 (120)				3,8 (8.2)	3,5 (7.5)
42,0 (140)					2,4 (5.2)
44,0 (150)					2,1 (4.2)
48,0 (160)					
52,0 (170)					

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)	10,8 (—)	10,8 (—)			
12,0 (40)	10,8 (24.0)	10,8 (24.0)	10,8 (—)		
14,0 (50)	10,8 (24.0)	10,8 (24.0)	10,8 (24.0)	10,8 (24.0)	
18,0 (60)	9,5 (20.7)	10,6 (23.2)	10,8 (24.0)	10,8 (24.0)	8,4 (18.5)
24,0 (80)	7,2 (15.6)	7,9 (17.0)	7,5 (16.3)	7,3 (15.7)	7,0 (15.1)
30,0 (100)	5,8 (12.6)	5,7 (12.4)	5,4 (11.7)	5,1 (11.1)	4,8 (10.4)
36,0 (120)		4,4 (9.4)	4,0 (8.7)	3,7 (8.0)	3,4 (7.3)
42,0 (140)			3,1 (6.6)	2,8 (5.9)	2,4 (5.0)
44,0 (150)			2,7 (5.3)	2,5 (5.0)	2,1 (4.1)
48,0 (160)				1,9 (4.0)	1,5 (3.2)
52,0 (170)				1,4 (3.1)	

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)					
12,0 (40)	6,9 (14.4)	— (15.1)			
14,0 (50)	6,8 (12.9)	6,8 (13.6)	— (14.5)	— (15.1)	
18,0 (60)	5,9 (10.9)	6,2 (11.6)	6,6 (12.5)	6,8 (13.2)	— (13.8)
24,0 (80)	5,0 (—)	5,3 (10.3)	5,7 (11.1)	6,0 (11.6)	6,3 (11.0)
30,0 (100)		4,7 (—)	5,0 (8.9)	5,3 (8.4)	5,1 (7.8)
36,0 (120)			4,1 (—)	3,9 (6.2)	3,6 (5.5)
42,0 (140)				2,9 (—)	2,6 (4.4)
44,0 (150)					2,3 (—)
48,0 (160)					1,8 (—)
52,0 (170)					

For complete chart, refer to www.cranelibrary.com.

Meets ASME B30.5 Requirements - Capacities do not exceed 75% of static tipping load.
NOTICE: This capacity chart is for reference only and must not be used for lifting purposes.

Fixed jib load charts

Model 11000-1 liftcrane jib capacities

No. 11000-1 fixed jib on main boom

28 800 kg (63,500 lb) upper counterweight, 7 300 kg (16,100 lb) carbody counterweight crawler extended

360° Rating

kg (lb) x 1 000

10° offset

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)					
12,0 (40)	9,0 (20.0)	9,0 (20.0)			
14,0 (50)	9,0 (20.0)	9,0 (20.0)	9,0 (20.0)		
18,0 (60)	7,8 (17.0)	8,6 (18.9)	9,0 (20.0)	9,0 (20.0)	8,1 (18.4)
24,0 (80)	5,9 (12.8)	6,6 (14.4)	7,6 (16.5)	7,4 (15.9)	7,1 (15.3)
30,0 (100)	4,7 (10.3)	5,3 (11.6)	5,5 (11.8)	5,2 (11.2)	4,9 (10.5)
36,0 (120)	4,1 (—)	4,4 (9.5)	4,1 (8.8)	3,8 (8.2)	3,5 (7.5)
42,0 (140)		3,5 (—)	3,1 (6.7)	2,8 (6.1)	2,4 (5.2)
44,0 (150)			2,9 (5.8)	2,5 (5.2)	2,1 (4.2)
48,0 (160)			2,2 (4.6)	2,0 (4.3)	1,6 (—)
52,0 (170)				1,5 (3.4)	

30° offset

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)					
12,0 (40)					
14,0 (50)					
18,0 (60)	4,8 (10.4)	5,0 (10.9)	5,2 (11.4)		
24,0 (80)	4,0 (8.7)	4,2 (9.2)	4,5 (9.8)	4,7 (10.3)	4,9 (10.7)
30,0 (100)	3,4 (7.6)	3,7 (8.0)	3,9 (8.7)	4,2 (9.2)	4,4 (9.6)
36,0 (120)			3,5 (7.6)	3,8 (8.3)	3,8 (8.1)
42,0 (140)				3,0 (6.4)	2,7 (5.7)
44,0 (150)				2,7 (5.5)	2,4 (4.7)
48,0 (160)					1,8 (3.8)
52,0 (170)					

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)					
12,0 (40)	8,1 (18.0)				
14,0 (50)	8,1 (17.8)	8,1 (18.0)	— (18.0)		
18,0 (60)	6,8 (14.8)	7,5 (16.3)	8,1 (18.0)	8,1 (18.0)	8,1 (18.0)
24,0 (80)	5,1 (11.1)	5,6 (12.3)	6,4 (14.1)	7,2 (15.6)	7,2 (15.4)
30,0 (100)	4,0 (8.8)	4,5 (9.9)	5,2 (11.4)	5,2 (11.3)	4,9 (10.7)
36,0 (120)	3,4 (7.3)	3,8 (8.2)	4,1 (8.9)	3,8 (8.3)	3,5 (7.5)
42,0 (140)		3,2 (7.1)	3,1 (6.8)	2,9 (6.1)	2,4 (5.2)
44,0 (150)		3,1 (—)	2,9 (6.0)	2,6 (5.3)	2,1 (4.3)
48,0 (160)			2,4 (5.0)	2,1 (4.4)	1,6 (3.4)
52,0 (170)			— (4.0)	1,6 (3.6)	

Boom m (ft)	24,4 (80)	30,5 (100)	39,6 (130)	48,8 (160)	57,9 (190)
Radius					
10,0 (30)					
12,0 (40)					
14,0 (50)					
18,0 (60)	4,0 (8.9)				
24,0 (80)	3,3 (7.3)	3,5 (7.7)	3,7 (8.1)	3,9 (8.5)	3,9 (8.7)
30,0 (100)	2,8 (6.2)	3,0 (6.6)	3,2 (7.1)	3,4 (7.5)	3,5 (7.8)
36,0 (120)		2,7 (5.9)	2,9 (6.3)	3,1 (6.7)	3,2 (7.0)
42,0 (140)			2,6 (5.8)	2,8 (6.2)	2,7 (5.9)
44,0 (150)				2,7 (5.7)	2,4 (4.9)
48,0 (160)				2,3 (4.9)	1,9 (4.0)
52,0 (170)					1,4 (3.2)

For complete chart, refer to www.cranelibrary.com.

Meets ASME B30.5 Requirements - Capacities do not exceed 75% of static tipping load.
NOTICE: This capacity chart is for reference only and must not be used for lifting purposes.

Clamshell

Boom:

Welded lattice construction using tubular, high-tensile steel chords with pin connections between sections.

Basic boom length: 12.2 m (40 ft)

Max. boom length: 30.5 m (100 ft)

Limit one clamshell bucket weight: 2 100 kg (4,600 lb)

Maximum component chart

Boom length m (ft)	Boom arrangement
12.2 (40)	Base-Tip
15.2 (50)	Base-A-Tip
18.3 (60)	Base-A-A-Tip, Base-B-Tip
21.3 (70)	Base-A-B-Tip
24.4 (80)	Base-A-A-B-Tip, Base-B-B-Tip
27.4 (90)	Base-A-C-Tip
30.5 (100)	Base-A-A-C-Tip

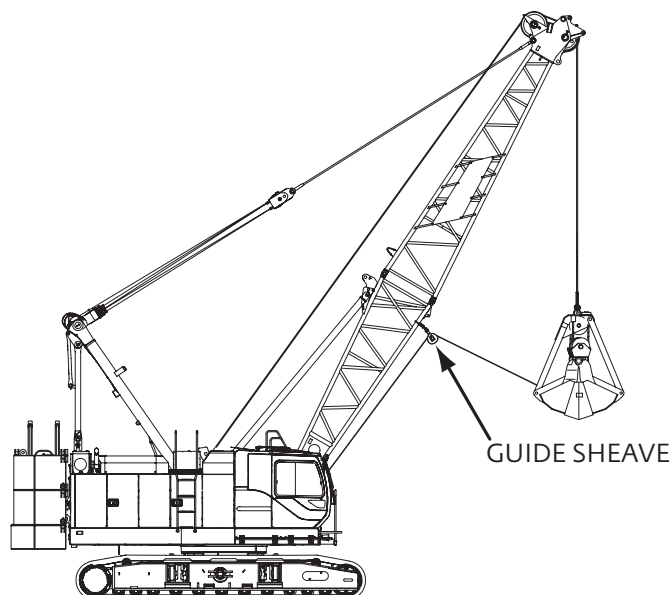
Base = 6.10 m (20 ft)

Insert: A = 3.05 m (10 ft)

B = 6.10 m (20 ft)

C = 12.2 m (40 ft)

Tip = 6.10 m (20 ft)



1. Figures represent maximum allowable capacity, and assume level ground and ideal working conditions.
2. Capacities are calculated at 66% of the minimum tipping loads.
3. Capacities are maximum recommended by PCSA Standard #4. Allowances must be made by the user for such unfavorable conditions as a soft or uneven supporting surface, rapid cycle operations, or bucket suction.
4. The combined weight of the bucket and load must not exceed these capacities.
5. Boom length for clamshell operation should not exceed 30.5 m (100 ft).

Clamshell Capacities

19,8 t (13.3 USt) counterweight

(three upper counterweights, crawlers extended)

kg (lb) x 1 000

Boom m (ft)	12,2 (40)	15,2 (50)	18,3 (60)	21,3 (70)	24,4 (80)	27,4 (90)	30,5 (100)
Radius							
6,7 (22)	9,9* (22.0)						
7,9 (26)	9,9* (22.0)	9,9* (22.0)					
9,1 (30)	9,9* (22.0)	9,9* (22.0)	9,9* (22.0)				
10,4 (34)	9,8* (21.4)	9,8* (21.4)	9,8* (21.4)	9,7* (21.4)			
12,8 (42)		8,3* (17.3)	8,3* (17.3)	8,3* (17.3)	8,3* (17.3)	7,8* (17.3)	
15,2 (50)			6,2* (14.6)	6,2* (14.6)	6,2* (14.6)	6,2* (14.6)	6,2* (14.6)
17,7 (58)			5,6* (12.5)	5,5* (12.5)	5,5* (12.5)	5,7* (12.5)	5,5* (12.5)
20,1 (66)				5,0* (11.0)	5,0* (11.0)	5,0* (11.0)	5,0* (11.0)
22,6 (74)					4,3* (9.8)	4,3* (9.7)	4,2* (9.4)
25,0 (82)						3,5* (8.3)	3,7* (8.1)
26,8 (88)							3,3* (7.2)
28,7 (94)							2,9* (6.6)

Ratings shown by * are determined by the strength of the boom or other structural components.

Manitowoc Crane Care

Crane Care is Manitowoc's comprehensive service and support program. It includes classroom and on-site training, prompt parts availability, expert field service, technical support and documentation.

That's commitment you won't find anywhere else.

That's Crane Care.

Service training

Manitowoc specialists work with you in our training centers and in the field to make sure you know how to get maximum performance, reliability and life from your cranes.

Manitowoc Cranes Technical Training Centers provide valuable multi-level training, which is available for all models and attachments, in the following format:

- **Intro to Canbus and Canbus 1, 2, 3**
- **Intro to EPIC and EPIC 1, 2, 3**
- **Small Crawler 1**
- **Canbus 1 and 2 assembly, operation and maintenance**
- **EPIC 1 and 2 assembly, operation and maintenance**

Refer to www.manitowoc.com for course descriptions.

Parts availability

Genuine Manitowoc replacement parts are accessible through your distributor 24 hours a day, 7 days a week, 365 days a year.

Service interval kits

200 hour kit

1,000 hour kit

2,000 hour kit

Hydraulic test kit

U.S. standard tools kit

Field service

Factory-trained service experts are always ready to help maintain your crane's peak performance.

For a worldwide listing of dealer locations, please consult our website at: www.manitowoc.com

Technical support

Manitowoc's dealer network and factory personnel are available 24 hours a day, 7 days a week, 365 days a year to answer your technical questions and more, with the help of computerized programs that simplify crane selection, lift planning, and ground-bearing calculations.

For a worldwide listing of dealer locations, please consult our website at: www.manitowoc.com

Technical documentation

Manitowoc has the industry's most extensive documentation; available in major languages and formats that include print, videotape, and DVD/CD.

Additional copies available through your Authorized Manitowoc Distributor.

- Crane operator's manual
- Crane parts manual
- Crane capacity manual
- Crane vendor manual
- Crane service manual
- Luffing jib operator's/parts manual
- Capacity chart manual - attachments

Available from your Authorized Manitowoc Cranes Distributor, these videos are available in NTSC, PAL, SECAM, and DVD formats.

- Your Capacity Chart Video
- Respect the Limits Video
- Crane Safety Video
- Boom Inspection/Repair Video

Crane Care Package

Manitowoc has assembled all of the available literature, CD's and videos listed above plus several Manitowoc premiums into one complete Crane Care Package, which is supplied to the owner of each new crane.

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