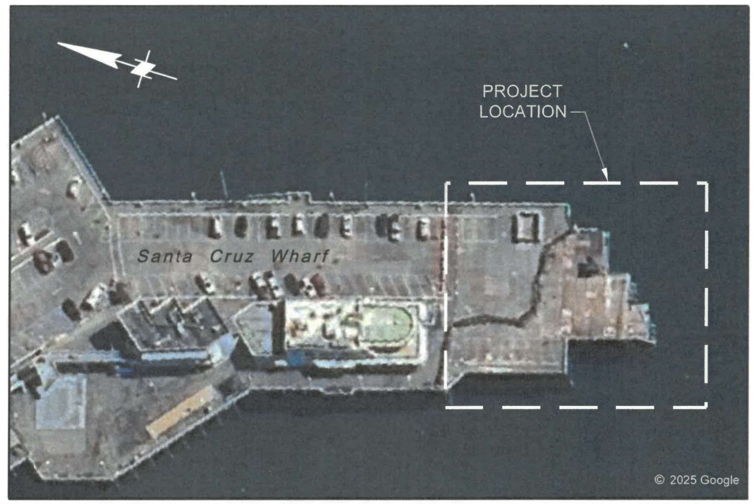
SANTA CRUZ WHARF

SANTA CRUZ WHARF END INTERIM REPAIRS

SANTA CRUZ, CALIFORNIA

VICINITY MAP
SCALE: 1" = 30' +/-



LOCATION MAP
SCALE: 1" = 470' +/-

SHEET INDEX

INDEX NO.	DRAWING NO.	SHEET NAME
1	G1	TITLE SHEET
2	G2	GENERAL NOTES
3	G3	BEST MANAGEMENT PRACTICES 1 OF 3
4	G4	BEST MANAGEMENT PRACTICES 2 OF 3
5	G5	BEST MANAGEMENT PRACTICES 3 OF 3
6	G6	EXISTING PHOTOS
7	G7	CONTRACTOR STAGING AREA
8	S1	EXISTING SITE PLAN
9	S2	EXISTING SECTION & PROFILE
10	S3	OVERALL SITE PLAN
11	S4	DEMOLTION PLAN
12	S5	TYPICAL WHARF SECTION
13	S6	PILE PLAN
14	S7	DETAILS 1 OF 3
15	S8	DETAILS 2 OF 3
16	S9	DETAILS 3 OF 3

WHARF PILE STORAGE YARD ADDRESS:

WHARF PILE STORAGE YARD IS LOCATED BETWEEN:
1. CHESTNUT PARK (ADDRESS: 89 CHESTNUT STREET, SANTA CRUZ, CA 95060)
2. DEPOT PARK (ADDRESS: 119 CENTER STREET, SANTA CRUZ, CA 95060)

ACCESS TO AREA IS FROM CHESTNUT STREET.

REGISTERED PROFESSIONAL ENGINEER
KEVIN J. CROSSLEY
C 74847
EXP. 12-31-26
CIVIL
STATE OF CALIFORNIA

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_G1.dwg Jul 28, 2025 - 12:58pm

REGISTERED PROFESSIONAL ENGINEER
BRADFORD A. PORTER
No. 042755
Exp. 3-31-26
CIVIL
STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

moffatt & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

TITLE SHEET

DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	1 OF 16
DESIGN	JE/BP	DRAWING NO.	G1
CHECKED	BP		

GENERAL NOTES

1. REPAIRS BASED UPON CONDITION ASSESSMENTS DATED APRIL 2 AND APRIL 3, 2025 CONDUCTED BY MOFFATT & NICHOL.
2. ELEVATIONS SHOWN ARE IN FEET REFERENCED TO MEAN LOWER LOW WATER.
3. PROTECT ALL EXISTING SITE FEATURES NOT CALLED OUT TO BE DEMOLISHED. REPAIR ANY DAMAGE DONE TO EXISTING FEATURES TO REMAIN.
4. VERIFY ALL LEVELS, DIMENSIONS, AND EXISTING CONDITIONS IN THE FIELD BEFORE PROCEEDING. NOTIFY OWNER OF ANY DISCREPANCIES OR FIELD CHANGES PRIOR TO COMMENCING FABRICATION AND INSTALLATION. IN CASE OF DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS OBTAIN WRITTEN DIRECTION FROM OWNER BEFORE PROCEEDING.
5. FURNISH, INSTALL, AND MAINTAIN ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO WORKING HOURS.
6. BEAR RESPONSIBILITY FOR ALL JOBSITE SAFETY.
7. KEEP THE PROJECT SITE IN A NEAT AND ORDERLY CONDITION, FREE OF RUBBISH AND DEBRIS, AT ALL TIMES. THE SITE SHALL BE CLEANED OF DEBRIS AT THE END OF EACH DAY AND AT THE CONCLUSION OF REMOVAL WORK.
8. ALL TREATED WOOD SHALL BE TRANSPORTED TO AND DISPOSED OF AT THE CITY'S RESOURCE RECOVERY FACILITY PER THE CITY'S TREATED WOOD WASTE DISPOSAL PLAN.
9. ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED.
10. THESE DRAWINGS OF THE PIER STRUCTURE DEPICT THE NOMINAL, IDEALIZED, CONFIGURATION OF STRUCTURAL ELEMENTS AND CONNECTIONS. VARIATIONS IN THE CONFIGURATION OCCUR IN DISCRETE LOCATIONS ALONG THE PIER. ACCORDINGLY, VARIATIONS IN THE FITTING OF NEW STRUCTURAL COMPONENTS TO THE EXISTING STRUCTURE SHOULD BE ANTICIPATED AND INCLUDED IN THE WORK EFFORT.
11. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

SHEET SPECIFICATIONS

CODES AND STANDARDS

1. 2022 CALIFORNIA BUILDING CODE (CBC).
2. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), STEEL CONSTRUCTION MANUAL, 16TH EDITION.
3. AMERICAN FOREST & PAPER ASSOCIATION, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, NDS 2024 EDITION.
4. AMERICAN SOCIETY OF CIVIL ENGINEERS, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-22.

PERMITS

1. COMPLY WITH THE FOLLOWING PERMITS OBTAINED BY THE CITY:
   - 1.1. USACE RGP 36
   - 1.2. COASTAL COMMISSION CDP AS AMENDED
   - 1.3. SANTA CRUZ WHARF MAINTENANCE PERMIT

LUMBER

1. STRUCTURAL LUMBER, INCLUDING LUMBER FOR RAILING, SHALL BE DOUGLAS FIR-LARCH NO. 1 OR BETTER AS SPECIFIED BY THE WEST COAST LUMBER INSPECTION BUREAU, VISUALLY GRADED LUMBER.
2. STRUCTURAL LUMBER, INCLUDING LUMBER FOR RAILING, SHALL BE CHEMICALLY TREATED WITH ACZA FOR MARINE EXPOSURE, SALTWATER SPLASH PER APWA STANDARD 4B, 4C. CUTS SHALL BE SEALED WITH ACRI-SOY.
3. ALL REPLACEMENT MEMBERS SHALL BE REPLACED IN KIND. FOR BID PURPOSES ASSUME TIMBER OF THE FOLLOWING NOMINAL SIZES, UON:

DECKING	3X12
STRINGERS	4X12
PILE CAP	12X12
PILES	14" DIA PILE
RAIL POST	4X4
RAIL BOARD	2X6
CONNECTOR PLATE	2X2

4. REPLACEMENT MEMBERS SHALL HAVE HARDWARE REPLACED. HARDWARE MAY BE REUSED IF LOSS OF MATERIAL FROM CORROSION IS LESS THAN 10%.

LUMBER MEMBER REPLACEMENT CRITERIA

1. STRINGERS SHALL BE REPLACED IF THERE IS ROT THAT CAN BE PENETRATED MORE THAN 2" WITH A SCREWDRIVER OR IF THERE ARE VERTICAL OR HORIZONTAL SPLITS THAT EXTEND THROUGH THE MEMBER. DETERMINATION OF WHETHER A STRINGER SHALL BE REPLACED IS THE RESPONSIBILITY OF THE CITY'S REPRESENTATIVE.
2. PILE CAPS SHALL BE REPLACED IF THERE IS ROT THAT CAN BE PENETRATED MORE THAN 2" WITH A SCREWDRIVER. SPLITS IN PILE CAP WILL QUALIFY THE PILE CAP FOR REPLACEMENT ONLY IF THE SPLIT EXTENDS FROM ITS END TO A POINT PAST THE FIRST BEARING PILE. OTHERWISE, SPLIT PILE CAPS SHOULD BE CLAMPED TOGETHER BY USE OF TWO 1" DIAMETER THROUGH BOLTS. DETERMINATION OF WHETHER A PILE CAP SHALL BE REPLACED IS THE RESPONSIBILITY OF THE CITY'S REPRESENTATIVE.

TIMBER PILES

1. PILES SHALL BE TREATED DOUGLAS FIR ROUND TIMBER PILES CONFORMING TO ASTM D25. TREATMENT SHALL BE FOR SALTWATER SEVERE BORER HAZARD TO A MINIMUM NET RETENTION OF 2.5 PCF.
2. ACZA-TREATED DOUGLAS FIR WOODEN PILES HAVING A DIAMETER OF APPROXIMATELY 14 INCHES AND A LENGTH OF APPROXIMATELY 70 FEET FOR PLUMB PILES AND 75 FEET FOR BATTER PILES SHALL BE USED. PILES SHALL BE DRIVEN 20 FEET INTO THE BOTTOM OR UNTIL REFUSAL.
3. POLYUREA COATING SHALL BE APPLIED UNIFORMLY TO THE PILES TO A THICKNESS OF 250 MILS, AND TERMINATE APPROXIMATELY 13 FEET FROM THE TIP OF THE PILE AND 5 FEET FROM THE BUTT END OF THE PILE. THE UN-SEALED BUTT END OF THE PILE SHALL BE SUBSEQUENTLY CUT UPON INSTALLATION TO TERMINATE UNDER THE LOWEST CAP. PILES SHALL BE INSPECTED FOR DAMAGE TO THE POLYUREA COATING PRIOR TO, AND IMMEDIATELY AFTER, INSTALLATION AND REPAIRED IF NECESSARY. REPAIRS SHALL USE INERT WRAPPING SUCH AS HDPE SECURED BY BANDING OR AN EPOXY REPAIR SYSTEM.
4. THE PILES SHALL HAVE NO LETTERING OR PRINTED MATTER ON THE EXTERIOR UPON INSTALLATION.

STRUCTURAL/MISCELLANEOUS STEEL AND HARDWARE

1. MATERIALS

PLATES AND BARS	ASTM A36
BOLTS	ASTM A307 GRADE A

2. NUTS SHALL CONFORM TO ASTM A563.
3. FABRICATE TIMBER CONNECTORS FROM ASTM A36 STEEL AND HOT-DIP GALVANIZE AFTER FABRICATION.
4. REPLACEMENT BOLTS, NUTS, AND MISCELLANEOUS STEEL CONNECTORS SHALL BE OF THE SAME SIZE AS THE ORIGINAL HARDWARE, UNLESS OTHERWISE NOTED.
5. DECK SCREWS SHALL BE 8" STRONG-DRIVE SDWS TIMBER SS SCREWS AS SUPPLIED BY SIMPSON STRONG-TIE OR APPROVED EQUAL.
6. BOLTS SHALL HAVE MALLEABLE IRON WASHERS AT THE NUT AND HEAD. UNLESS NOTED OTHERWISE.
7. DRIFT PIN MATERIAL SHALL BE 5/8" DIAMETER HDG REBAR THAT IS 20-INCHES IN LENGTH.
8. ALL STEEL ITEMS SHALL BE HOT-DIP GALVANIZED PER ASTM A153 AND COATED AFTER FABRICATION.
9. STEEL FABRICATIONS SHALL BE FABRICATED BY AN AISC CERTIFIED FABRICATOR.

ASPHALT CONCRETE

1. ASPHALT SHALL COMPLY WITH THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 39 "ASPHALT CONCRETE" FOR TYPE A HOT MIX ASPHALT.
2. PLACE AN UNDER LAYER ON TOP OF THE DECK BOARDS PRIOR TO PLACING ASPHALT. THIS UNDER LAYER SHALL CONSIST OF A NONWOVEN POLYPROPYLENE GEOTEXTILE FABRIC. PRODUCT SHALL BE MIRAFI 140NC, OR APPROVED EQUAL.

PILE DRIVING

1. PILE DRIVING EQUIPMENT SHALL BE LIMITED TO 8 TON GROSS WEIGHT AS POSTED AT THE ENTRANCE TO THE WHARF. CRANE EQUIPMENT EXCEEDING THIS WEIGHT SHALL PROVIDE ADDITIONAL SUPPORT (I.E., CRANE MATS).
2. RECORD PILE DRIVING DATA.
3. PILE REPLACEMENTS SHALL BE PERFORMED PER BEST MANAGEMENT PRACTICES, SEE SHEETS G3, G4, AND G5.

SUPPLY OF MATERIALS

1. THE CITY WILL FURNISH THE FOLLOWING MATERIALS FOR THIS PROJECT:

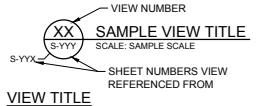
   13 - 70' X 14" DIA TIMBER PILES
   18 - 75' X 14" DIA TIMBER PILES
   27 - SETS OF DOUBLE T-STRAPS, T-STRAP BOLTS, AND T-STRAP NUTS
   8 - SETS OF BATTER PILE 29" X 1" DIA THRU BOLTS, MI WASHERS, AND NUTS
   4 - 12"X12"X16' PILE CAPS
   3 - 12"X12"X20' PILE CAPS
   30 - SETS OF DOUBLE CAP 30" X 1" DIA THRU BOLTS, WASHERS, AND NUTS
   114 - 4"X12"X20' STRINGERS
   555 - 3"X12"X12' DECK BOARDS (AS NEEDED)
   32 - 3" X 12"X20' DECK BOARDS (AS NEEDED)

   THE CONTRACTOR WILL BE RESPONSIBLE FOR DELIVERING ALL THE ABOVE MATERIALS FROM THE CITY'S WHARF PILE STORAGE YARD TO THE PROJECT SITE (ACCESS AVAILABLE FROM CHESTNUT STREET).
2. THE CONTRACTOR WILL BE REQUIRED TO SUPPLY ALL OTHER MATERIALS NOT LISTED ABOVE INCLUDING RAIL BOARDS, RAIL POSTS, RAIL FASTENERS, DRIFT PINS FOR STRINGERS, PILE BANDING, DECK SCREWS, ASPHALT AND ALL OTHER COMPONENTS REQUIRED TO COMPLETE THE PROJECT.

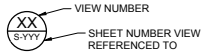
ABBREVIATIONS

AC	ASPHALT CONCRETE
ACZA	AMMONIACAL COPPER ZINC ARSENATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
APPROX	APPROXIMATE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BOT	BOTTOM
CBC	CALIFORNIA BUILDING CODE
CDP	COASTAL DEVELOPMENT PERMIT
CL	CENTER LINE
CLR	CLEAR
CONC	CONCRETE
DEMO	DEMOLISH
DIA	DIAMETER
EA	EACH
EG	EXISTING GRADE
EL	ELEVATION
(E)	EXISTING
F&I	FURNISH & INSTALL
FG	FINISHED GRADE
FT	FOOT or FEET
H	HEIGHT
HDG	HOT DIP GALVANIZED
HDPE	HIGH-DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
LF	LINEAR or LINEAL FEET
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAX	MAXIMUM
MHW	MEAN HIGH WATER
MHHW	MEAN HIGHER HIGH WATER
MI	MALLEABLE IRON
MIN	MINIMUM
MLW	MEAN LOW WATER
MLLW	MEAN LOWER LOW WATER
MSL	MEAN SEA LEVEL
N	NORTH
NAVD	NORTH AMERICAN VERTICAL DATUM
NDS	NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
PCF	POUND PER CUBIC FOOT
PL	PLATE
PSI	POUNDS PER SQUARE INCH
RGP	REGIONAL GENERAL PERMIT
SF	SQUARE FOOT or FEET
SIM	SIMILAR
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	316 STAINLESS STEEL
STA	STATION
STD	STANDARD
T&B	TOP AND BOTTOM
TEMP	TEMPORARY
THRU	THROUGH
TOT	TOTAL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
VAR	VARIES
VERT	VERTICAL
W/	WITH

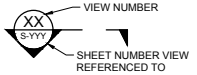
CROSS REFERENCE LEGEND



VIEW TITLE



DETAIL CALLOUT



SECTION CALLOUT

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PORTER — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

moffatt & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

GENERAL NOTES

DATE	2025 JULY 28
DRAWN	JE
DESIGN	JE/BP
CHECKED	BP
SCALE	-
SHEET	2 OF 16
DRAWING NO.	G2

Q:\WC\7416-13 scw end rebuild\20 CADD_Activel_sheetset\7416-13_G2.dwg Jul 28, 2025 - 12:58pm

Santa Cruz Wharf End Interim Repair Project
Construction Best Management Practices

California Coastal Commission Coastal Development Permit
Amended CDP #3-18-1081 (through CDP Amendment A-1)

Special Condition 3
Piling Replacement Mitigation Measures

Special Condition 5
Construction Best Management Practices

Special Condition 3 - Piling Replacement Mitigation Measures. The following mitigation measures shall be implemented during all pile replacement activities:

a. Soft Starts. An initial ramp-up period or "soft start" procedure at the commencement of any impact hammer pile-driving activities, or after a break in impact hammer driving of 30 minutes or more, shall be implemented to avoid potential impacts to marine species that may be present in the exclusion zones. The "soft start" shall consist of an initial set of three strikes made by the impact hammer at 40 percent energy, followed by a one-minute waiting period, then two subsequent three-strike sets, before initiating continuous driving. In addition, the pile driver shall employ sound dampening techniques and/or devices (such as wooden blocks, pile cushions, and/or caps) during all pile driving activities.

b. Marine Wildlife Monitor. One qualified marine wildlife monitor (MWM), or more if required to effectively observe the identified exclusion zones, shall be present to conduct observations during all pile driving activities. The MWMs shall be either qualified wildlife biologists with experience observing marine wildlife and differentiating normal behavior from signs of injury or distress, or a member of the maintenance crew that has been trained by a qualified biologist using the National Marine Fisheries Service (NMFS)-approved Marine Mammal Disturbance training outline developed for the proposed project (seen in Exhibit 5) and has effectively demonstrated to the qualified biologist that they are able to identify marine wildlife species and approximate their distance. MWM duties shall be dedicated to observing marine wildlife only, and MWMs shall not be assigned other duties. MWMs shall have the appropriate safety and monitoring equipment (e.g., binoculars, etc.) adequate to conduct required monitoring activities and shall be located at an effective vantage point to observe all exclusion zones without obstruction.

c. Exclusion Zones and Construction Halts. The MWMs shall monitor around the active site of pile driving as follows:

1. Cetaceans, Sea Otters, and Turtles. A 60-meter exclusion zone shall be implemented for all cetaceans, sea otters, and sea turtles during all pile driving activities. If the MWMs observe any such marine wildlife within 60 meters from the site of active pile driving, then the MWMs shall require an immediate shut-down of pile driving activities. Such activities may restart once such wildlife are observed to have left the specified exclusion zone or are not observed within the specified exclusion zone for at least 30 minutes. If the exclusion zone is not entirely visible (e.g., due to darkness, fog, etc.), pile driving shall not commence or continue to proceed (if it is underway) until visual conditions have improved and the entirety of the exclusion zone is visible to the MWMs.

2. California Sea Lions and Pacific Harbor Seals. California sea lions and Pacific harbor seals shall have a discretionary exclusion zone of 30 meters wherein the effects of pile driving on California sea lions and Pacific harbor seals located within the discretionary exclusion zone shall be monitored by the MWM using the following criteria:

   a. If the normal commotion of preparing the work site for the day's pile driving does not cause the resident pinnipeds to disperse away from the discretionary exclusion zone, the MWM will record this in the required logs (see Subsection (d) below) and take photos of any lingering pinnipeds on the Wharfs substructure or landings.

   b. The first piles to be driven on any given day will be located as far as possible from known pinniped haul-out locations in the vicinity of the Wharfs substructure or landings so that the reaction of the pinnipeds to the initial pile driving strikes pile driving activities can be evaluated.

   c. If pinnipeds remain within the discretionary exclusion zone after the initial ramp-up period described in Subsection (a) above, regular pile driving activities may proceed if the pinnipeds do not exhibit any observable signs of injury or distress.

   d. If one or more pinnipeds appear injured or distressed, the MWM shall direct pile driving activities to cease until the affected pinnipeds leave the discretionary exclusion zone or until the affected pinnipeds are determined by the MWMs to no longer be at risk.

d. Reporting. The MWMs shall maintain a daily log of observed marine wildlife behavior that shall be of sufficient detail to determine whether the project causes observable effects to marine wildlife and shall submit annual monitoring reports to the Executive Director: *(Note: The MWM shall submit all daily logs to the City on a weekly basis. City shall forward the logs to the Executive Director.)*

1. Daily Logs. A copy of the MWM's logs shall be submitted to the Executive Director when mitigation measures (i.e., shut down or delay of pile driving activities) are implemented five or more times within a seven-day period. At a minimum, the daily log observations shall include: (1) the date and time that monitored pile driving activity begins and ends; (2) pile driving activities (e.g., the number and type of piles being driven and their location on the wharf, the type of hammer being used (i.e., impact or vibratory) occurring during each observation period, etc.); (3) weather parameters (e.g., wind speed and direction, percent sky cover, visibility, precipitation, etc.); (4) ocean conditions (e.g., water level fluctuation, tide, etc.); (5) a map showing species, numbers, location, and, if possible, sex and age class of all observed marine wildlife; (6) a description of any observable marine wildlife behavior patterns, including those in response to pile driving activities, including their location and distance relative to the work site, direction of travel, and if possible, the correlation of behavior to sound pressure levels (SPLs); (7) a description of implementation of any required mitigation measures (e.g., shutdown or delay of piling driving activities, etc.); and (8) a description of other human activities in the area (e.g., fishing, diving, swimming, etc.).

See Project Bid Package Document 00070 Permit Compliance Table for additional requirements under this Special Condition 3.

Special Condition 5 - Construction Best Management Practices. The following water quality best management practices shall be implemented during all repair and maintenance activities to protect coastal water quality and related coastal resources:

a. **Selection of Treated Wood.** For all components of the wharf and ancillary structures that the Permittee proposes to repair or replace using preservative treated wood, the Permittee shall comply with the following requirements:

   1. **Wood Preservatives and Sealants.** Treated wood used for repair or replacement of components of the pier, including piles, support structures, decking, and railings, shall be treated with the preservative Ammoniacal Copper Zinc Arsenate (ACZA). All fresh cut ends treated wood shall be sealed with penetrating sealer. All railings and rail posts shall be sealed with latex paint.

   2. **Minimum Preservative Retention Level**. All treated wood shall be treated to the standards of the lowest appropriate Use Category for each component of the structure, to ensure that the treated wood does not exceed the minimum preservative retention level. Wood treated to the standards for a higher Use Category (i.e., with a higher preservative retention level) than is necessary for that component shall not be used.

   3. **BMP Mark.** Where available, only treated wood that has been certified as produced for use in aquatic environments shall be used (as indicated by a BMP Mark or Certificate of Compliance), in accordance with industry standards such as the Best Management Practices for the Use of Treated Wood in Aquatic and Wetland Environments by the Western Wood Preservers Institute, et al.

   4. **Sealed Fixed Landings.** All replacement decking of the Wharf's fixed landings and all replacement lower ledgers shall be entirely coated on all sides with a penetrating sealer prior to installation to protect sea lions and harbor seals from coming into direct contact with Ammoniacal Copper Zinc Arsenate (ACZA)-treated wood.

   5. **Wood Alternatives.** Use of alternatives to treated wood (such as concrete, metal, fiberglass, plastic, wood-plastic composites, or naturally decay resistant wood species) shall be prioritized if replacement of most of a wood component is necessary (such as the decking of a fixed landing or set of stairs).

   6. **Pile Coating.** Replacement piles shall be ACZA-treated timber piles sealed with a polyurea coating. The polyurea coating shall extend from two feet below the mudline to two feet above Ordinary High Water (OHW), at a minimum. *(Note: this requirement re: extent of polyurea coating superseded by "Timber Piles, Note 3, Drawing G3 of Plans)*

b. **Treated Wood Debris Containment and Disposal.** All debris shall be effectively contained, collected, and properly disposed of. See Project Bid Package Document 00080 Treated Wood Waste Disposal Plan for disposal requirements. For major activities over sandy beach areas, containment netting or similar measures shall be placed under the wharf to collect such debris, including to avoid debris contact with beach areas. For all major activities over ocean areas, such containment netting and/or other floating containment measures (contained via booms, boats, or a combination of same) shall be applied to avoid debris making it into the ocean. Alternative methods of may be utilized for debris containment under major activities if evidence is provided to the Executive Director to conclusively show that a different method is appropriate, and the Executive Director concurs with that determination.

c. **Wood Cleaning and Maintenance.** To the extent feasible, treated wood shall not be pressure-washed, sanded, or scraped, as this may increase the leaching of wood preservatives and the discharge of treated wood particles into coastal waters. If treated wood is sanded or scraped for repair or maintenance, all sawdust and debris generated shall be contained and removed, to prevent treated wood particles from entering the water below. In addition, deck cleaners and brighteners, especially those containing acid-based or highly oxidizing chemicals (such as bleach, sodium hydroxide, sodium percarbonate, oxalic acid, and citric acid) shall not be used for maintenance of treated wood, as they may increase the leaching of wood preservatives, and contain chemicals that may directly harm aquatic life."

Santa Cruz Wharf Maintenance Plan

Appendix A
General Avoidance and Mitigation Measures and BMPs

1. *Not applicable to this project.*
2. All work shall take place during daylight hours (i.e., from one hour before sunrise to one hour after sunset), except that the Executive Director may authorize non-pile-driving and non-in-water nighttime work due to demonstration of extenuating circumstances, and subject to all appropriate mitigation measures to minimize lighting of coastal water and beaches, and to avoid coastal resources impacts, as much as possible.
3. All construction and/or staging areas shall be designed to minimize impacts to the marine environment and public access.
4. *Not applicable to this project.*
5. Wharf maintenance equipment refueling and/or servicing will be limited, and when required will follow best management practices to eliminate the possibility that pollutants may enter coastal waters *(This requirement applies to all Contractor equipment used in this project).*
6. *Not applicable to this project.*
7. All construction materials shall be properly stored and contained so that these products will not spill or otherwise enter the coastal environment.
8. All materials and/or equipment storage shall be managed to have the least impact on the marine environment and public access.
9. All erosion control/water quality best management practices to be implemented during construction will be in place prior to the start of construction and their locations shall be noted.
10. Appropriate containment methods will be used to capture construction debris, sawdust, particulates, oil, grease, rust, dirt, and spills to protect coastal water quality. Containment shall be in place prior to commencement of construction and at the end of the workday as appropriate.
11. Appropriate disposal methods shall be used to ensure the protection of coastal waters.
12. All public recreational use areas, the main accessway onto the wharf, and all points of access to various areas of the Wharf along its extent that are impacted by construction activities shall be restored to their preconstruction condition or better within three days of completion of that phase of construction.

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PORTMORE — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

mott + nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

BEST MANAGEMENT PRACTICES 1 OF 3

DATE	2025 JULY 28
DRAWN	JE
DESIGN	JE/BP
CHECKED	BP

SCALE	-
SHEET	3 OF 16
DRAWING NO.	G3

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_G3.dwg Jul 28, 2025 - 12:58pm

Santa Cruz Wharf Maintenance Plan

Appendix A
Responsibilities for Use of Preservative-Treated Wood for Piles and Over-Water Structures

1. The wood preservative selected for use shall minimize the impact on coastal water quality and the aquatic environment.

2. Use of alternatives to treated wood (such as concrete, metal, fiberglass, plastic, wood-plastic composites, or naturally decay resistant wood species) shall be prioritized if replacement of most of a wood component is necessary (such as the decking of a fixed landing or set of stairs).

3. All treated wood shall be treated to the standards of the lowest appropriate Use Category for each component of the structure, to ensure that the treated wood does not exceed the minimum preservative retention level. Wood treated to the standards for a higher Use Category (i.e., with a higher preservative retention level) than is necessary for that component shall not be used.

4. Where available, only treated wood that has been certified as produced for use in aquatic environments shall be used (as indicated by a BMP Mark or Certificate of Compliance), in accordance with industry standards such as the Best Management Practices for the Use of Treated Wood in Aquatic and Wetland Environments by the Western Wood Preservers Institute, et al.

5. Preservative-treated Douglas fir piles shall only be used for repair and replacement, or to visibly blend, and/or structurally integrate with, existing over-water structures.

6. Decking shall consist of wood-alternative materials or ACZA-preserved lumber, cuts sealed with a penetrating coating, and surfaced with asphalt or concrete. Alternatives to preserved woods, such as concrete, steel, fiberglass, or naturally decay resistant wood species, shall be prioritized over the use of chemically-treated wood.

7. Treated wood used for repair or replacement of components of the wharf, including piles, support structures, decking, and railings, shall be treated with the preservative Ammoniacal Copper Zinc Arsenate (ACZA). All fresh cut ends treated wood shall be sealed with penetrating sealer. All railings and rail posts shall be sealed with latex paint.

8. All replacement decking on the lower ledges of the Wharf's fixed landings shall be entirely coasted on all sides with a penetrating sealer to protect sea lions and harbor seals from coming into direct contact with Ammoniacal Copper Zinc Arsenate (ACZA)-treated wood.

9. All treated wood piles, and, where feasible, treated wood structural members, shall be wrapped in, or coated with, water-tight, UV resistant material to prevent leaching of wood-preservative chemicals into the water column, and to prolong the life of the piles and structural timbers. Coatings and/or sealants used shall be products that are inert after they have cured and dried. No coal-tar sealants or coal tar-treated wood shall be used unless coated or wrapped with an inert material or product to isolate it from the marine environment.

10. Replacement piles shall be ACZA-treated timber piles sealed with a polyurea coating. The polyurea coating shall extend from two feet below the mudline to two feet above Ordinary High Water (OHW), at a minimum.

11. *Not applicable to this project.*

12. Treated piles and any treated wooden structural elements shall be transported to the project site and shall be stored on impervious pavement or an impervious tarp, and covered during rain events.

13. If treated wood is sanded or sawcut during demolition, installation, or maintenance, all resulting sawdust and debris shall be promptly contained and removed.

14. All debris shall be effectively contained, collected, and properly disposed of. For major activities over sandy beach areas, containment netting or similar measures shall be placed under the wharf to collect such debris, including to avoid debris contact with beach areas. For all major activities over ocean areas, such containment netting and/or other floating containment measures (contained via booms, boats, or a combination of same) shall be applied to avoid debris making it into the ocean. Alternative methods of may be utilized for debris containment under major activities if evidence is provided to the Executive Director to conclusively show that a different method is appropriate, and the Executive Director concurs with that determination.

15. To the extent feasible, treated wood shall not be pressure-washed, sanded, or scraped, as this may increase the leaching of wood preservatives and the discharge of treated wood particles into coastal waters. If treated wood is sanded or scraped for repair or maintenance, all sawdust and debris generated shall be contained and removed, to prevent treated wood particles from entering the water below. In addition, deck cleaners and brighteners, especially those containing acid-based or highly oxidizing chemicals (such as bleach, sodium hydroxide, sodium percarbonate, oxalic acid, and citric acid) shall not be used for maintenance of treated wood, as they may increase the leaching of wood preservatives, and contain chemicals that may directly harm aquatic life.

Santa Cruz Wharf Maintenance Plan

Appendix A
Responsibilities for Use of Coatings Over-Water

1. Coatings and sealants shall be composed of products that are inert after they have cured and dried. Fusion Bonded Epoxy, HDPE, and polyurea products are recommended. No coal tar-based sealants shall be used unless they are themselves coated or wrapped with an inert product to isolate them from the marine environment.

2. Installation and application of epoxy, resin, or cementitious grout/fill shall be conducted when predicted weather and ocean conditions allow effective control and full containment and the material will remain dry until cured, in order to prevent any leaching of uncured treatment materials into coastal waters. It is preferable to perform the work in dry conditions (low tide) or off-site in a controlled-environment manufacturing facility wherever feasible.

3. *Not applicable to this project.*

4. Methods to contain any leaks or spills of treatment materials during application shall be planned in advance, and any necessary equipment or supplies shall be readily accessible on-site. Any leaks or spills of anticorrosion coatings, epoxy fillers, and waterproofing sealants shall be immediately cleaned up.

5. All pressure-injection and gravity-feed applications of epoxy, resin, or cementitious materials shall be visually monitored closely to ensure that these materials do not leak or spill into coastal waters during application.

6. Coatings and waterproofing sealants used in the field shall be carefully applied by brush or roller to limit application to the immediate surfaces intended for protection, and to prevent drips or spills into coastal waters.

7. All anti-corrosion coatings, epoxy fillers, and waterproofing sealants shall be properly stored and contained so that these products will not leak, spill, or otherwise enter the coastal environment.

8. Pile installation shall prioritize driven or hammered methods with a soft start and wood cushion block, in order to minimize water quality impacts. An initial ramp-up period or soft start procedure at the commencement of any impact hammer pile-driving activities, or after a break in impact hammer driving of 30 minutes or more, shall be implemented to avoid potential impacts to marine species that may be present in the exclusion zones. The soft start shall consist of an initial set of three strikes made by the impact hammer at 40 percent energy, followed by a one-minute waiting period, then two subsequent three-strike sets, before initiating continuous driving. The pile driver shall employ sound dampening techniques and/or devices (such as wooden blocks, pile cushions, and/or caps) during all pile driving activities.

9. *Not applicable to this project.*

Santa Cruz Wharf Maintenance Plan

Appendix B
Seabird Risk Mitigation BMPs

Note: These BMPs apply only if the Project occurs during the primary nesting season from March 15th through August 15th.

1. **Major, Minor, and Non-development Activities Definitions**
   a. Minor maintenance work shall be limited to that which only requires hand tools and small hand equipment (such as a motorized screwdriver or handheld power drill) as the noise produced from such activities is not expected to exceed 60-65 dB 50 feet from development.
   b. Major maintenance work is defined as all activities that aren't minor, including all activities that utilize heavy machinery (such as jack hammers, power saws, nail guns, pile driving equipment, or any removal of the Wharf's surface) unless the Executive Director approves the use of a specific brand, model, and type of equipment that can qualify the equipment/activity as minor, including based on the published equipment sound levels.
   c. Activities that do not qualify as development, and thus are not subject to the conditions of this CDP, include interior repair and maintenance, the hanging of flags, cleaning of site furnishings such as trash cans, and the setup of temporary scaffolds for less than 24 hours to complete inspections.
   d. Maintenance and repair activities will occur outside the primary nesting season (i.e., March 15th through August 15th) as much as possible.

2. **Nesting Bird Survey Requirements**
   a. Avoidance. Maintenance and repair activities will occur outside the primary nesting season (i.e., March 15th through August 15th) as much as possible.
   b. For any work that would occur between March 15th and August 15th, pre-construction surveys will be completed by a qualified biologist, approved by the Executive Director, with experience in observing seabird reproductive and nesting behavior, to identify displays of nesting behavior and/or active nests (i.e., as occupied by eggs or nestlings).
   c. Surveys shall commence no more than 30 days prior to the initiation of construction and occur weekly thereafter over the breeding season, with the last survey occurring no more than 72 hours prior to the start of construction in any given area
   d. Surveys may be focused on specific work areas rather than necessarily covering the entire Wharf structure and they may be sequenced as needed to address specific work areas and schedules over the course of the breeding season. Surveys shall be performed extending 300 feet from the project work area to locate any active nests, including areas above the wharf's deck (e.g., rooftops, eaves, etc.) and below the wharf's deck (e.g., substructures viewed from the water).
   e. Maps identifying the location of any active nests detected shall be provided, showing the date of survey and nest stage (e.g., eggs, nestlings, etc.) and shall clearly delineate appropriate buffers) to inform work plans for maintenance and repair activities

3. **Nest Buffers for Major Maintenance Work**
   a. The qualified biologist shall establish a no disturbance buffer around the nests and all project work shall halt within the buffer until the qualified biologist determines the nest is no longer in use.
   b. A 300-foot buffer shall be applied between active nests and any major activities, unless evidence is provided to the Executive Director to conclusively show that a different distance is appropriate, and the Executive Director concurs with that determination.

4. **Nest Buffers for Minor Maintenance Work**
   a. A 50-foot buffer shall be applied between active nest sites and any minor activities.
   b. Additional measures shall be applied to active nests located between 50 feet and 300 feet.
   c. When only minor activities will be conducted along the topside of the wharf, work shall not commence prior to 10:00 AM and shall not exceed four hours per day or three consecutive days at a time. Should minor maintenance and repair work necessarily exceed the four hours per day or three consecutive days at a time threshold identified above, the qualified biologist shall conduct additional behavioral monitoring to assure that nesting seabirds are not being further impacted by the ongoing activities in close proximity. Once satisfied, the biologist may approve planned activities near observed nests. Under no circumstances shall buffers be less than 50 feet or shall work commence prior to 10:00 AM. When only minor activities will be conducted along the underside or substructure of the wharf, the same restrictions as described above in (a) will apply. In addition, if minor activities are expected to exceed two hours in duration, blinds and similar materials shall be placed between the active nests and the work area to avoid visually disturbing nesting birds. The placement of the blinds shall be overseen by the qualified biologist, who will observe nest sites and parent behavior over the course of activities, or until he/she is satisfied that the nesting birds will not be significantly disturbed by the work in that area.

5. **Construction Management Reporting Activities**
   a. If under any circumstances either construction staff or the qualified biologist observes signs of nesting distress (e.g., parents flush from the nest and do not readily return as activities continue, anxious warning calls, etc.), then work shall be stopped immediately, and the qualified biologist shall consult with the Executive Director to determine necessary modifications to activities. Activities shall resume only after the biologist and the Executive Director are satisfied that the modifications are sufficient to avoid continued disturbance to the nests. If under any circumstances either construction staff or the qualified biologist observes signs of nesting distress (e.g., parents flush from the nest and do not readily return as activities continue, anxious warning calls, etc.), then work shall be stopped immediately, and the qualified biologist shall consult with the Executive Director to determine necessary modifications to activities. Activities shall resume only after the biologist and the Executive Director are satisfied that the modifications are sufficient to avoid continued disturbance to the nests.

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PORTMORE — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ

809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

mathett & nichol

2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

BEST MANAGEMENT PRACTICES 2 OF 3

DATE	2025 JULY 28
DRAWN	JE
DESIGN	JE/BP
CHECKED	BP

SCALE	-
SHEET	4 OF 16
DRAWING NO.	G4

Santa Cruz Wharf Maintenance Plan

Appendix B
Marine Mammal and Sea Turtle Risk Mitigation BMPs

1. Pursuant of consultation with NMFS and acoustic monitoring, an in-water shutdown zone of 60 meters will be applied to all cetaceans, sea otters, and sea turtles. Pile driving activities will cease if a cetacean, sea otter, or sea turtle enters the 60-meter exclusion zone.

2. Consistent with consultation with NMFS, harassment of harbor seals and sea lions is not anticipated due to their tolerance of the loud ambient noise in the area, and past observations from previous repair work that showed no signs of disturbance. Additionally, pile driving will only occur sporadically throughout the year on an as needed basis with a maximum of two piles being driven in a day. The City proposes a 30-meter monitoring zone for pinnipeds.

3. Marine Wildlife Monitor:
   a. One qualified marine wildlife monitor (MWM), or more if required to effectively observe the identified exclusion zones, shall be present to conduct observations during all pile driving activities.
   b. The MWMs shall be either qualified wildlife biologists with experience observing marine wildlife and differentiating normal behavior from signs of injury or distress, or a member of the maintenance crew that has been trained by a qualified biologist using the National Marine Fisheries Service (NMFS)-approved Marine Mammal Disturbance training outline developed for the proposed project and has effectively demonstrated to the qualified biologist that they are able to identify marine wildlife species and approximate their distance.
   c. The MWM duties shall be dedicated to observing marine wildlife only, and MWMs shall not be assigned other duties.
   d. MWMs shall have the appropriate safety and monitoring equipment (e.g., binoculars, etc.) adequate to conduct required monitoring activities and shall be located at an effective vantage point to observe all exclusion zones without obstruction.
   e. During pile driving activities, the MWM will monitor a 30-meter discretionary exclusion zone for harbor seals and sea lion and the 60-meter exclusion zone for cetaceans, sea otters, and sea turtles.
   f. If the normal commotion of preparing the work site for the day's pile driving does not cause the resident pinnipeds to disperse away from the discretionary exclusion zone, the MWM will record this in the required logs and take photos of any lingering pinnipeds on the Wharf's substructure or landings.
   g. If pinnipeds remain within the 30-meter discretionary exclusion zone upon completion of soft start pile driving activities, regular pile driving activities may proceed as long as the pinnipeds do not exhibit any observable signs of injury or distress. If one or more pinnipeds appear injured or distressed, the MWM shall direct pile driving activities to cease until the affected pinnipeds are determined by the MWMs to no longer be at risk.
   h. If cetaceans, sea otters, or sea turtles enter the 60-meter exclusion zone, the biological monitor will call for a work stoppage until the animal leaves the exclusion zone or is not observed within the exclusion zone for at least 30 minutes.
   i. The MWMs shall maintain a daily log of observed marine wildlife behavior that shall be of sufficient detail to determine whether the project causes observable effects to marine wildlife and shall submit annual monitoring reports to the Executive Director.

4. Work Crew Requirements for Pile Driving:
   a. Noise associated with project activities shall be reduced or minimized to the extent feasible. In addition, all non-critical vehicle-related noise shall be avoided
   b. A soft start procedure will be used for impact pile driving at the beginning of each day's pile driving or any time pile driving has ceased for more than 1 hour to allow marine mammals to retreat from the work area.
   c. The soft start requires an initial set of three strikes from the impact hammer at 40 percent energy, followed by a one-minute waiting period, then two subsequent 3 strike sets.
   d. A cushion block will be used between the pile cap and the impact hammer. Layers of heavy plywood or baywood soaked in water on top of the pile cap served to dampen the sound of the hammer striking the wood as well as to dissipate friction; plywood not soaked in water was pounded to charred splinters that became very thin and had little value in attenuating sound.
   e. The first piles to be driven on any given day will be located as far as possible from known pinniped haul-out locations in the vicinity of the Wharf's substructure or landings so that the reaction of the pinnipeds to the initial pile driving strikes pile driving activities can be evaluated.
   f. Work crews are required to report each cetacean, sea otter, or sea turtle that approaches the exclusion zone to the trained biological monitor. Information will include: date, time of day, weather, work activity, distance from work area, any other human activity taking place at the time of approach/disturbance, type and size of animal.
   g. Work crews must cease pile driving if a cetacean, sea otter, or sea turtle enters the 60- meter shutdown zone around the work area.
   h. Work crews may restart pile driving activities once the animal is observed to leave the 60-meter shutdown zone, or is not observed within it for at least 30 minutes using the same soft start procedure described above.
   i. If the shutdown zone is not entirely visible (e.g., due to darkness, fog, etc.), pile driving shall not commence or proceed (if it is underway) until visual conditions have improved.
   j. If harbor seals or sea lions appear injured or distressed within the 30-meter monitoring zone, work crews must cease pile driving.

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PORTER — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

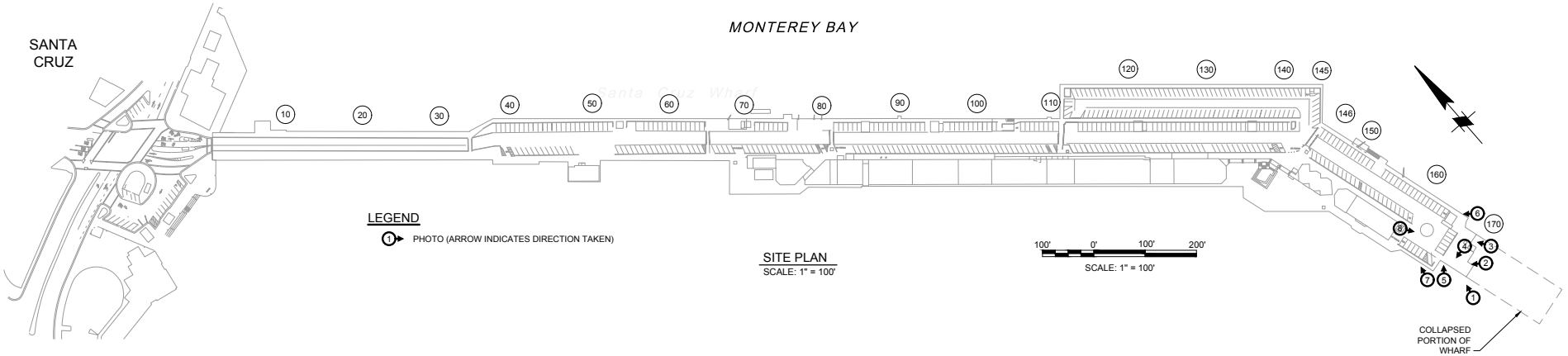
mott MacDonald
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

BEST MANAGEMENT PRACTICES 3 OF 3

DATE	2025 JULY 28
DRAWN	JE
DESIGN	JE/BP
CHECKED	BP

SCALE	-
SHEET	5 OF 16
DRAWING NO.	G5

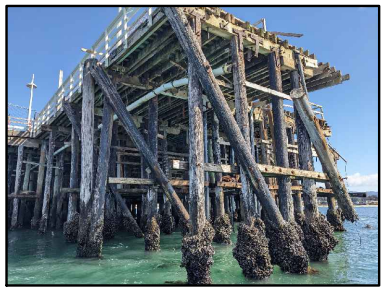


LEGEND

1 PHOTO (ARROW INDICATES DIRECTION TAKEN)

SITE PLAN
SCALE: 1" = 100'

100' 0' 100' 200'
SCALE: 1" = 100'



1 PHOTO 1 - BENT 171
SCALE: NTS

2 PHOTO 2 - BENT 170
SCALE: NTS

3 PHOTO 3 - BENT 169
SCALE: NTS

4 PHOTO 4 - DETACHED PILE AT BENT 169
SCALE: NTS

5 PHOTO 5 - SPAN ON WESTERN SIDE OF BENT 168
SCALE: NTS

6 PHOTO 6 - EASTERN SIDE OF PROJECT AREA
SCALE: NTS

7 PHOTO 7 - WESTERN SIDE OF PROJECT AREA
SCALE: NTS

8 PHOTO 8 - EXISTING TOP OF WHARF
SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PHILLIPS — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

mellett & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

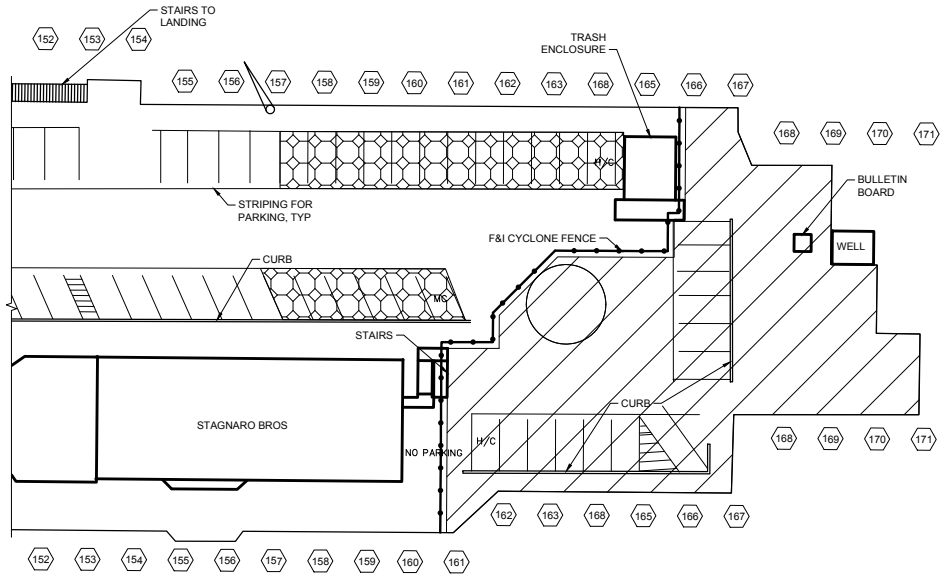
EXISTING PHOTOS

DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	6 OF 16
DESIGN	JE/BP	DRAWING NO.	G6
CHECKED	BP		

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_G6.dwg Jul 28, 2025 - 12:59pm

NOTES

1. ALL FEATURES SHOWN ON THIS SHEET ARE EXISTING UNLESS OTHERWISE NOTED.
2. BLOCKED OFF PARKING SPACES TO BE USED FOR VEHICULAR TRAFFIC TURNAROUND. COORDINATE WITH THE CITY FOR THE NUMBER OF SPACES TO BE BLOCKED OFF.

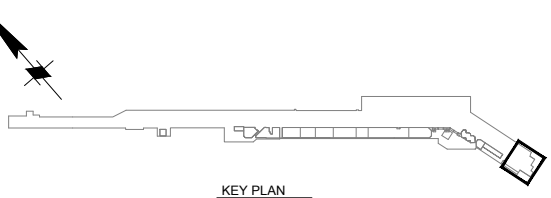


1 - CONTRACTOR STAGING AREA
SCALE: 1" = 20'

LEGEND

PROJECT WORK SITE AND CONTRACTOR STAGING AREA

PARKING SPACES TO BE BLOCKED OFF, SEE NOTE 2

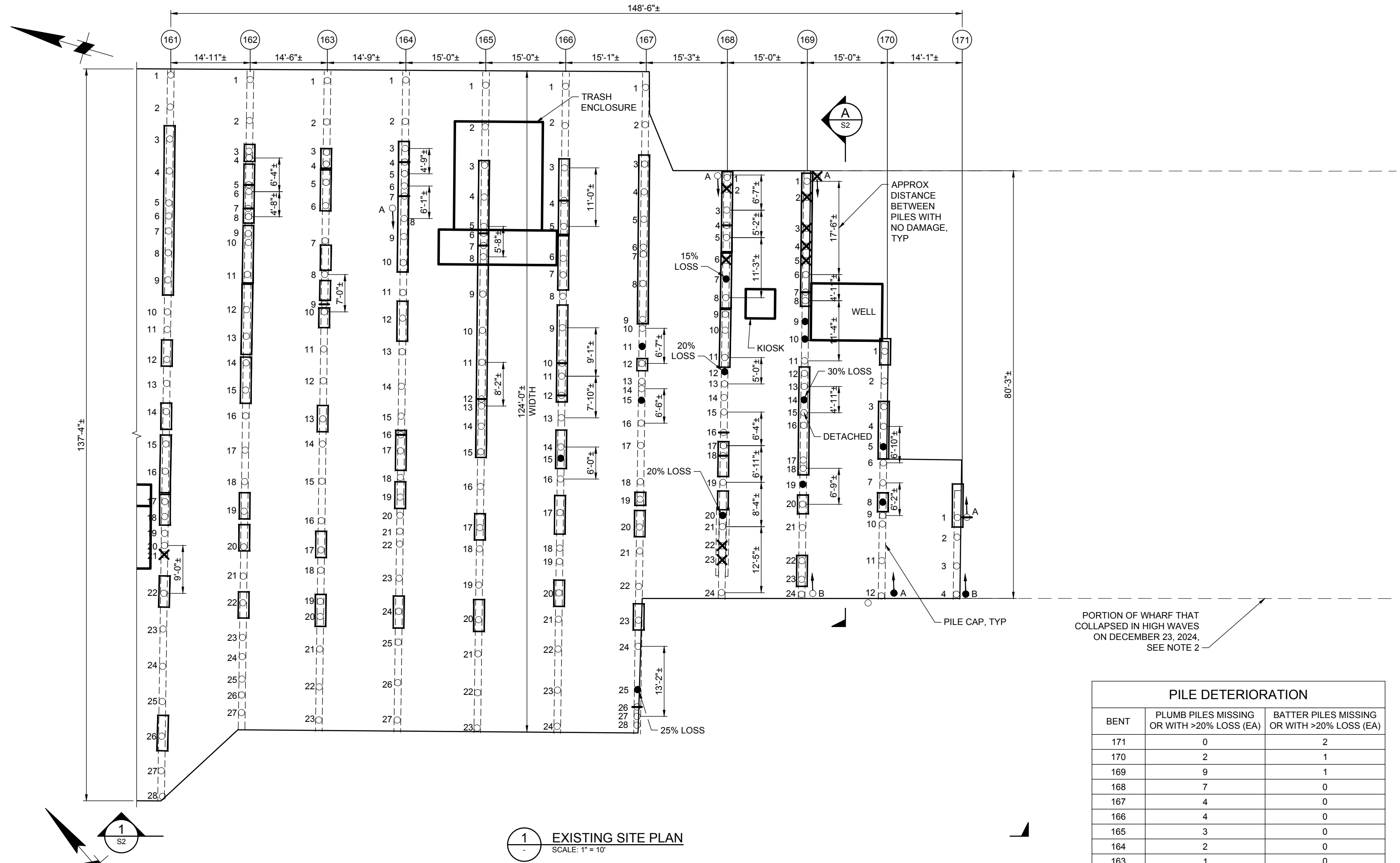


KEY PLAN
SCALE: 1" = 250'

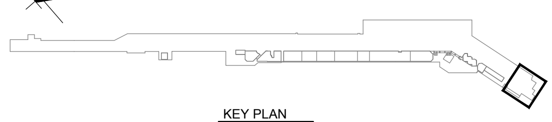
20' 0' 20' 40'
SCALE: 1" = 20'

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_G7.dwg Jul 28, 2025 - 12:59pm

REVISIONS	CITY OF SANTA CRUZ		SANTA CRUZ WHARF END INTERIM REPAIRS	DATE 2025 JULY 28	SCALE VARIES
	809 CENTER STREET, ROOM 10 SANTA CRUZ, CA 95060	2185 N CALIFORNIA BLVD, SUITE 500. WALNUT CREEK, CA 94596	CONTRACTOR STAGING AREA	DRAWN JE	SHEET 7 OF 16
				DESIGN JE/BP	DRAWING NO. G7
				CHECKED BP	



1 EXISTING SITE PLAN
SCALE: 1" = 10'



KEY PLAN
SCALE: 1" = 250'

NOTES

1. ALL FEATURES SHOWN ON THIS SHEET ARE EXISTING UNLESS OTHERWISE NOTED.
2. SIDE SCAN SONAR IMAGING INDICATES THAT THERE ARE STUBS OF THE PILES THAT BROKE OFF IN THE COLLAPSE OF THE WHARF IN 2024, WHICH ARE BROKEN OFF AT OR BELOW THE SAND BOTTOM.

LEGEND

- ○ PILE
- BATTER PILE
- ● DAMAGED PILE
- ✕ MISSING PILE
- BROKEN OR CUT PILE
- 10 LABEL FOR PLUMB PILE
- A LABEL FOR BATTER PILE
- DOUBLE CAP

PILE DETERIORATION

BENT	PLUMB PILES MISSING OR WITH >20% LOSS (EA)	BATTER PILES MISSING OR WITH >20% LOSS (EA)
171	0	2
170	2	1
169	9	1
168	7	0
167	4	0
166	4	0
165	3	0
164	2	0
163	1	0
162	2	0
161	1	0
TOTAL	35	5

10' 0' 10' 20'
SCALE: 1" = 10'

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_S1.dwg Jul 28, 2025 - 12:59pm

REGISTERED PROFESSIONAL ENGINEER BRADFORD A. PORTER No. 04275 Exp. 3-31-26 CIVIL STATE OF CALIFORNIA

REVISIONS

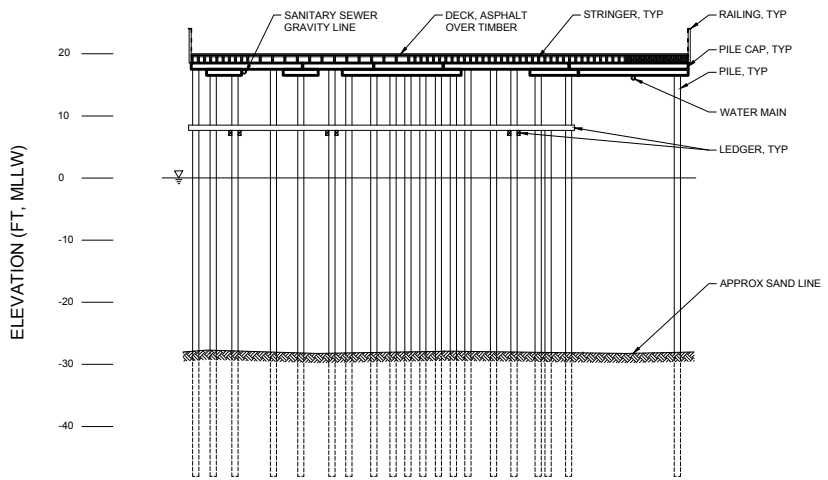
CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

moffatt & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

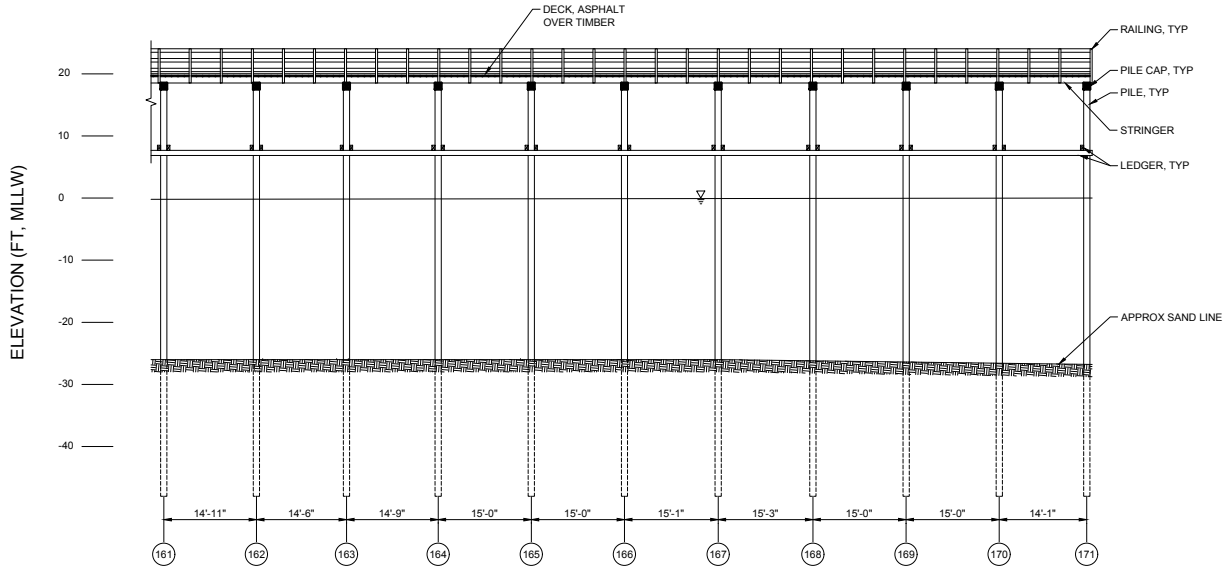
SANTA CRUZ WHARF END INTERIM REPAIRS

EXISTING SITE PLAN

DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	8 OF 16
DESIGN	JE/BP	DRAWING NO.	S1
CHECKED	BP		



A S1 EXISTING TYPICAL SECTION
SCALE: 1" = 10'



1 S1 ELEVATION - BENTS 161 TO 171
SCALE: 1" = 10'

NOTES

1. ALL FEATURES SHOWN ON THIS SHEET ARE EXISTING UNLESS OTHERWISE NOTED.

10' 0' 10' 20'
SCALE: 1" = 10'

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_S2.dwg Jul 28, 2025 - 12:59pm

REGISTERED PROFESSIONAL ENGINEER BRADFORD A. PORTER No. 042780 CIVIL STATE OF CALIFORNIA

REVISIONS

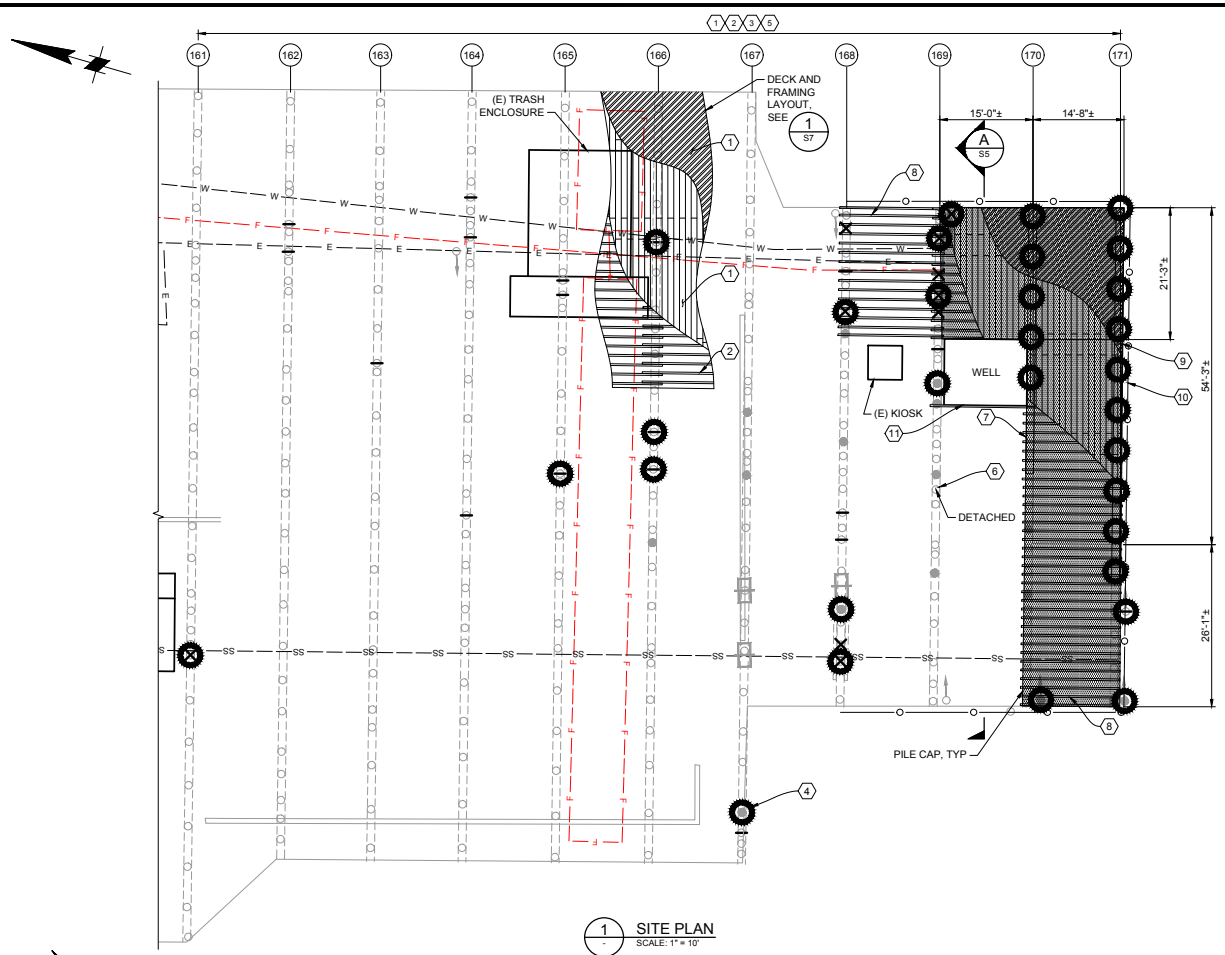
CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

mellett & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

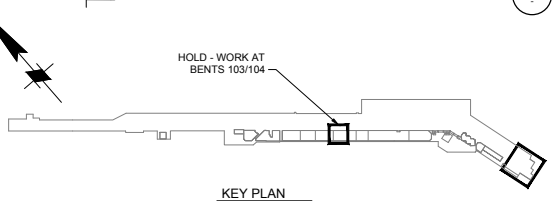
SANTA CRUZ WHARF END INTERIM REPAIRS

EXISTING SECTION & PROFILE

DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	9 OF 16
DESIGN	JE/BP	DRAWING NO.	S2
CHECKED	BP		



1 SITE PLAN
SCALE: 1" = 10'



KEY PLAN
SCALE: 1" = 250'

KEY NOTES

1. REPLACE DECKING AND ASPHALT WHERE NEEDED TO DRIVE PILES OR REPLACE MEMBERS, SEE 2 S7
2. REPLACE DETERIORATED STRINGERS AS IDENTIFIED IN FIELD (BID ALLOWANCE - 40 EA)
3. REPLACE DETERIORATED PILE CAPS AS IDENTIFIED IN FIELD (BID ALLOWANCE - 50 LF)
4. INSTALL TIMBER PILES, SEE 1 S6
5. FOR DEMOLITION REQUIREMENTS, SEE 1 S4
6. REATTACH DETACHED PILE
7. REPLACE DAMAGED PILE CAP AT BENT 170 (BID ALLOWANCE - 24 LF). USE A DOUBLE CAP AT CAP SPLICES, SEE 4 S7
8. REPLACE DAMAGED STRINGERS WITH SPLIT ENDS THAT SPAN BENTS 168 TO 169 (BID ALLOWANCE - 15 EA) AND 170 TO 171 (BID ALLOWANCE - 19)
9. RECONSTRUCT COLLAPSED PORTION OF WHARF BETWEEN BENTS 169 TO 171. INSTALL PILE CAPS (BID ALLOWANCE - 95 LF), STRINGERS (BID ALLOWANCE - 40 EA), DECKING (BID ALLOWANCE - 1500 SF), AND ASPHALT (BID ALLOWANCE - 1500 SF) , SEE 1 S7
10. F&I RAILING (BID ALLOWANCE - 175 LF), SEE A S9
11. F&I SEA LION VIEWING HOLE, SEE 1 S9

NOTES

1. THIS DRAWING IS INTENDED TO SHOW THE MAJOR COMPONENTS OF THE PROJECT. SEE FOLLOWING DRAWINGS FOR DETAILS AND ADDITIONAL INFORMATION.

LEGEND

- EXISTING PILE
- EXISTING BATTER PILE
- EXISTING DAMAGED PILE
- EXISTING MISSING PILE
- EXISTING BROKEN OR CUT PILE
- EXISTING DOUBLE CAP
- EXISTING FEATURE LINE
- INSTALL PILE
- RECONSTRUCT BETWEEN BENTS 169 TO 171
- W — WATER LINE
- F — FIRE LINE
- E — ELECTRIC LINE
- SS — SANITARY SEWER LINE

10' 0' 10' 20'
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PORTER — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

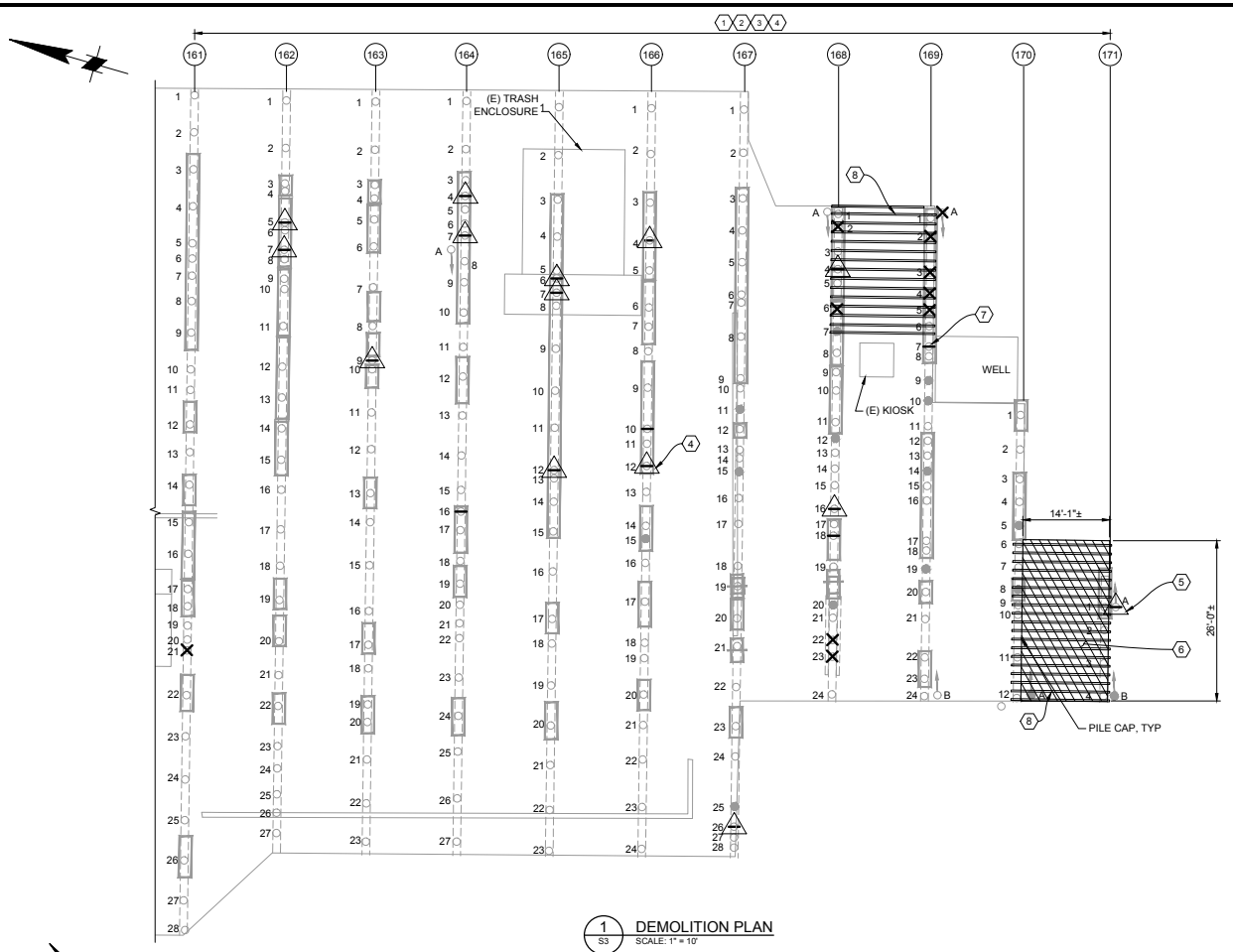
mott|t & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

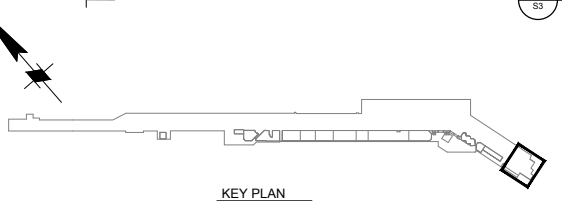
OVERALL SITE PLAN

DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	10 OF 16
DESIGN	JE/BP	DRAWING NO.	S3
CHECKED	BP		

Q:\WC\7416-13 scw end rebuild\20 CADD_Activa_sheetset\7416-13_S3.dwg Jul 28, 2025 - 12:59pm



1 S3 DEMOLITION PLAN
SCALE: 1" = 10'



KEY PLAN
SCALE: 1" = 250'

NOTES

1. THE NUMBER OF DECK BOARDS THAT WILL REQUIRE REMOVAL TO INSTALL PILES IS TO BE DETERMINED BY THE CONTRACTOR. NOTE THAT TYPICAL PRACTICE IS TO DEMOLISH 8' TO 10' WIDE STRETCH OF DECK BOARDS BETWEEN ADJACENT BENTS.
2. HANGING PILES THAT ARE TO BE DEMOLISHED ARE LIMITED TO THOSE IDENTIFIED ON THIS DRAWING. DO NOT DEMOLISH HANGING PILES THAT ARE ONLY NOMINALLY 3 FT IN LENGTH OR ATTACHED TO THE LOWER LEDGERS.

LEGEND

- EXISTING PILE
- EXISTING BATTER PILE
- EXISTING DAMAGED PILE
- EXISTING MISSING PILE
- EXISTING BROKEN OR CUT PILE
- 10 LABEL FOR PLUMB PILE
- A LABEL FOR BATTER PILE
- EXISTING DOUBLE CAP
- EXISTING FEATURE LINE
- WHARF SECTION DEMOLITION
- HANGING/BROKEN PILE DEMOLITION

KEY NOTES

1. DEMOLISH DECK BOARDS AND ASPHALT REQUIRED TO INSTALL PILES, SEE NOTE 1
2. DEMOLISH DETERIORATED STRINGERS AS IDENTIFIED IN THE FIELD (BID ALLOWANCE - 40 EA)
3. DEMOLISH DETERIORATED PILE CAPS AS IDENTIFIED IN THE FIELD (BID ALLOWANCE - 50 LF)
4. DEMOLISH PILES HANGING FROM THEIR T-STRAP (13 TOTAL), SEE NOTE 2
5. DEMOLISH BROKEN BATTER PILE (1 TOTAL)
6. DEMOLISH ASPHALT, DECKING, AND STRINGERS THAT SPAN BETWEEN BENTS 170 AND 171 (BID ALLOWANCE - 370 SF)
7. DEMOLISH PILE STUB PROTRUDING ABOVE LOW TIDE WATER LINE.
8. DEMOLISH DAMAGED STRINGERS WITH SPLIT ENDS THAT SPAN BENTS 168 TO 169 (BID ALLOWANCE - 15 EA) AND 170 TO 171 (BID ALLOWANCE - 19)

10' 0' 10' 20'
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PORTER — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

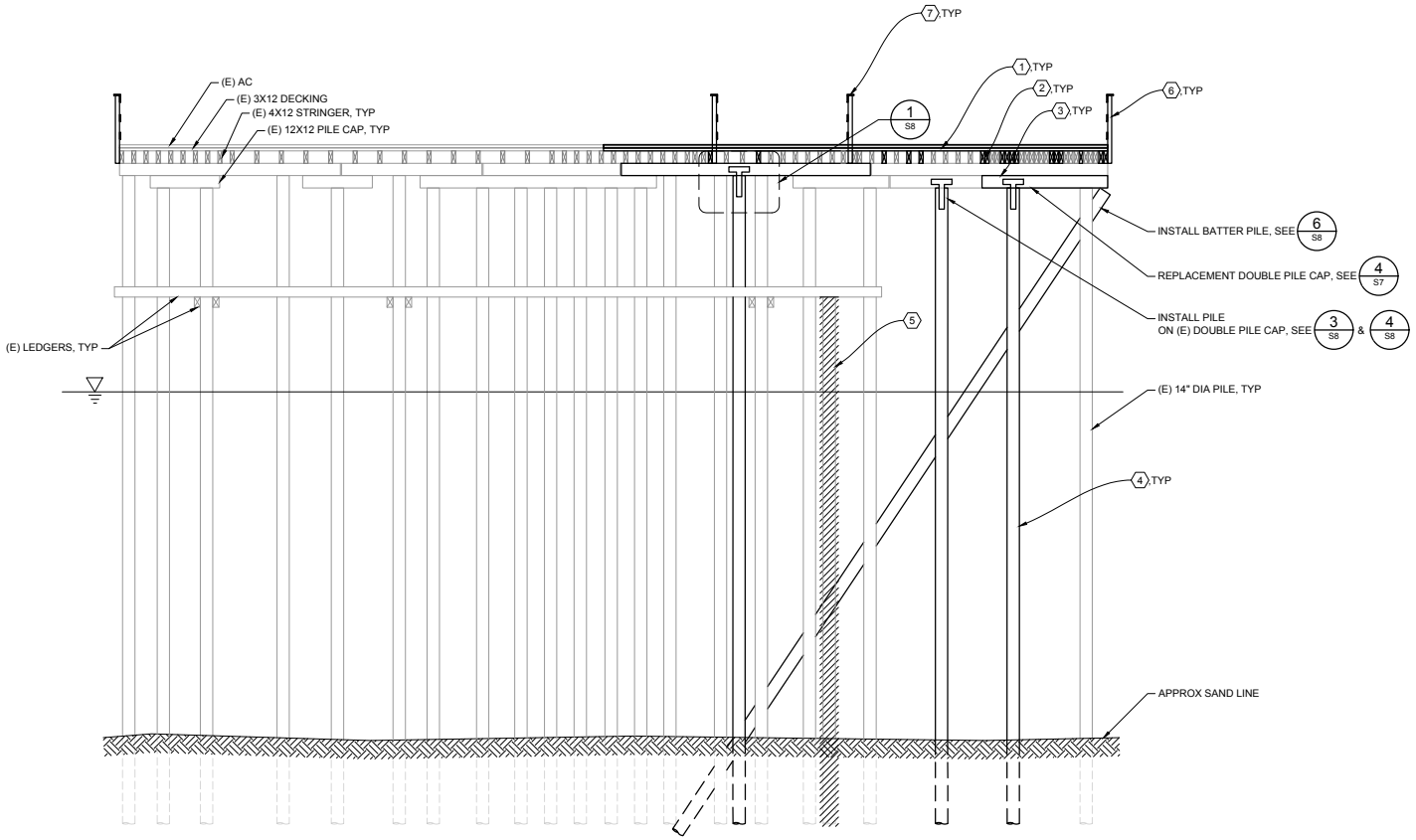
moffatt & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

DEMOLTION PLAN

DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	11 OF 16
DESIGN	JE/BP	DRAWING NO.	S4
CHECKED	BP		

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_S4.dwg Jul 28, 2025 - 12:59pm



A S3 TYPICAL WHARF SECTION
SCALE: 1" = 5'

NOTES

1. UTILITIES NOT SHOWN FOR CLARITY.

KEY NOTES

1. REPLACE DECKING WHERE NEEDED TO DRIVE REPLACEMENT PILES, SEE 2 S7
2. REPLACE DETERIORATED STRINGERS AS IDENTIFIED IN FIELD (BID ALLOWANCE - 40 EA)
3. REPLACE DETERIORATED PILE CAPS AS IDENTIFIED IN FIELD (BID ALLOWANCE - 50 LF)
4. INSTALL TIMBER PILES, SEE 1 S6
5. DEMOLISH PILE STUB
6. F&I RAILING, SEE A S9
7. F&I SEA LION VIEWING HOLE, SEE 1 S9

5' 0' 5' 10'
SCALE: 1" = 5'

REGISTERED PROFESSIONAL ENGINEER BRADFORD A. PORTER No. 042780 CIVIL STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

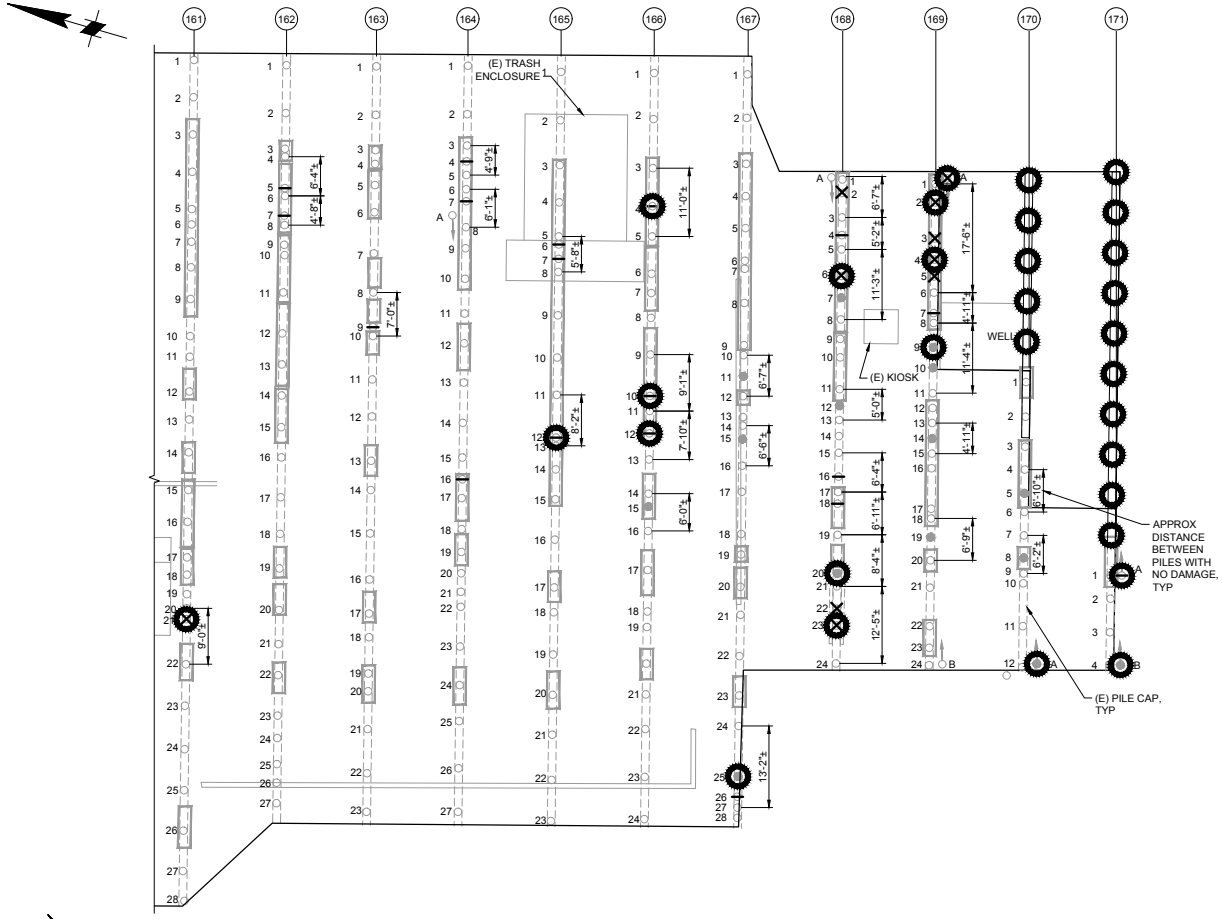
mott MacDonald
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

TYPICAL WHARF SECTION

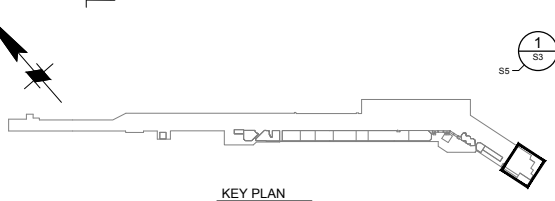
DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	12 OF 16
DESIGN	JE/BP	DRAWING NO.	S5
CHECKED	BP		

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_S5.dwg Jul 28, 2025 - 1:00pm



1 S3 PILE PLAN
SCALE: 1" = 10'

S5



KEY PLAN
SCALE: 1" = 250'

PILE REPLACEMENT/INSTALL		
BENT	PLUMB PILES (EA)	BATTER PILES (EA)
171	10	2
170	5	1
169	3	1
168	3	0
167	1	0
166	3	0
165	1	0
164	0	0
163	0	0
162	0	0
161	1	0
TOTAL	27	4

NOTES

1. PILE LOCATIONS ARE APPROXIMATE.
2. DIMENSIONS SHOWN BETWEEN PILES ARE FOR SPANS BETWEEN COMPETENT PILES (PILES THAT ARE NOT BROKEN/MISSING AND HAVE LESS THAN 20% SECTION LOSS).
3. PILES THAT ARE INSTALLED NEXT TO DAMAGED PILES SHALL BE ADJACENT TO THE DAMAGED PILE AND HAVE AN APPROXIMATELY EQUAL DISTANCE TO THE 2 NEAREST UNDAMAGED PILES. ADJUST LOCATION OF INSTALLED PILE AS NECESSARY TO AVOID CONFLICTS SUCH AS UTILITIES.
4. WHEN REPLACING A BATTER PILE, INSTALL PILE ON THE OPPOSITE SIDE OF THE PILE CAP. THAT IS, IF THE EXISTING BATTER PILE IS INSTALLED ON THE NORTH SIDE OF THE PILE CAP, INSTALL THE REPLACEMENT BATTER PILE ON THE SOUTH SIDE OF THE PILE CAP.

LEGEND

- EXISTING PILE
- EXISTING BATTER PILE
- EXISTING DAMAGED PILE
- EXISTING MISSING PILE
- EXISTING BROKEN OR CUT PILE
- 10 LABEL FOR PLUMB PILE
- A LABEL FOR BATTER PILE
- EXISTING DOUBLE CAP
- INSTALL PILE

10' 0' 10' 20'
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER BRADFORD A. PORTER No. 042780 CIVIL STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

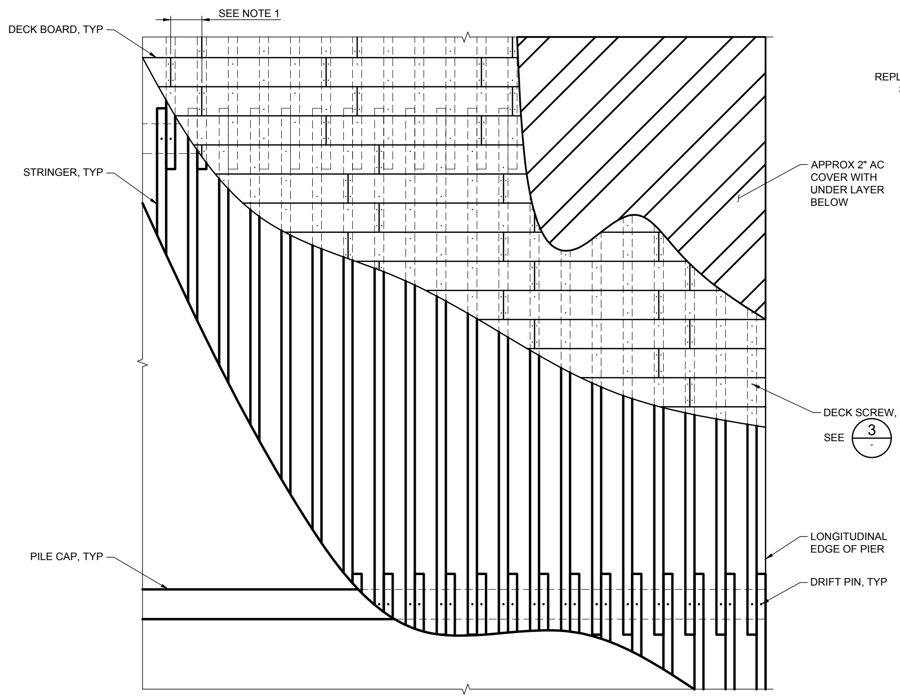
mott & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

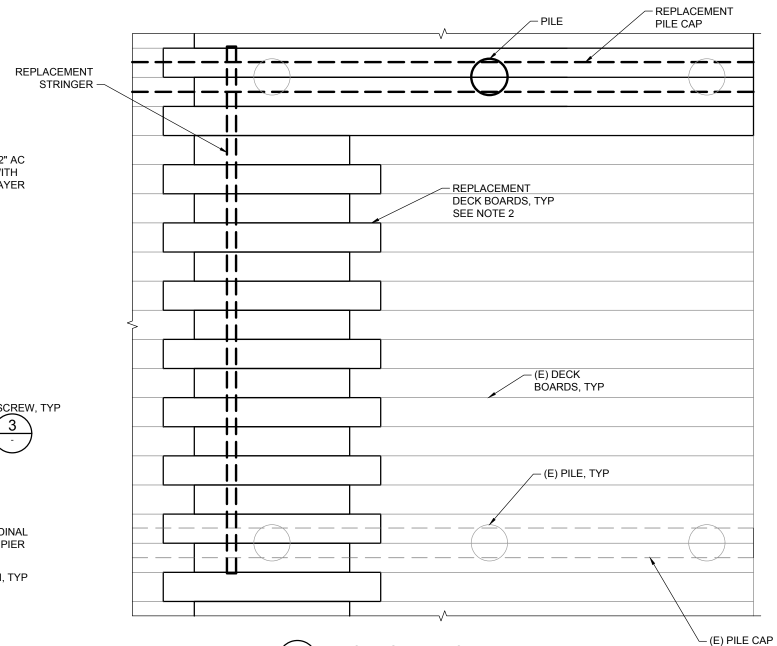
PILE PLAN

DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	13 OF 16
DESIGN	JE/BP	DRAWING NO.	S6
CHECKED	BP		

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_S6.dwg Jul 28, 2025 - 1:00pm



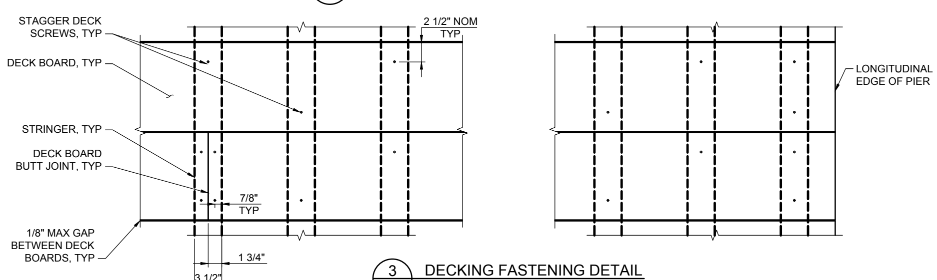
1 S3 DECKING AND FRAMING PLAN
SCALE: 1/2" = 1'-0"



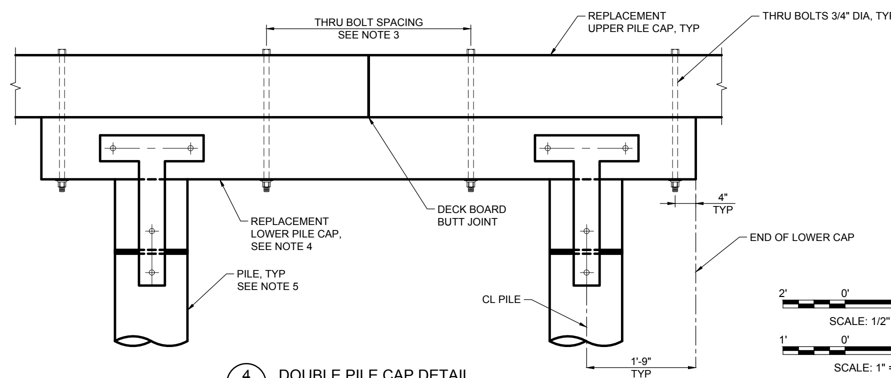
2 S3 DECKING REPLACEMENT DETAIL PLAN
S5
SCALE: 1/2" = 1'-0"

NOTES

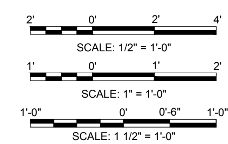
1. STAGGER BUTT JOINTS IN THE DECKING A MINIMUM OF 12".
2. REMOVE AND REPLACE DECK STRUCTURE (DECK BOARDS AND ASPHALT) AS NEEDED TO INSTALL PILES, REPLACEMENT PILE CAPS, AND REPLACEMENT STRINGERS.
3. UPPER AND LOWER PILE CAPS SHALL BE CONNECTED USING THROUGH BOLTS. SPACE BOLTS AT 40" OR USE A TOTAL OF 4, WHICHEVER RESULTS IN THE GREATER AMOUNT OF BOLTS.
4. WHEN REPLACING PILE CAPS AND A SPLICE IS NECESSARY, SUPPORT PILE CAP SPLICE WITH A LOWER PILE CAP. THE LOWER PILE CAP SHALL BE ROUGHLY CENTERED ON THE CAP SPLICE.
5. SUPPORT LOWER PILE CAPS WITH AT LEAST 2 PILES. IF NOT POSSIBLE, COMMUNICATE WITH THE CITY'S REPRESENTATIVE FOR AN ALTERNATIVE.



3 - DECKING FASTENING DETAIL
SCALE: 1 1/2" = 1'-0"



4 S3 DOUBLE PILE CAP DETAIL
S5
SCALE: 1" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
BRADFORD A. PORTER
No. 04275
Exp. 3-31-26
CIVIL
STATE OF CALIFORNIA

REVISIONS

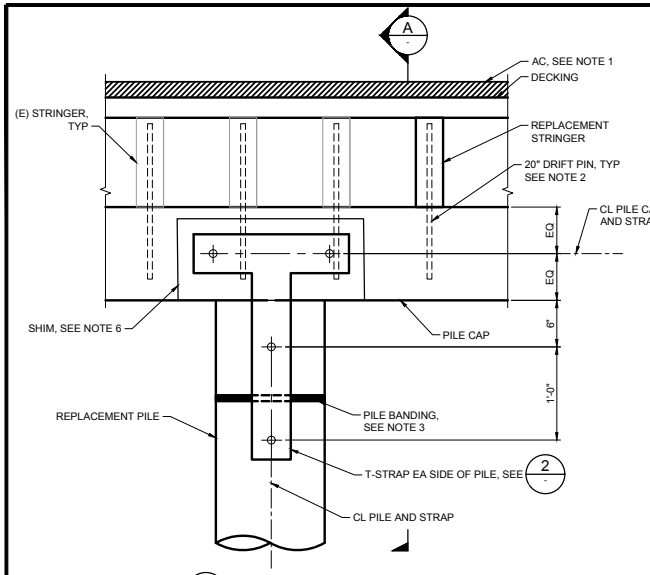
CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

moffatt & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

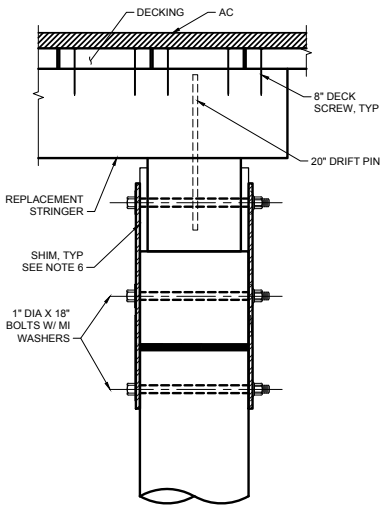
SANTA CRUZ WHARF END INTERIM REPAIRS

DETAILS 1 OF 3

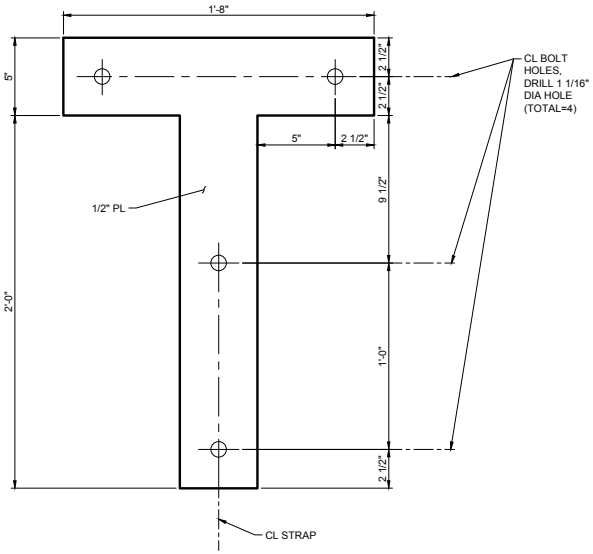
DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	14 OF 16
DESIGN	JE/BP	DRAWING NO.	S7
CHECKED	BP		



1 S5 WHARF FRAMING DETAIL
SCALE: 1 1/2" = 1'-0"



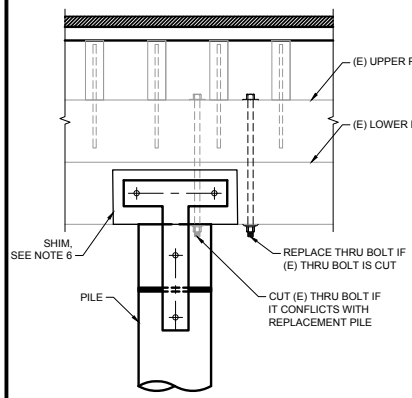
A - SECTION
SCALE: 1 1/2" = 1'-0"



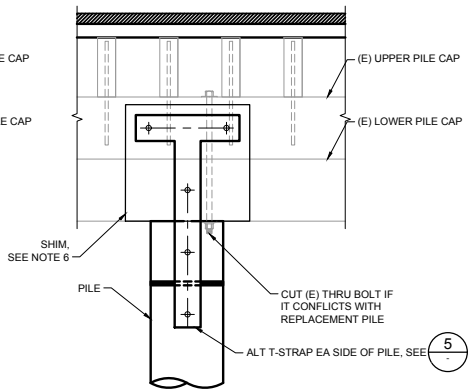
2 - T-STRAP DETAIL
SCALE: 3" = 1'-0"

NOTES

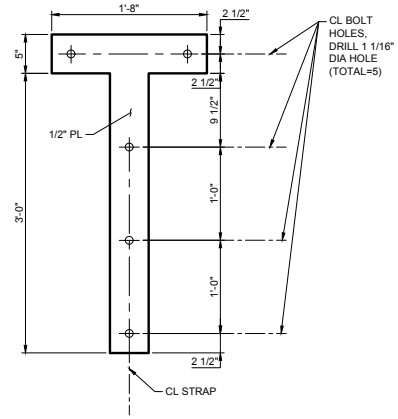
1. REPLACE ASPHALT AS NEEDED WHEN REPLACING DECK BOARDS. THICKNESS OF ASPHALT CONCRETE SHALL MATCH THE THICKNESS OF THE EXISTING ASPHALT CONCRETE (FOR BID PURPOSES ASSUME THE THICKNESS IS 2").
2. PLACE T-STRAP IN A MANNER THAT WILL NOT RESULT IN CONFLICTS BETWEEN DRIFT PINS AND NEWLY INSTALLED THROUGH BOLTS. CENTER THE TOP 2 BOLTS ON THE T-STRAP IN THE MIDDLE OF THE PILE CAP.
3. PILE BANDING SHALL BE 3/4" WIDE BY 0.030" THICK 316SS WITH AN "EAR-LOKT" BUCKLE, AS MANUFACTURED BY "BAND-IT" OR APPROVED EQUAL. PILE BANDING SHOULD REMAIN ON PILE AFTER DRIVING AND CUTOFF. BANDING FOR PILE DRIVING CAN BE WHATEVER THE CONTRACTOR DEEMS NECESSARY TO PREVENT SPLITTING.
4. REPLACEMENT BATTER PILES SHALL MATCH THE SLOPE OF THE EXISTING BATTER PILES (5VERT:3HORIZ NOM).
5. ADD BLOCKING AS NEEDED WHEN INSTALLING 1" DIA THRU BOLTS. BATTER PILE SHALL BE CONNECTED TO AT LEAST 2 PLUMB PILES.
6. ADD HDPE SHIM AS REQUIRED TO ENSURE A TIGHT FIT BETWEEN CAP AND T-STRAP. BLOCKING SHALL BE AN HDPE OR UHMW SHEET.



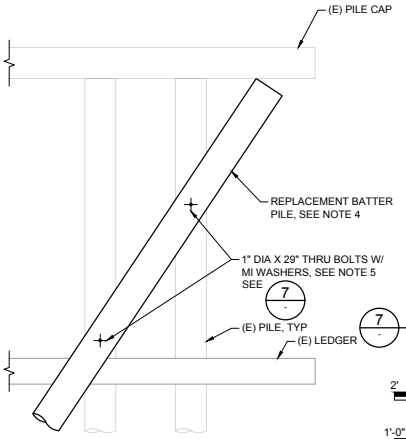
3 S5 DOUBLE CAP REPLACEMENT PILE - ALT 1
SCALE: 1" = 1'-0"



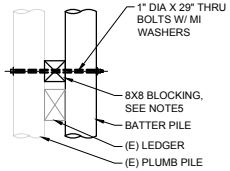
4 S5 DOUBLE CAP REPLACEMENT PILE - ALT 2
SCALE: 1" = 1'-0"



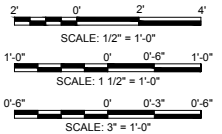
5 - ALT DOUBLE CAP T-STRAP DETAIL
SCALE: 1 1/2" = 1'-0"



6 S5 BATTER PILE DETAIL
SCALE: 1/2" = 1'-0"



7 - BLOCKING DETAIL
SCALE: 1/2" = 1'-0"



Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_S8.dwg Jul 28, 2025 - 1:00pm

REGISTERED PROFESSIONAL ENGINEER BRADFORD A. PORTER No. 042780 CIVIL STATE OF CALIFORNIA

REVISIONS

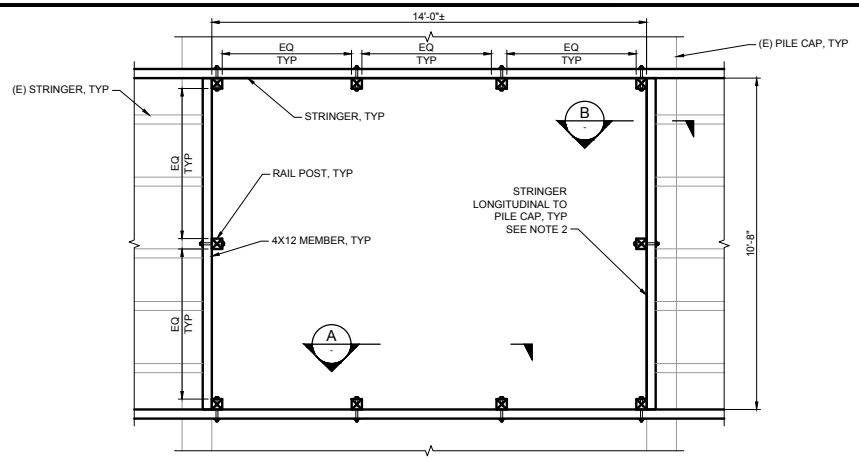
CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

mellett & nichol
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

DETAILS 2 OF 3

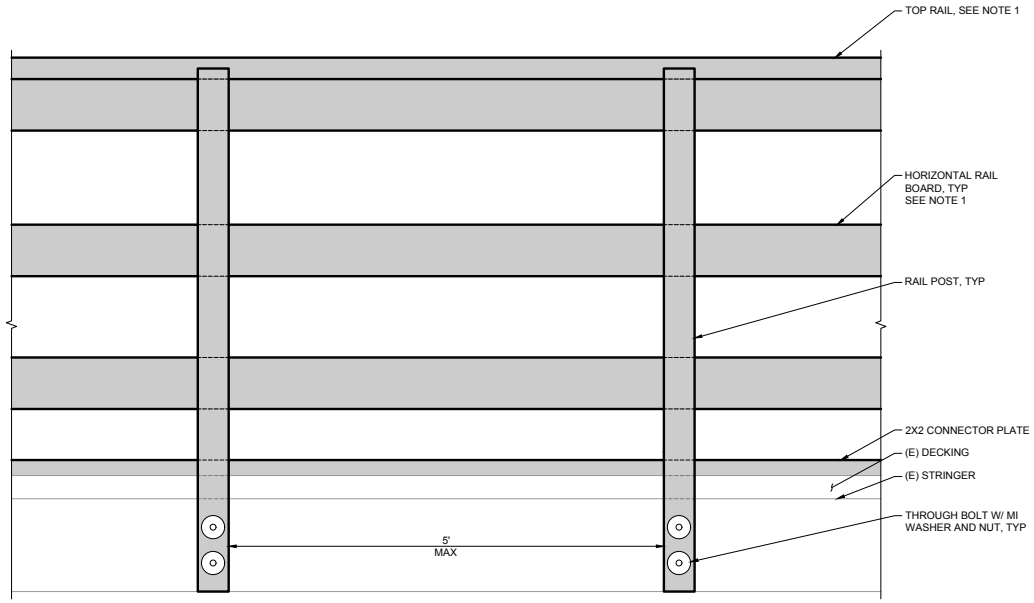
DATE	2025 JULY 28	SCALE	VARIES
DRAWN	JE	SHEET	15 OF 16
DESIGN	JE/BP	DRAWING NO.	S8
CHECKED	BP		



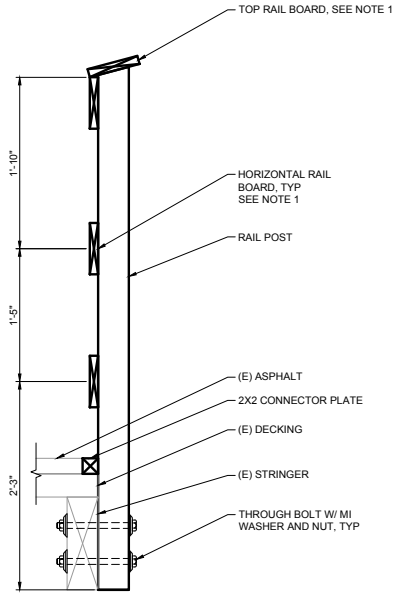
1 S3 — SEA LION VIEWING HOLE DETAIL PLAN
S5 — SCALE: 1/2" = 1'-0"

NOTES

1. NEW RAILING MEMBERS SHALL MATCH THE EXISTING DIMENSIONS AND ORIENTATION OF EXISTING RAILING MEMBERS.
2. FOR STRINGER LONGITUDINAL TO PILE CAP FOR SEA LION VIEWING HOLE, CONNECT TO PILE CAP WITH DRIFT PINS SPACED 7" ON CENTER.



A S3 — RAILING DETAIL
S5 — SCALE: 1 1/2" = 1'-0"



B — RAILING SECTION
SCALE: 1 1/2" = 1'-0"

2' 0' 2' 4'
SCALE: 1/2" = 1'-0"

1'-0" 0' 0'-6" 1'-0"
SCALE: 1 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER — BRADFORD A. PORTER — No. 042780 — CIVIL — STATE OF CALIFORNIA

REVISIONS

CITY OF SANTA CRUZ
809 CENTER STREET, ROOM 10
SANTA CRUZ, CA 95060

mott MacDonald
2185 N CALIFORNIA BLVD, SUITE 500.
WALNUT CREEK, CA 94596

SANTA CRUZ WHARF END INTERIM REPAIRS

DETAILS 3 OF 3

DATE	2025 JULY 28
DRAWN	JE
DESIGN	JE/BP
CHECKED	BP
SCALE	VARIES
SHEET	16 OF 16
DRAWING NO.	S9

Q:\WC\7416-13 scw end rebuild\20 CADD_Active_sheetset\7416-13_S9.dwg Jul 28, 2025 - 1:00pm