PORT OF SAN FRANCISCO

PIER 80 TEMPORARY FENDER SYSTEM

SAN FRANCISCO, CALIFORNIA

PERMIT NO. B-2024 0057

RECEIVED

3/29/24

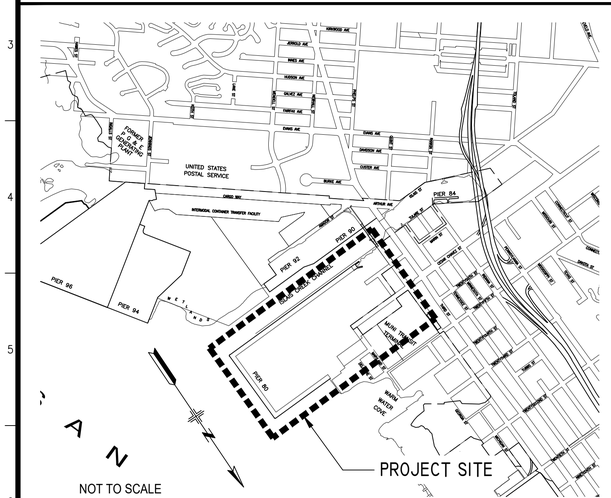
PORT OF SAN FRANCISCO

APPROVED

March 29, 2024

Giuseppe Cannavo - Port Permit Desk

PROJECT LOCATION



PROJECT TEAM

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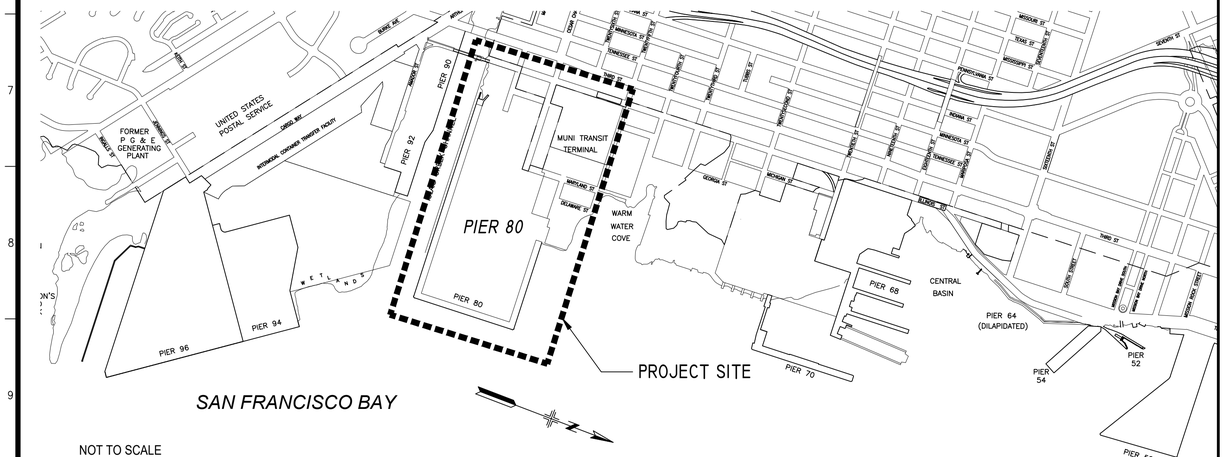
PHONE: 415.819.1889
CONTACT: ERICA PETERSEN

STRUCTURAL CONSULTANT:
COWI NORTH AMERICA
555 12TH STREET, SUITE 1700,
OAKLAND, CA 94607
PHONE.: 510.839.8972
CONTACT: ROB SMITH

VICINITY MAP



GENERAL NOTES

LOCATION OF NEW FENDERS

THE LOCATION OF THE NEW FENDERS ON THE DRAWINGS IS APPROXIMATE AND WILL NEED TO BE CONFIRMED IN RELATION TO EXISTING STRUCTURE, IN PARTICULAR THE PILES. THE LOCATION OF CHAIN BRACKETS SHOULD BE CONFIRMED WITH THE ENGINEER OF RECORD (OR DELEGATE) PRIOR TO DRILLING HOLES.

CODE

ALL CONSTRUCTION AND INSTALLATION WORK SHOWN ON THESE DRAWINGS SHALL BE DONE IN ACCORDANCE WITH THE 2022 PORT OF SAN FRANCISCO BUILDING CODE AND OTHER RELEVANT ORDINANCES. USE METHODS AS REQUIRED TO COMPLETE WORK WITHIN LIMITATIONS OF ALL PREVAILING LAWS AND CODES.

DESIGN LOADS

THE TIMBER REACTION FRAMES HAVE BEEN DESIGNED FOR A PERPENDICULAR LOAD OF 190 KIPS PER FENDER. (UNFACTORED)

THE CHAIN LOADS ARE 100 KIP (UNFACTORED).

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL BE ASTM A572 GRADE 50, UNLESS NOTED OTHERWISE
2. BOLTS / THREADED ANCHORS STEEL TO CONCRETE SHALL BE ASTM F1554 GR 55 GALVANIZED, UNO.
3. WELDS SHALL BE MADE WITH AWS D1.1, TABLE 3.1 GROUP II CONSUMABLES.
4. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS. RETURN ALL WELDS AROUND CORNERS AND JOIN WITH ADJACENT WELDS.
5. STRUCTURAL STEEL IS NOT REQUIRED TO BE GALVANIZED OR PAINTED, UNO.
6. ANCHOR BOLTS FOR CHAIN BRACKETS TO BE GROUTED WITH FLOWABLE, NON-SHRINK, CEMENTITIOUS GROUT, SIKAGROUT 212 OR APPROVED EQUAL.

TIMBER

1. BOLTS / THREADED ANCHORS AND ASSOCIATED WASHERS / NUTS CONNECTING TIMBER TO CONCRETE SHALL GALVANIZED ASTM A307, UNLESS NOTED OTHERWISE.
2. TIMBER FRAMING SHALL BE DOUGLAS FIR NO 1 OR BETTER, GRADED PER THE WCLIB
3. TIMBER PLY SHALL BE MDO WITH THE SMOOTH FACE ON THE OUTSIDE (IE FACING FENDER). PLYWOOD TO BE NAILED TO FRAMING USING 8d COMMON X 2.5 IN LONG, 12 IN ON CENTER.
4. ALL BOLTS IN TIMBER SHALL BE COUNTERSUNK ON THE FENDER SIDE.

CHAINS

1. CHAIN SUPPLIED SHALL BE MINIMUM 250 KIP BREAKING LOAD. 1.5 INCH GRADE 3 STUD.
2. SHACKLES ON DECK SIDE SHALL BE 25T WWL WITH A PIN THAT FITS THE HOLE PROVIDED (FOR EXAMPLE SEA LINK HEAVY LIFT BY WATERMAN)
3. SHACKLES AND MASTERLINKS AT FENDER SIDE TO BE CONFIRMED WITH ENGINEER.

ENVIRONMENTAL

CONTRACTOR SHALL ADHERE TO REQUIREMENTS FROM PORT OF SAN FRANCISCO AND SF PUBLIC WORKS PROVIDED IN THE FOLLOWING SPECIFICATION SECTIONS:

01 35 43 MINIMUM ENVIRONMENTAL PROCEDURES - ABBREVIATED, PIER 80 TEMPORARY FENDERING

01 35 50 ADDITIONAL ENVIRONMENTAL PROCEDURES-PIER 80 TEMPORARY FENDERING

DEMOLITION

DEMOLISHED MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH LOCAL LAWS AND REGULATIONS.

SCOPE OF WORK

PIER 80 TEMPORARY FENDER SYSTEM: TEMPORARY RELOCATION OF THE CRUISE SHIP BERTH AT PIER 35 WITH A FENDERING SYSTEM AT PIER 80 BERTH C. SCOPE OF WORK INCLUDES DEMOLITION OF EXISTING FENDERING SYSTEM AND INSTALLATION OF TEMPORARY FENDERS. EACH FENDER LOCATION COMPRISES THE FOLLOWING:

- TIMBER REACTION FRAME BOLTED TO THE EXISTING TIMBER DECK.
- FOUR CHAIN BRACKETS MADE FROM STRUCTURAL STEEL. THESE ARE CONNECTED TO THE DECK, TOP AND BOTTOM, USING STEEL THROUGH BOLTS.
- FOUR CHAINS AND ASSOCIATED SHACKLES AND HARDWARE EACH END, CONNECTING THE CHAIN BRACKETS TO THE COMPRESSIBLE FOAM FENDER (SUPPLIED BY THE PORT).
- ANCHOR BOLTS ON 5 EXISTING MOORING BOLLARDS TO BE REPLACED AS NOTED. 1

INDEX OF DRAWINGS

DWG. N0.	SHEET NO.	DRAWING TITLE
	G0.01	COVER SHEET, VICINITY MAP, DRAWING INDEX
	G0.02	EXISTING CONDITIONS
	G0.03	GENERAL ARRANGEMENT
	SD1.01	DEMOLITION PLAN
	S1.01	TIMBER FENDER FRAMING
	S1.02	STEEL CHAIN BRACKETS 1
	S1.03	UPGRADES TO EXISTING MOORING BOLLARDS

SUBMITTALS REQUIRED

SHOP DRAWINGS, MILL CERTIFICATES AND OTHER RELEVANT CERTIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD (OR DELEGATE) FOR REVIEW AND APPROVAL BEFORE FABRICATION. THE FOLLOWING SUBMITTALS ARE REQUIRED:

- STRUCTURAL STEEL SHOP DRAWINGS
- STRUCTURAL STEEL FABRICATORS'S CERTIFICATE OF COMPLIANCE UPON COMPLETION OF FABRICATION
- POST-INSTALLED ANCHOR ADHESIVE MANUFACTURER'S DATA SHEETS
- GROUT MANUFACTURE DATA SHEET FOR THROUGH BOLTS AND CORRESPONDING TEST RESULTS FROM SPECIAL INSPECTIONS
- ANCHOR ROD AND THROUGH BOLT MANUFACTURER'S DATA SHEETS
- TIMBER: MILL TAGS INDICATING SPECIES AND GRADE
- DETAILS OF CHAINS, SHACKLES AND MASTER LINKS

THE FOLLOWING RECORDS FOR STRUCTURAL STEEL FABRICATION SHOULD BE KEPT AVAILABLE FOR REVIEW BY THE ENGINEER OF RECORD, OWNER, SPECIAL INSPECTOR, AND/OR BUILDING INSPECTOR.

- MATERIAL TEST REPORTS FOR MAIN STRUCTURAL STEEL ELEMENTS
- MANUFACTURERS CERTIFICATIONS AND DATA SHEETS FOR WELD FILLER METALS
- WELDING PROCEDURE SPECIFICATIONS (WPS)
- WELDING PERSONNEL PERFORMANCE QUALIFICATION RECORDS (WPQR) AND CONTINUITY RECORDS.
- FABRICATOR'S QC MANUAL AND SHOP CERTIFICATIONS IF APPLICABLE
- FABRICATOR'S QUALITY CONTROL INSPECTOR QUALIFICATION RECORDS

SPECIAL INSPECTIONS

THE SPECIAL INSPECTOR SHALL INSPECT POST INSTALLED ANCHOR BOLTS FOR CHAIN BRACKETS, INCLUDING GROUTING PROCEDURES. (CONTINUOUS INSPECTION)

THE SPECIAL INSPECTOR SHALL INSPECT OTHER ADHESIVE CONNECTING TIMBER TO CONCRETE (PERIODIC INSPECTION). PERIODIC INSPECTION.

STRUCTURAL OBSERVATIONS

AFTER DEMOLITION OF NOTED MATERIALS, AND PRIOR TO INSTALLATION OF THE FIRST TIMBER FRAME AND STEEL BRACKET, THE EOR (OR DELEGATE) SHALL VISUALLY INSPECT EXISTING CONDITIONS.

NO.	DATE	DESCRIPTION	BY	APP.
1	3/27/2024	REVISION 1	RBSM	UP
0	3/20/2024	ISSUED FOR CONSTRUCTION	RBSM	UP

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

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SAN FRANCISCO PORT COMMISSION
PORT OF SAN FRANCISCO
DEPARTMENT OF ENGINEERING

DESIGNED:	PKKR	DATE: 03/15/24
DRAWN:	ENSN	DATE: 03/15/24
CHECKED:	RBSM	DATE: 03/15/24

APPROVED BY
SAN FRANCISCO PORT COMMISSION
DATE: _____
_____
CHIEF HARBOR ENGINEER

PIER 80
TEMPORARY FENDER SYSTEM

COVER SHEET, VICINITY MAP, DRAWING INDEX

CONTRACT NO. DPW JOC J56-15
DRAWING NO. -
SHEET NO. G0.01 1
01 OF 07

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PLOT SCALE: 1=1
ORIGIN: SECTION
FILE NAME: BOE–STD2.DWG
DATE: --/--/--

1 EXISTING CONDITIONS
SCALE: 1" = 100'-0"

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PIER 80
TEMPORARY FENDER SYSTEM

EXISTING CONDITIONS

CONTRACT NO.
DPW JOC J56-15
DRAWING NO.
XXXXX
SHEET NO.
G0.02 1
02 OF 07

EXTERNAL REFERENCES: XREFS
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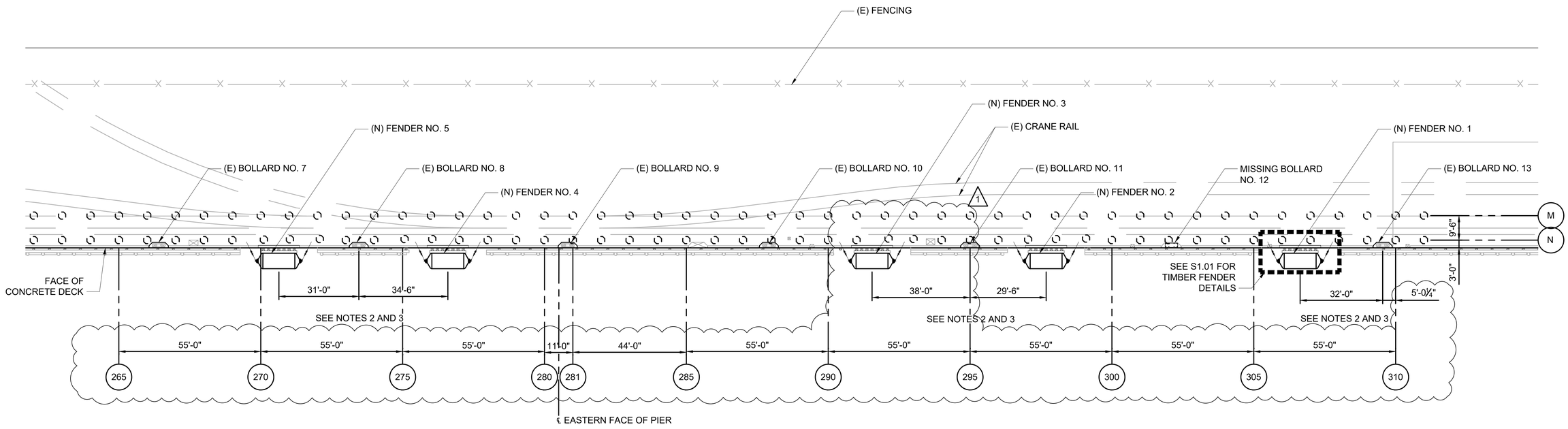

1 / -.- GENERAL ARRANGEMENT
SCALE: 1" = 20'-0"

NOTES:

1. PILES ARE NOT SHOWN ALONG GRIDLINES L THROUGH F FOR CLARITY.
2. LOCATION OF THE PILES IS APPROXIMATE AND SHOULD BE CONFIRMED PRIOR TO DRILLING THROUGH DECK.
3. SIMILARLY, LOCATION OF FENDERS MAY NEED TO BE SHIFTED TO AVOID PILES AND ALIGN WITH EXISTING HORIZONTAL BOLTING IN DECK AND SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION OF REACTION FRAMING AND CHAIN BRACKETS.
4. IN CASE ANY (E) UTILITY PIPING IS IN CONFLICT WITH HE PROPOSED WORK, REPORT TO THE PORT ENGINEER BEFORE COMMENCING THE WORK.

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_____
CHIEF HARBOR ENGINEER

PIER 80
TEMPORARY FENDER SYSTEM

GENERAL ARRANGEMENT

CONTRACT NO. DPW JOC J56-15
DRAWING NO. XXXXX
SHEET NO. G0.03 1
03 OF 07

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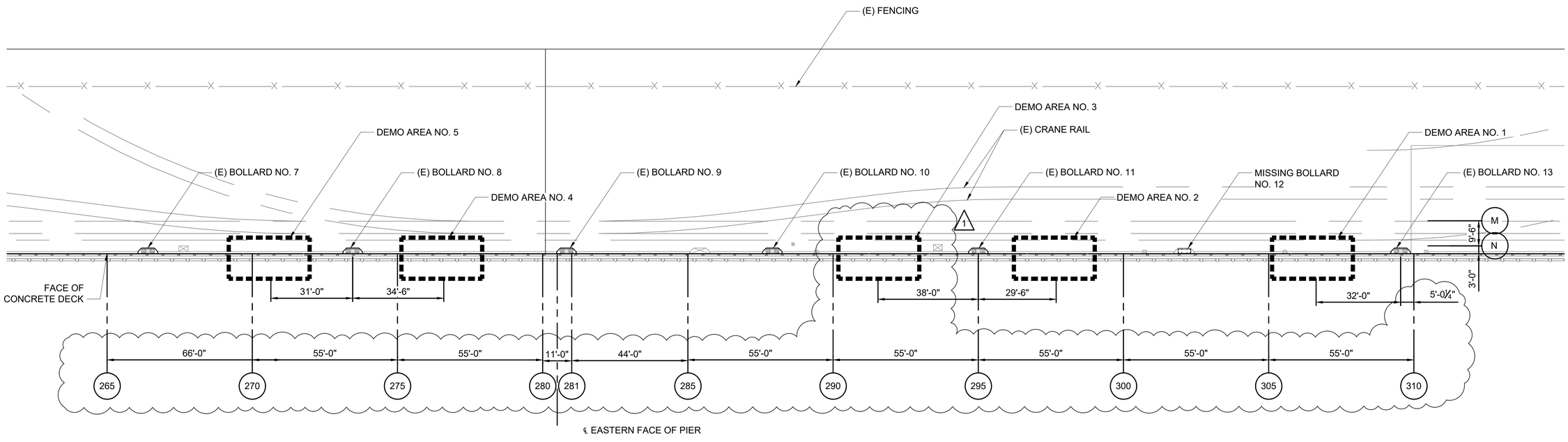
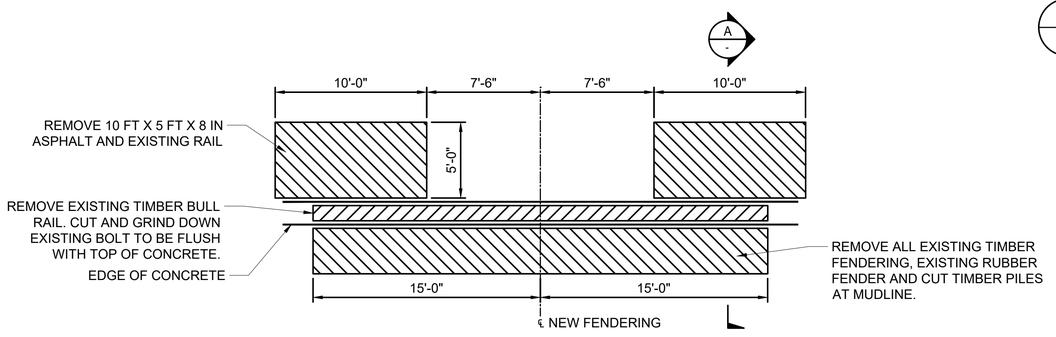


1 DEMOLITION PLAN
SCALE: 1" = 20'-0"



2 DEMOLITION TYPICAL AREA
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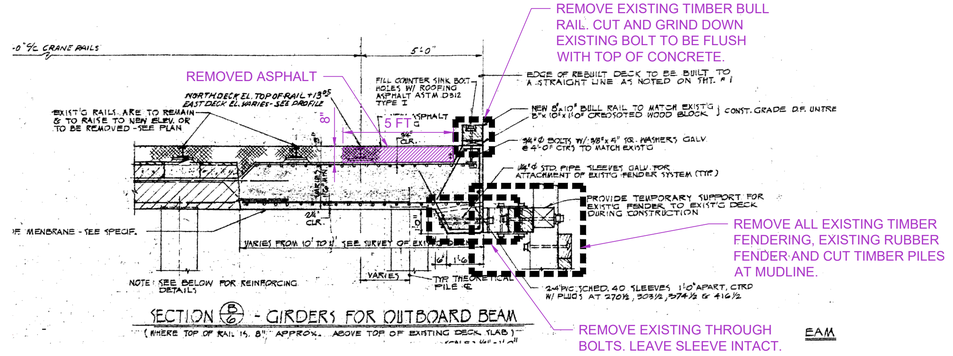

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CHIEF HARBOR ENGINEER

PIER 80
TEMPORARY FENDER SYSTEM

DEMOLITION PLAN

CONTRACT NO.
DPW JOC J56-15
DRAWING NO.
XXXXX
SHEET NO.
SD1.01/1
04 OF 07

EXTERNAL REFERENCES: XREFS
FONTS USED: FONTS
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PLOT SCALE: 1=1
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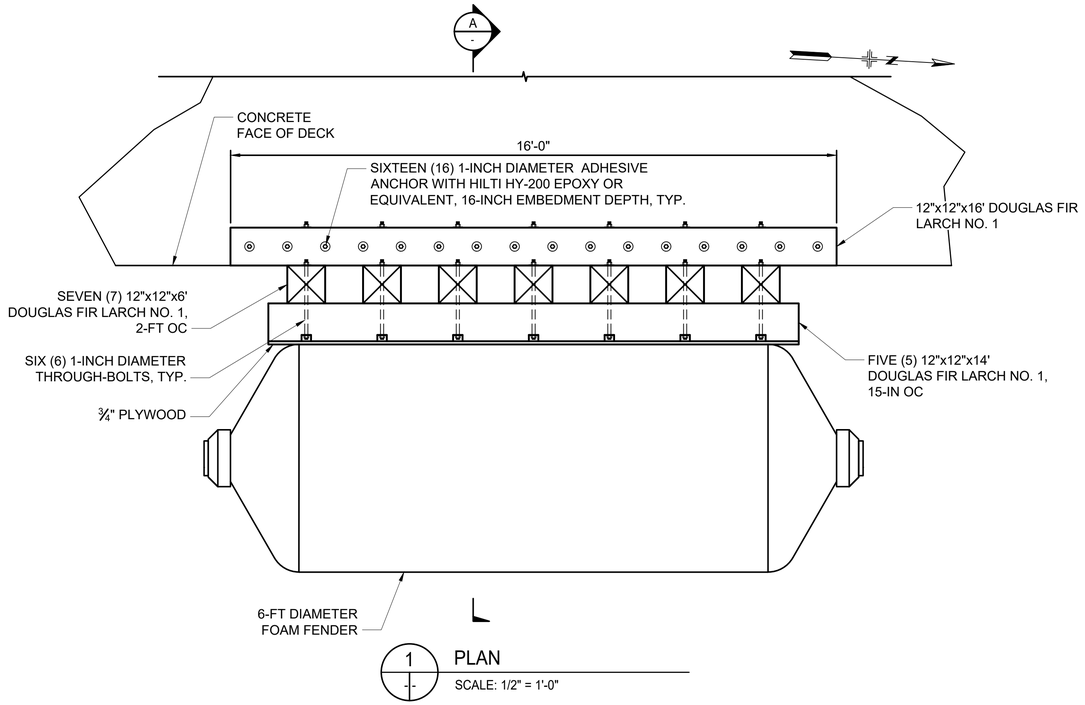
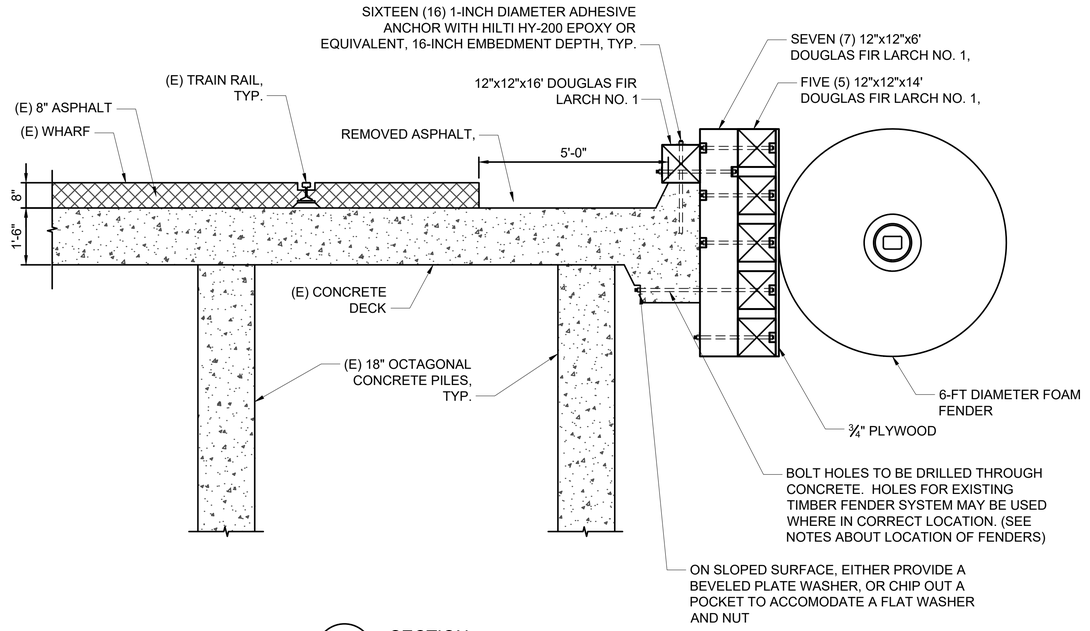


1 - - PLAN

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



A - - SECTION

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

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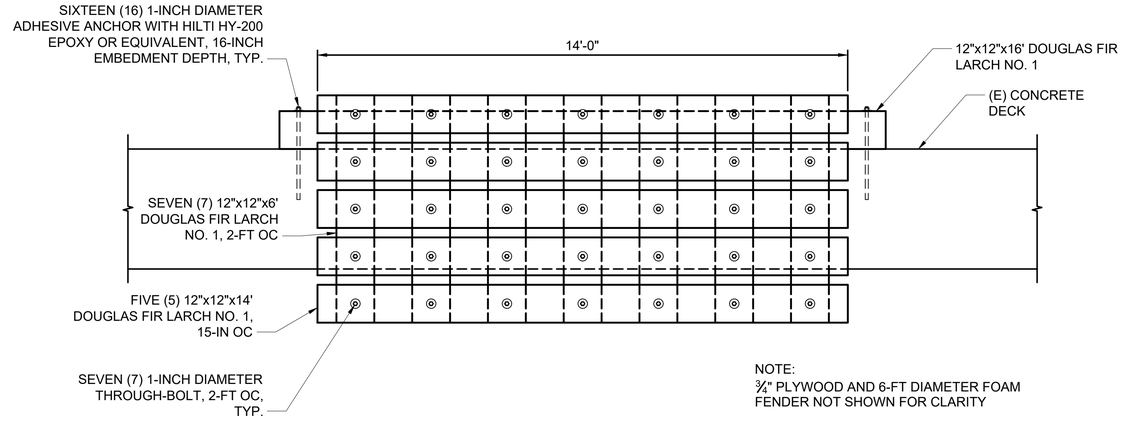

NOTE:
¾" PLYWOOD AND 6-FT DIAMETER FOAM FENDER NOT SHOWN FOR CLARITY

2 - - ELEVATION

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

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CHIEF HARBOR ENGINEER

PIER 80
TEMPORARY FENDER SYSTEM

TIMBER FENDER FRAMING

CONTRACT NO.
DPW JOC J56-15

DRAWING NO.
XXXXX

SHEET NO.
S1.01 1
05 OF 07

EXTERNAL REFERENCES: XREFS
FONTS USED: FONTS
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PLOT SCALE: 1=1
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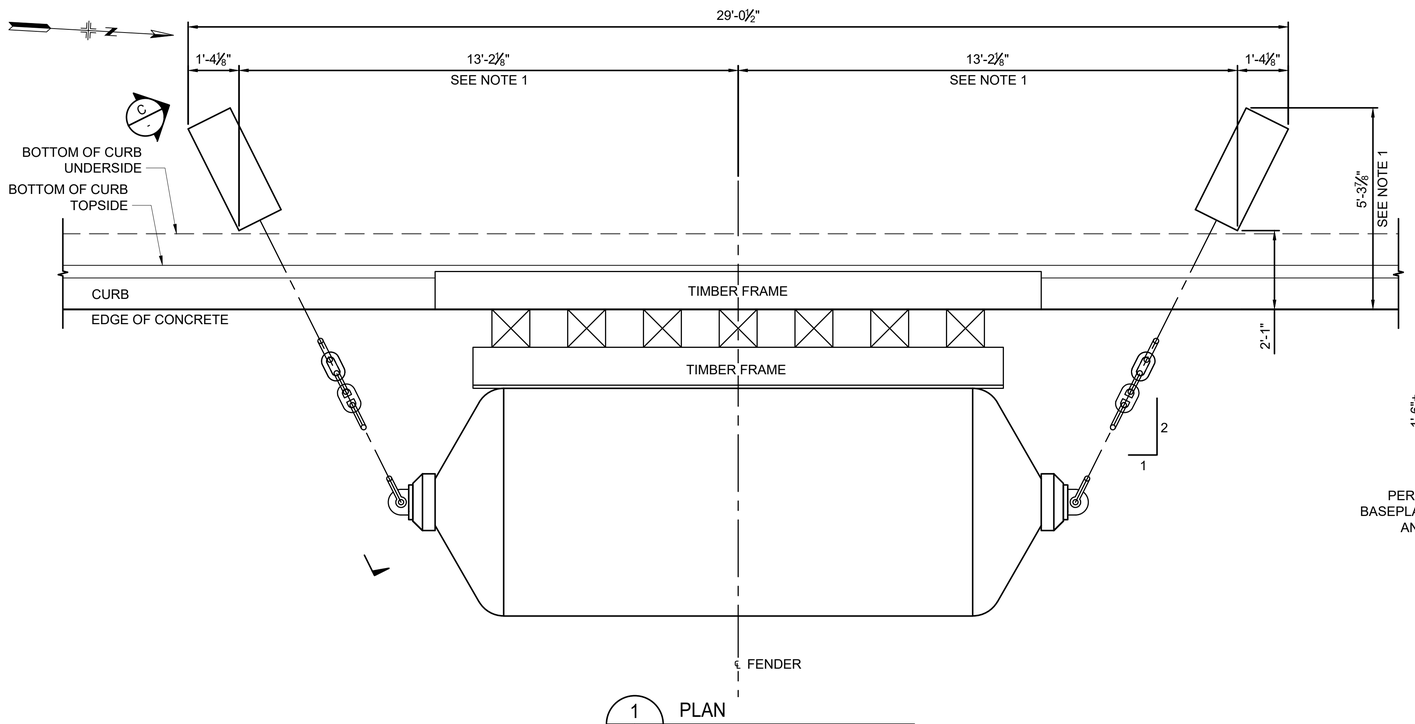

1 PLAN
SCALE: 1/2" = 1'-0"

NOTES:

1. LOCATION OF CHAIN BRACKET WITH RESPECT TO CENTER LINE OF FENDER TO BE CONFIRMED ONCE CHAIN GEOMETRY (LENGTH OF SHACKLES, CHAIN LINKS, ETC.) IS KNOWN.

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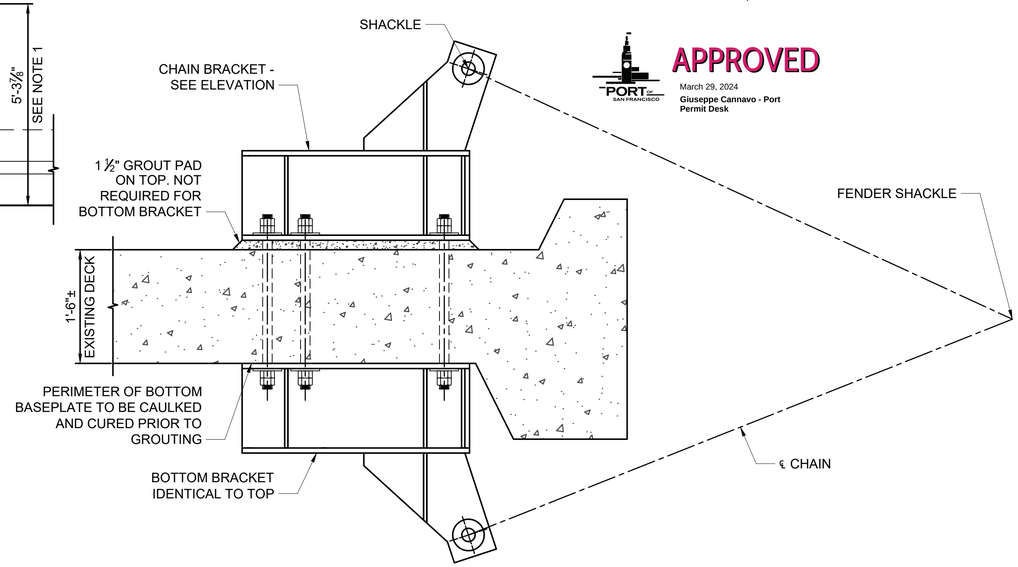

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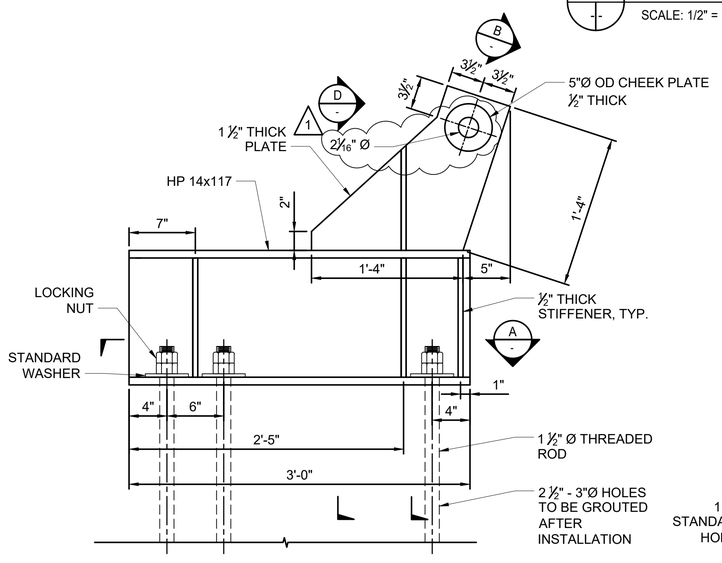

2 ELEVATION CHAIN BRACKET
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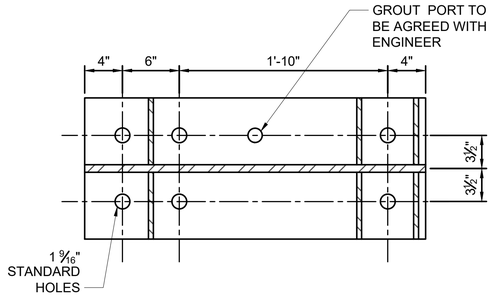

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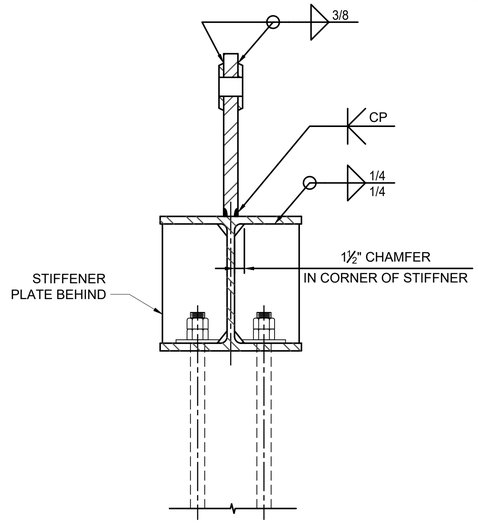

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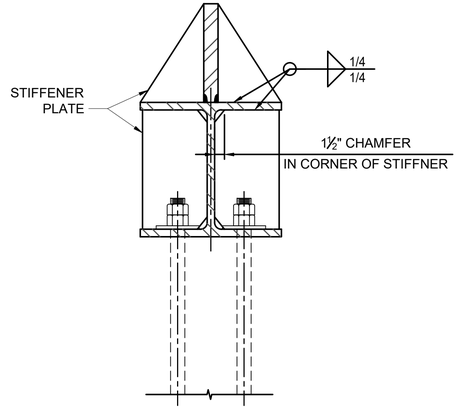

D SECTION
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CHIEF HARBOR ENGINEER

PIER 80
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STEEL CHAIN BRACKETS

CONTRACT NO.
DPW JOC J56-15
DRAWING NO.
XXXXX
SHEET NO.
S1.02 1
06 OF 07

EXTERNAL REFERENCES: XREFS
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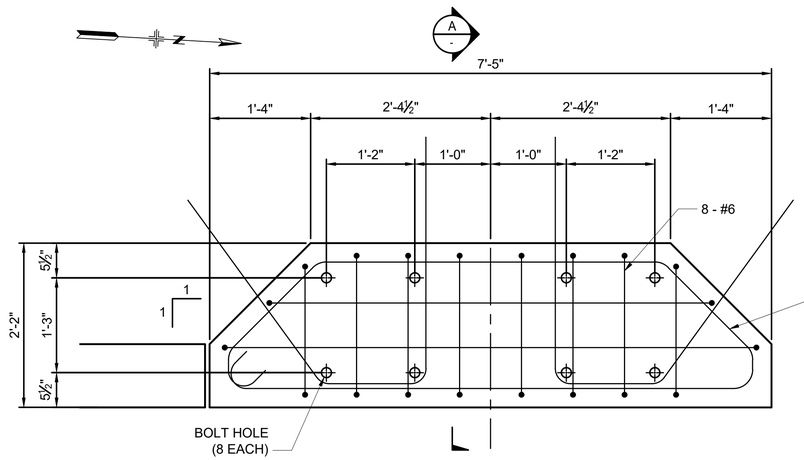
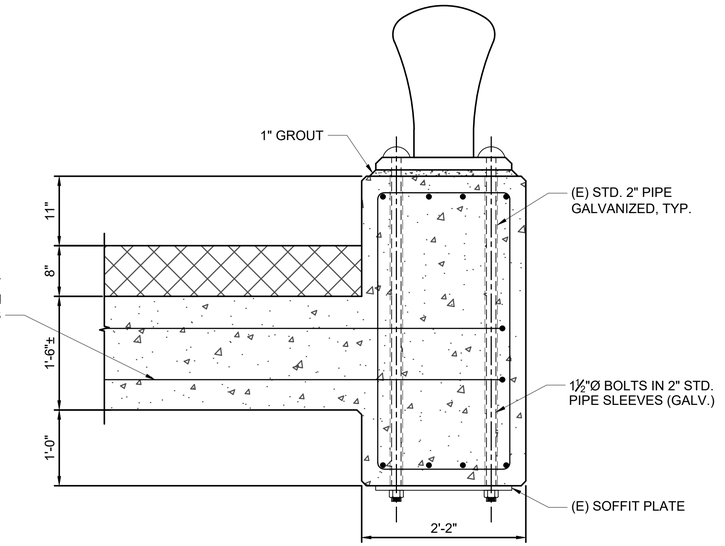


1 -- EXISTING BOLLARD PEDESTAL - PLAN

SCALE: 1" = 1'-0"



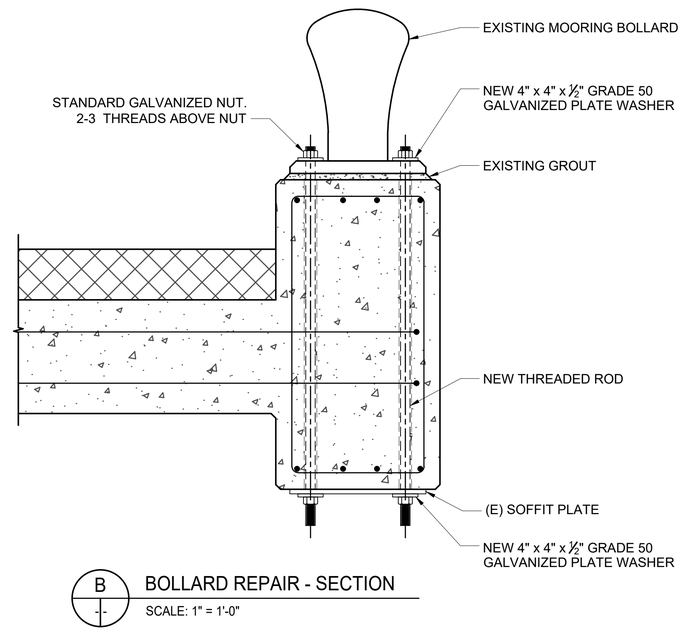
A -- EXISTING BOLLARD - SECTION

SCALE: 1" = 1'-0"

NOTES:

1. ANCHOR BOLTS (8 EACH) ON BOLLARDS 2,3,4,14 AND 15 TO BE REPLACED. SEE DRAWING G0.02 FOR LOCATIONS OF BOLLARDS.
2. REMOVE EXISTING BOLTS, RODS, AND WASHERS IF PRESENT.
3. BRUSH OUT LOOSE MATERIAL TO FIRM SURFACE.
4. APPLY CORROSION INHIBITOR , SIKA ARMATEK 110 EPOCEM, OR EQUIVALENT, ON STEEL BOLLARD AND EXISTING SOFFIT PLATE, PRIOR TO PLACING WASHERS.
5. ANCHOR RODS TO BE ASTM F1554 GR 55 GALVANIZED 1.5 INCH THREADED ROD WITH STANDARD NUTS.
6. TOP ANCHOR ROD SHOULD BE MIN 2 THREADS AND MAX 3 THREADS ABOVE NUT TO PREVENT SNAGGING OF MOORING LINES.
7. DEPTH OF EXISTING CONCRETE SHOULD BE CONFIRMED IN FIELD PRIOR TO INSTALLATION OF BOLTS.
8. EXISTING DIMENSIONS OF CONCRETE SHOWN IS APPROXIMATE AND MAY VARY ACROSS SITE.
9. SHOULD THE EXISTING BOLLARD OR GROUT BE DAMAGED DURING EXTRACTION OF EXISTING BOLTS, PLEASE CONTACT EOR OR PORT REPRESENTATIVE TO CONFIRM ANY REMEDIAL ACTIONS REQUIRED.

APPROVED
March 29, 2024
Giuseppe Cannavo - Port Permit Desk



B -- BOLLARD REPAIR - SECTION

SCALE: 1" = 1'-0"

NO.	DATE	DESCRIPTION	BY	APP.
1	3/27/2024	ISSUED FOR CONSTRUCTION (FIRST ISSUE FOR DWG)	RBSM	UP

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

CONSULTANT
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ROBERT JOSEPH SMITH
No. S5737
Exp. 9/30/2025
STRUCTURAL
STATE OF CALIFORNIA

SAN FRANCISCO PORT COMMISSION
PORT OF SAN FRANCISCO
DEPARTMENT OF ENGINEERING

DESIGNED:	DATE:
PKKR	03/27/24
DRAWN:	DATE:
ENSN	03/27/24
CHECKED:	DATE:
RBSM	03/27/24

APPROVED BY
SAN FRANCISCO PORT COMMISSION
DATE: _____
_____
CHIEF HARBOR ENGINEER

PIER 80
TEMPORARY FENDER SYSTEM

EXISTING MOORING BOLLARD REPAIR

CONTRACT NO. DPW JOC J56-15
DRAWING NO. XXXXX
SHEET NO. S1.03
07 OF 07

EXTERNAL REFERENCES: XREFS
FONTS USED: FONTS
SCALE FACTOR: XX
PLOT SCALE: 1 = 1
ORIGIN: SECTION
FILE NAME: BOE-STD2.DWG
DATE: --/--/--

C:\USERS\ENSN\COWI\A244686 – PORT OF SAN FRANCISCO – AS NEEDED CONTRACT 2022 – DOCUMENTS\90-CONTRACT SERVICE ORDERS\CO-09 PIER 80 TEMPORARY FENDERING\CAD\A244686-S1.03