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Th10b

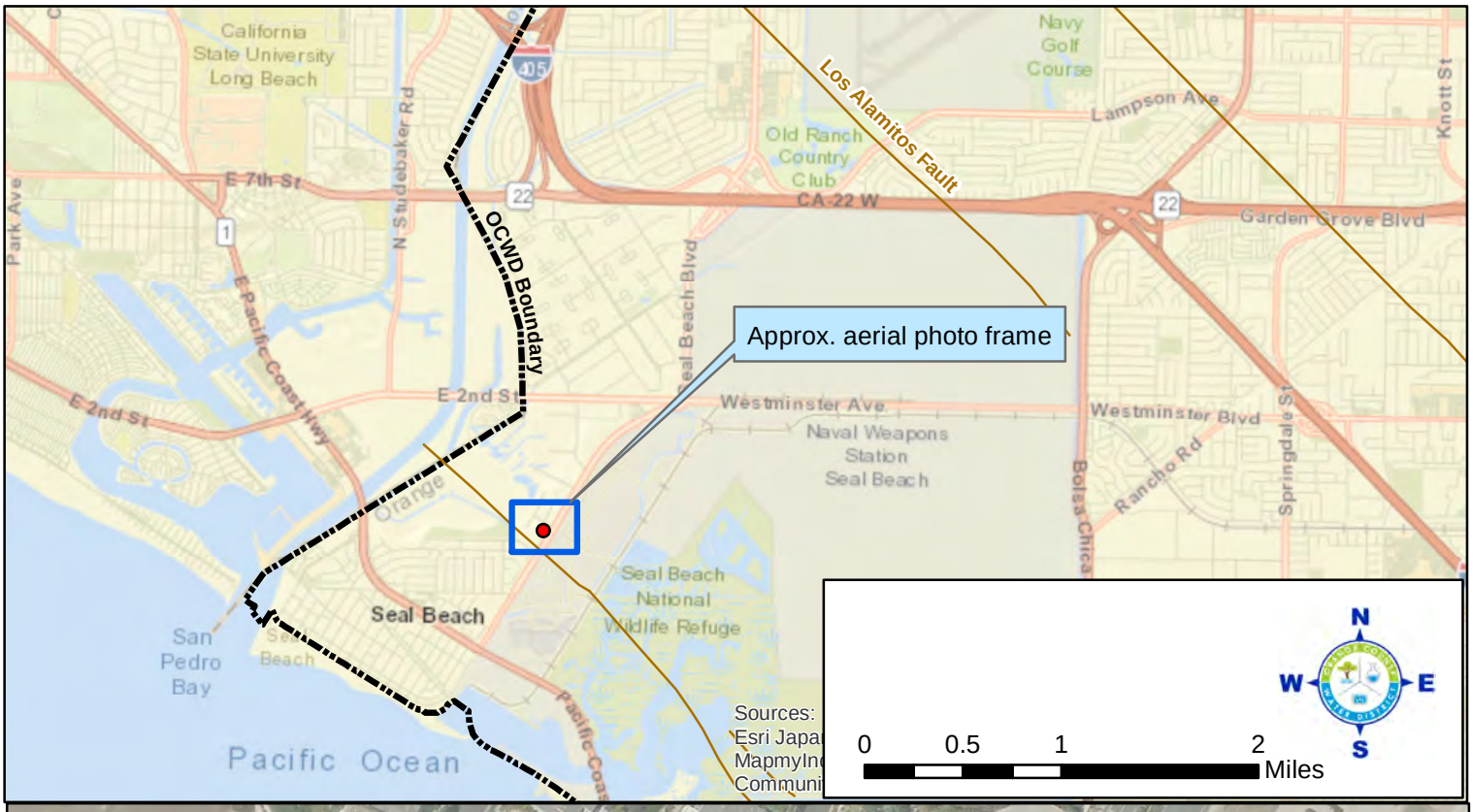
5-21-0475

(Orange County Water District)

FEBRUARY 10, 2022

EXHIBITS

Exhibit 1 – Vicinity Map



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N
W E
S

0 100 200 Feet

- Proposed Monitoring Well
- Proposed Construction Work Area
- Approx. Location Area of Well Cluster

Monitoring Well OCWD-BS25 Vicinity Map

Additional Monitoring Well Installations Project
Sunset Gap Seawater Intrusion Investigation

GENERAL PROJECT DESCRIPTION
Municipal water production well HB-12, owned by the City of Huntington Beach, was destroyed in 2015 as a result of increased salinity in groundwater that was pumped for potable use. In response to the destruction of HB-12, OCWD began to investigate possible pathways for saline water to migrate over 3 miles inland from the coast. Based on available groundwater information, OCWD has been able to determine that seawater could be migrating inland from several avenues: 1) eastward flow under the Landing Hill Mesa from the Alamitos Gap area; 2) leaking through the Newport-Inglewood Fault zone with a downward gradient flowing through breached clay layers in Huntington Harbor as a result of past dredging activities; 4) migrating from the Bolsa Gap area northwestward between the Bolsa and Newport-Inglewood Faults; or 5) a combination of the above. To determine the exact pathway of saline water migration for eventual potential mitigative solutions, OCWD is proposing up to 11 single point monitoring wells at five locations in the cities of Huntington Beach and Seal Beach. Each well point will be screened into a specific aquifer where OCWD believes intrusion is occurring.

SEAL BEACH SITE (map attached; Figure 1)
Proposed Well Location
One of the five proposed well sites is located in the parking lot of Gum Grove Park just outside of Heron Pointe residential community in the City of Seal Beach. This well site is anticipated to intercept suspected saline water migrating from the Alamitos Gap area.

Surface Conductor Casing Installation
Conductor casings will be installed to about 50 feet below ground surface using an auger rig to bore open a hole for a steel casing to be lowered and cemented in place. The objective of the conductor casing is to stabilize the surface as borehole drilling and cuttings are removed from below.

Borehole Drilling and Well Installation
The wells will be drilled and constructed using the mud rotary direct circulation drilling method. The expected construction equipment on site will be a drill rig, pipe trailer containing the drill pipe, mud tank and shaker unit to separate the mud from the soil cuttings, and several temporary containment roll off bins with lids for short term storage and offsite disposal. Figure 2 show the possible equipment layout at the proposed site.

As shown in Figure 3, two single-point monitoring wells, BS25A and BS25B, are proposed to be installed about 10 feet apart at estimated boring depths of about 160 feet and 260 feet, respectively. The well casings will be 4-inch diameter schedule 80 PVC with screen interval depths to be determined based on the soil cuttings observed during borehole drilling (Figure 3). To reduce the very high risk of borehole collapse during drilling and well construction, OCWD is planning a 24-hour or round the clock operations during the drilling and well construction (install casing in open borehole; annular backfill to surface) phases.

Well Development
Once the well has been installed, well development will commence. Well development is the cleaning or removal of the drilling mud from the well and filter pack, as well as the settling or development of the filter pack around the well screen. This phase of the well construction requires a smaller equipment footprint and the operation is planned for daylight hours only.

Well Surface Completion
After the well has been developed, the two new monitoring well casings will be cut below the surface grade and protective traffic-rated well boxes will be installed on top whose lid will be placed just slightly above the

parking lot asphalt grade, so the proposed new facility would not interfere with pedestrian and vehicular traffic. Figure 4 shows a typical surface completion design.

Anticipated Construction Activities and Estimated Duration

OCWD hopes to start well construction by late fall or early winter 2019. It is estimated that two clustered monitoring wells, BS25A and BS25B, will take about 2-3 weeks to complete. The table below summarizes the anticipated well construction activities and its estimated duration.

BS25B (deeper well)

Activity Description	Estimated Duration	Unit
Conductor Casing Installation	0.5	day
Mobilization and site setup - includes noise panels	5	days
Borehole Drilling - est. 260 feet depth	30 hours (round the clock operation)	hours
Well Construction - casing and annular backfill	12 hours (round the clock operation)	hours
Well Development - swabbing, airlifting, pumping	3	days
Vault Installation & Surface Completion	0.5	day
Demobilization	0.2	day

BS25A (shallower well)

Activity Description	Estimated Duration	Unit
Conductor Casing Installation	0.5	day
Mobilization and site setup	0.1	day
Borehole Drilling - est. 160 feet depth	20 hours (round the clock operation)	hours
Well Construction - casing and annular backfill	10 hours (round the clock operation)	hours
Well Development - swabbing, airlifting, pumping	3	days
Vault Installation & Surface Completion	0.5	day
Demobilization and Site Clean up	1	day

Assumptions

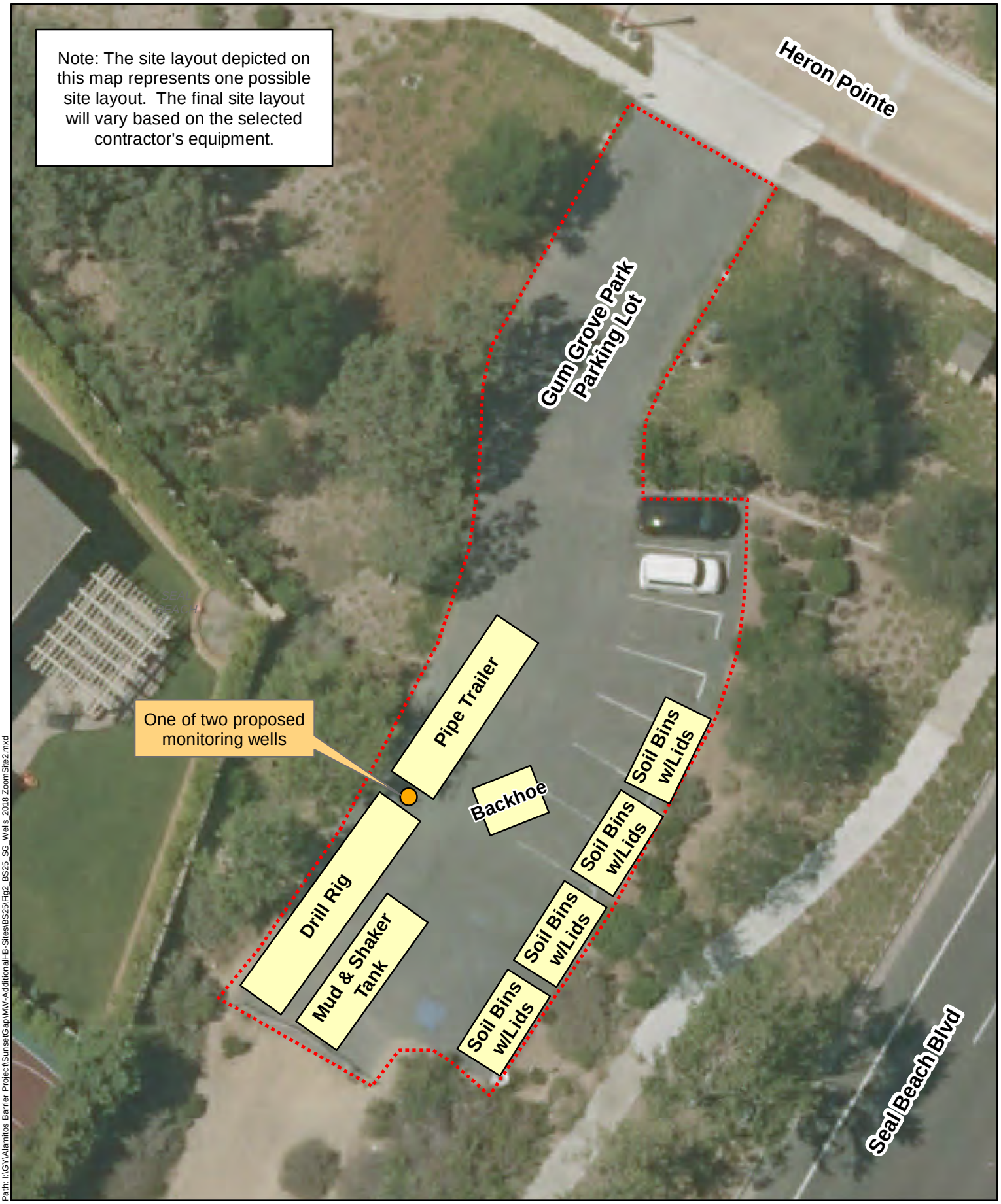
1) Typical work day is 10 hours; daytime only, unless otherwise specified.
2) Typical work week is Monday through Friday, unless otherwise specified.

California Environmental Quality Act (CEQA)

Once the five proposed well locations are pre-approved or cleared, OCWD will follow through with the CEQA process.

Expected Post-Construction Monitoring Activities

Water level and water quality information will be collected periodically at both wells (BS25A, BS25B). Water levels may be on a monthly or quarterly schedule depending on staff availability with each visit taking up to 5-10 minutes to complete the measurements. Groundwater sample collection for water quality analyses may be on a semi-annual or annual schedule with each visit to the site taking up to 1.5 to 3 hours.



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Possible Drilling Equipment Site Layout
Sunset Gap Seawater Intrusion Investigation

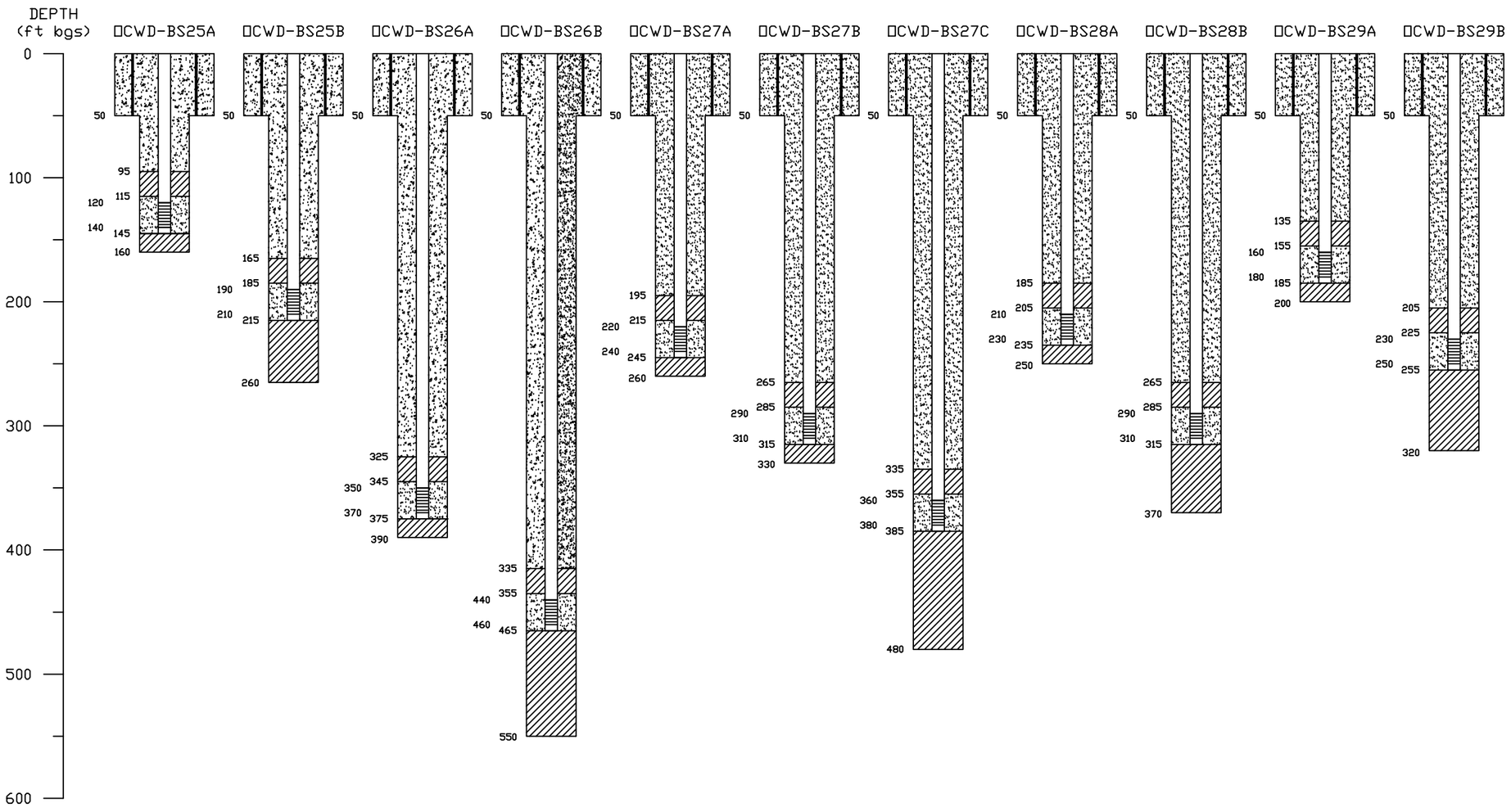
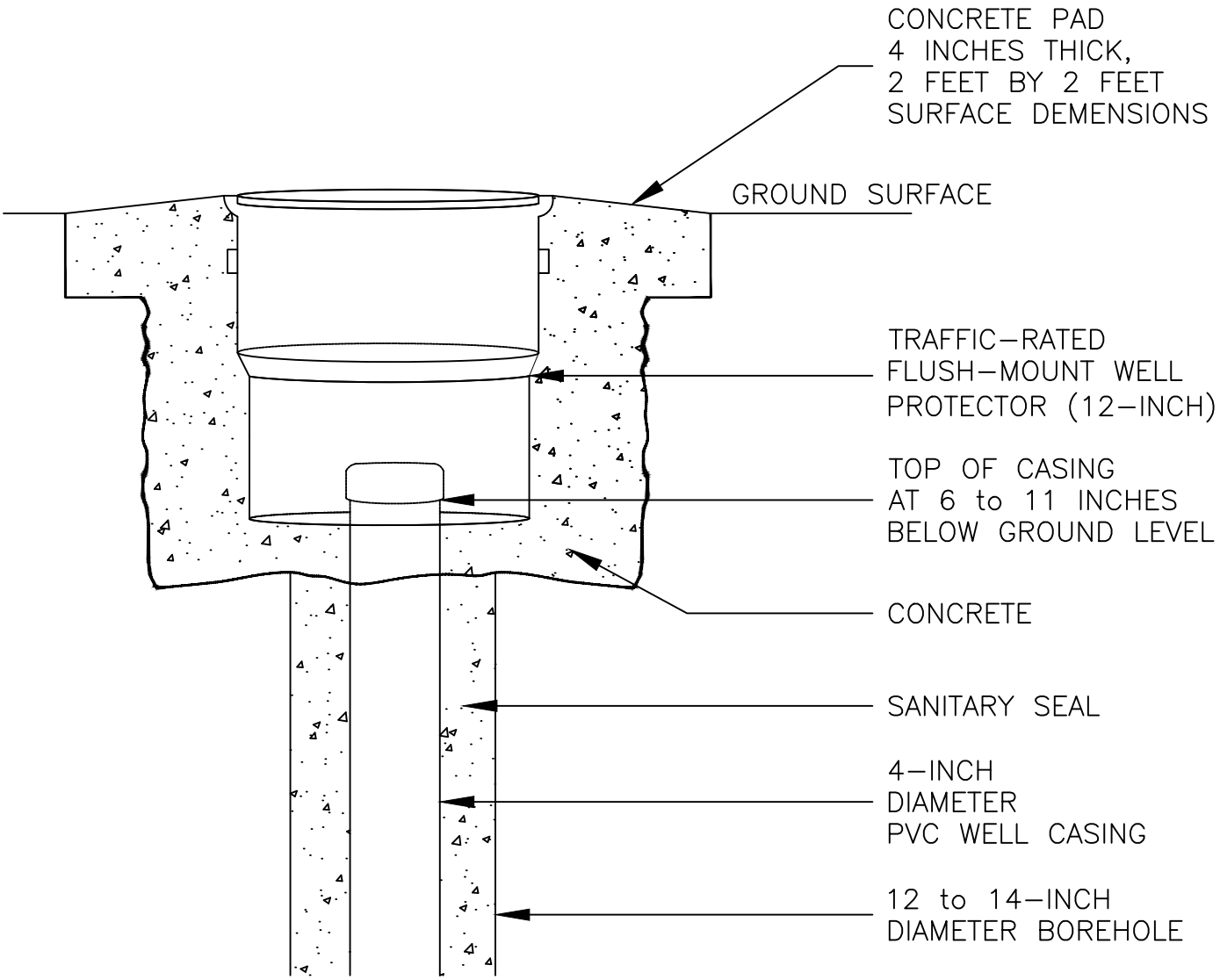


FIGURE 3
PROPOSED WELL INSTALLATION DESIGNS
SUNSET GAP SEAWATER INTRUSION INVESTIGATION



NOT TO SCALE

FIGURE 4
TYPICAL SURFACE COMPLETION DETAIL
Sunset Gap Seawater Intrusion Investigation

B. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant with Mitigation Incorporated: The proposed well sites are located within an urbanized area. The records search review identified that there were listed archeological sites within the area near the OCWD-BS25 site in the City of Seal Beach and the OCWD-BS23 site in the City of Huntington Beach that would be subject to the installation of the monitoring wells. The proposed monitoring wells would be located within areas that have been previously subject to ground disturbing activities. However, even though the Project sites have been previously disturbed, because specific archeological resources are known to occur near the OCWD-BS25 site in the City of Seal Beach and the OCWD-BS23 site in the City of Huntington Beach, there would still be some potential for the discovery of unknown archeological resources, which would result in a potentially significant impact. Therefore, Mitigation Measure CR-1 and CR-2 have been identified to reduce any potential adverse impacts to unknown archeological resources to less than significant.

Mitigation Measure

MM CR-1: During all ground disturbing activities within 15 feet below the existing ground surface at the Monitoring Well OCWD-BS25 and OCWD-BS23 sites in the City of Seal Beach and Huntington Beach, the OCWD Project Manager shall ensure that a qualified archeological monitor is present to monitor construction activities. The archeological monitor shall ensure that, in the event that any evidence of cultural resources is discovered, all work within the vicinity of the find shall immediately halt until a assessment of the significance of the materials has been made. A resumption of ground disturbing activities shall only be permitted once a qualified archeologist has concluded their assessment. The qualified archeologist shall prepare a letter report that documents the find and identifies recommendations for the treatment and/or deposition of the materials.

MM CR-2: Prior to the commencement of any ground disturbing activity at the Monitoring Well OCWD-BS25 and OCWD-BS23 sites in the City of Seal Beach and Huntington Beach, the OCWD Project Manager shall retain a Native American Monitor approved by the Gabrieleno Band of Mission Indians-Kizh Nation – the tribe that consulted on this project pursuant to Assembly Bill A52 - SB18 (the “Tribe” or the “Consulting Tribe”). The Tribal monitor shall only be present on-site during the construction phases that involve ground-disturbing activities to a depth of 15 feet below the existing ground surface. Ground disturbing activities shall be defined as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor shall complete daily monitoring logs that will provide descriptions of the day’s activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities within a depth of 15 feet below the existing ground surface at the on the Monitoring Well OCWD-BS25 and OCWD-BS23 sites are completed, or when the Tribal Representatives and Tribal Monitor have indicated that all upcoming ground-disturbing activities at the Project Site have little to no potential for impacting Tribal Cultural Resources. Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 50 feet)

until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the Tribal monitor approved by the Consulting Tribe and a qualified archaeologist if one is present. If the resources are Native American in origin, the Consulting Tribe will retain it/them in the form and/or manner the Tribe deems appropriate, for educational, cultural and/or historic purposes. If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue in other parts of the Project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.

C. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant: No human remains or cemeteries are known to exist within or near the Project area. Therefore, it would be highly unlikely that human remains would be encountered when well drilling activities are occurring. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and Section 5097.98 must be followed. Accordingly, impacts would be less than significant.

4.6 Energy

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

Less Than Significant: The proposed Project would require the consumption of energy in the use of fossil fuels in combustion engines during the construction phase of the Project. No use of electricity would be required at the site during the construction period beyond the electricity that would be required to convey water that would be used for dust control or electricity needed for construction equipment. Energy would also be expended through the use of petroleum-based fuels and the production of construction materials. The limited scale and duration of the construction of the Project would ensure that energy consumption would be nominal and would not represent a wasteful, inefficient or unnecessary use of energy. During the operational phase of the Project, no electricity or other forms of energy consumption would be utilized with the exception of the occasional extraction of groundwater samples that would require the use of a small portable generator for approximately one day per visit. Therefore, the Project would result in less than significant impacts associated with the consumption of energy.

Exhibit 4 – CoSMoS Analysis

This sea level rise and storm scenario report summarizes model results for the area you selected. This report was designed to provide information to help you identify vulnerabilities to sea level rise and storm surges.

Area and Elevation Information

Area is the size of selected polygon, in square meters, acres and hectares, and Elevation is the average, minimum and maximum elevation from the Digital Elevation Model (DEM) within the polgyon.

Area: 11,348.14 m²
2.80 ac
1.13 ha

Projected Percent Area Flooded for the Selected Area

Values indicate the percentage of the selected area flooded for the Storm and Sea Level Rise Scenario combination. Areas of open water are included in these percentages.

Storm Scenario													
	100 yr Storm	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	20 yr Storm	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Annual Storm	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	No Storm	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		none	**25 cm**	**50 cm**	**75 cm**	**100 cm**	**125 cm**	**150 cm**	**175 cm**	**200 cm**	**250 cm**	**300 cm**	**500 cm**
	Sea Level Rise Scenario												

under 25% flooded | 25-50% flooded | 50-75% flooded | over 75% flooded


SITE
Mother's Beach
Whole Foods Market
Trader Joe's
MARINA
Bayshore Beach
NAPLES
Shake Shack
Appian Way
San Pedro Fish Market - Long Beach
Pumpkin Patch
Temporarily closed
Schooner Or Later
E Ocean Blvd
Alamitos Peninsula
PENINSULA
Eaves Seal Beach
N Marina Dr
Boathouse on the Bay
Ballast Point Brewing Long Beach
Marina Dr
BRIDGEPORT
Alamitos Park
The Pacific Inn
CVS
Pavilions
The Crema Cafe
Parking At Seal Beach
Mahé
Seal Beach
Seal Beach Pier Playground
Gum Grove Park
Naval Weapons Station Seal Beach RV Park
JH McGaugh Elementary School
Seal Beach Blvd
Westminster Blvd
AIM Sports Group
Boeing
Parts Group
Seal Beach Animal Care Center
Suites Seal Beach
Seal Beach National Wildlife Refuge