

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

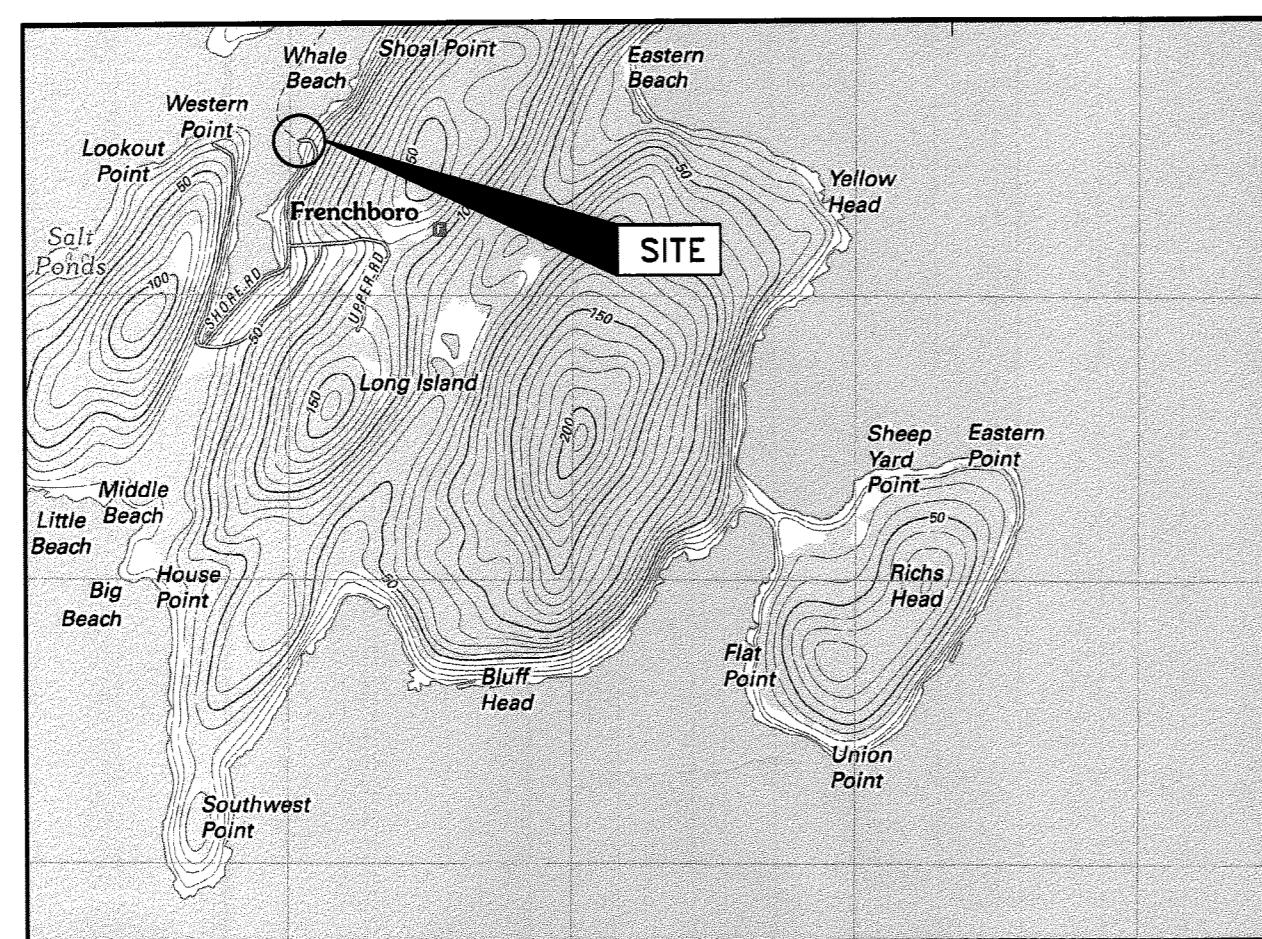


FRENCHBORO TRANSFER BRIDGE AND PIER FRENCHBORO, LONG ISLAND HANCOCK COUNTY

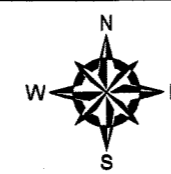
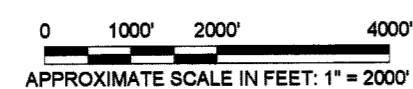
SEPTEMBER 2013

WIN:18386.00

PROJECT LOCUS



LOCATION MAP



BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:
FRENCHBORO, MAINE (2012)
DIGITAL TOPOGRAPHIC MAPS PROVIDED BY USGSSTORE.GOV.
CONTOUR ELEVATIONS REFERENCE NAVD 83.
CONTOURS ARE SHOWN IN FEET AT 10 FOOT INTERVALS



GZA GeoEnvironmental, Inc.
477 CONGRESS STREET - SUITE 700
Portland, Maine 04101
(207) 879-9190

INDEX TO DRAWINGS

SHEET NO.

TITLE

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SPECIFICATIONS:

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS - REVISION OF 2002
SUPPLEMENTAL SPECIFICATION 2008

DESIGN LOADING

DESIGN VESSEL:

MV CAPTAIN HENRY LEE
LENGTH: 130 FT.
BEAM: 36 FT.
MAX DRAFT: 8'-6" FT.
MAX DISPLACEMENT: 383.75 LONG TONS / 859,600 LBS.

APPROACH VELOCITY: $V_N = 1.69$ FPS (50 CM/SEC)

MATERIALS:

CONCRETE (UNLESS NOTED OTHERWISE) CLASS "A"
REINFORCING STEEL ASTM A615/A615M, GRADE 60
ALL REINFORCING STEEL SHALL BE EPOXY COATED PER ASTM A775/A775M

STRUCTURAL STEEL ASTM A36
MISCELLANEOUS METALS, PLATES ASTM A36
BOLTS A307
HIGH STRENGTH BOLTS A325
(TRANSFER BRIDGE REPAIRS)
STAINLESS STEEL TYPE 316L
ALL CARBON STEEL FASTENERS AND HARDWARE SHALL BE HOT DIPPED
GALVANIZED PER ASTM A123 OR A153 AS APPLICABLE

STEEL PIPE PILES ASTM A252, GRADE 3
STRUCTURAL TIMBER SOUTHERN YELLOW PINE, NO. 1
(OR BETTER)
TIMBER PILES GREENHEART

BASIC DESIGN STRESSES:

CONCRETE $F'_C = 4,350$ PSI
REINFORCING STEEL $F_Y = 60,000$ PSI
STRUCTURAL STEEL $F_Y = 36,000$ PSI
STEEL PIPE PILES $F_Y = 45,000$ PSI
TIMBER $F_B = 1,350$ PSI
 $F_V = 165$ PSI

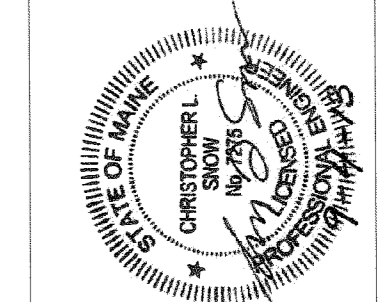
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FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
LONG ISLAND HANCOCK COUNTY
TITLE SHEET/LOCUS MAP/INDEX

SHEET NUMBER

T-1

1 OF 28



SIGNATURE
P.E. NUMBER
DATE

PROJECT INFORMATION
PROGRAM
PROJECT MANAGER
DESIGNER
CONSULTANT
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER
CHIEF ENGINEER

DATE
9/11/13
9-10-13

Signature: Christopher D. Fisoletti
P.E. Number: 276
Date: 9/11/13

Signature: [Handwritten Signature]
P.E. Number: [Handwritten Number]
Date: 9-10-13

Date: \$date\$

Username: \$user\$

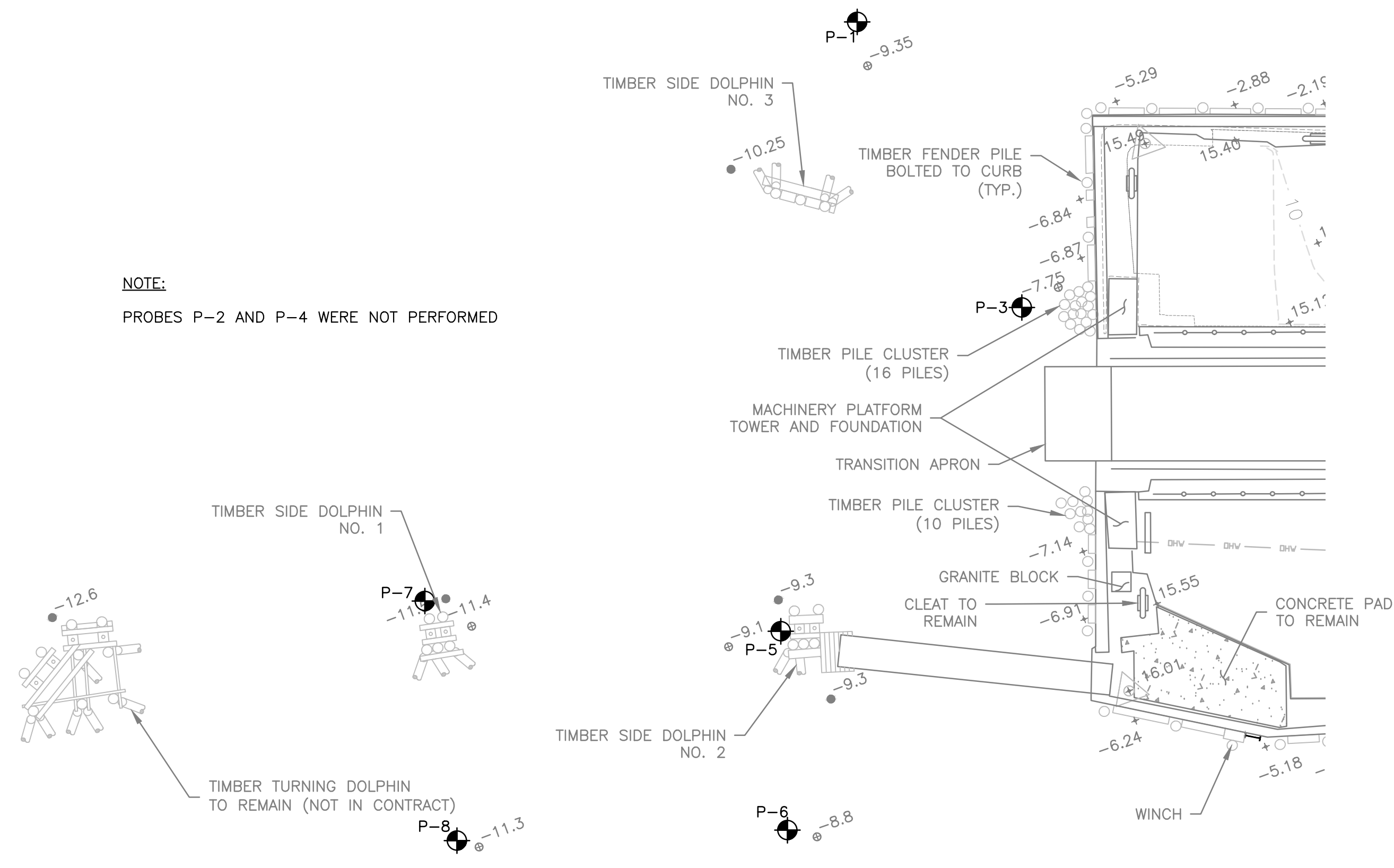
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G:\A\New\080257\66.00_Frenchboro\Figures\GZA_DWG\SYMAL_25766.00_P1_P0_C001L_8-16-2013.dwg [1-INDEX] September 05, 2013 - 12:48pm michael.cabin

G:\Projects\2013\257666.00_Frenchboro\Figures\GZA\DWG\257666.00_P-1-14_8.16-2013.dwg [C-2 Probe Data] September 05, 2013 - 12:45pm michael.sabir

NOTE:
PROBES P-2 AND P-4 WERE NOT PERFORMED

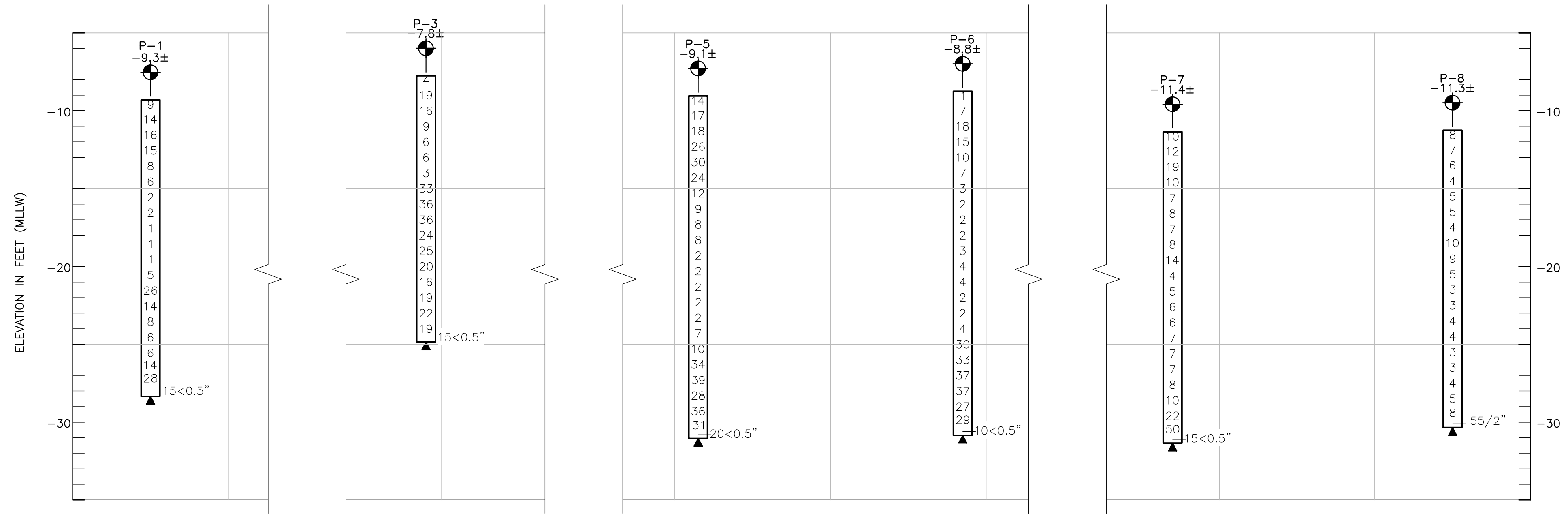


PILE PROBE LAYOUT PLAN
SCALE: 1" = 10'
SCALE IN FEET

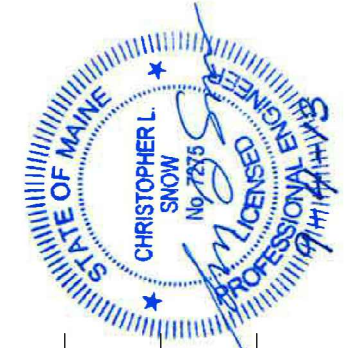
- LEGEND:**
- +11.75 SPOT ELEVATION BY TOPOGRAPHIC SURVEY DEC. 13, 2012 BY GZA
 - -15.4 SPOT ELEVATION (MUDLINE) BY LEADLINE SURVEY DEC. 13, 2012 BY GZA
 - -13.9 SPOT ELEVATION (MUDLINE) BY LEADLINE SURVEY JUNE 4-5, 2013 BY GZA
 - TEMPORARY BENCHMARK
 - TIMBER PILE (PLUMB)
 - TIMBER PILE (BATTER)
 - P-1 -14.45± PROBE LOCATION AND APPROXIMATE MUDLINE ELEVATION
 - 9 BLOWS PER FOOT
 - ▲ PROBE REFUSAL

- NOTES:**
- TEMPORARY SITE BENCHMARK IS A NAIL SET IN THE ASPHALT ALONG WEST SHORE DRIVE, ASSUMED ELEV. 28.4.
 - GENERAL SITE FEATURES WERE PROVIDED BY MAINE DEPARTMENT OF TRANSPORTATION IN AN ELECTRONIC FILE TITLED "3DTopo_18OCT12.DGM". ADDITIONAL INFORMATION WAS COLLECTED DURING A LIMITED SITE SURVEY PERFORMED BY GZA GEOENVIRONMENTAL, INC. ON DECEMBER 13, 2012 AND REPRESENTS CONDITIONS AT THE TIME OF SURVEY.
 - A LEADLINE SURVEY WAS COMPLETED BY GZA GEOENVIRONMENTAL, INC. ON JUNE 4-5, 2013 USING AN ASSUMED BENCHMARK ELEVATION. APPROXIMATE MEAN LOWER LOW WATER DATUM WAS ESTIMATED BY TAKING TIDE READINGS ON JUNE 4 AND JUNE 5, 2013 AND ADJUSTING THE TIDE READINGS TO NOAA TIDE PREDICTIONS FOR BURNT COVE HARBOR, SWAN'S ISLAND, MAINE, STATION ID 8413857. ALL SURVEY ELEVATIONS WERE THEN TRANSFERRED TO THE APPROXIMATE MEAN LOWER LOW WATER DATUM.

- NOTES:**
- ON JUNE 4 AND 5, 2013 GZA GEOENVIRONMENTAL, INC. (GZA), ON BEHALF OF MAINE DEPARTMENT OF TRANSPORTATION (MAINE DOT), MONITORED A PILE PROBE PROGRAM AT THE FRENCHBORO FERRY SLIP AND PIER.
 - THE PILE PROBE PROGRAM CONSISTED OF ADVANCING A 45 FOOT LONG STEEL HP 10X42 PILE TO PRACTICAL REFUSAL AT SIX PROBE LOCATIONS AROUND THE EXISTING FERRY SLIP AND PIER. AT EACH LOCATION, THE PILE WAS ADVANCED WITH A VULCAN 01 SINGLE ACTING AIR HAMMER USING A BARGE MOUNTED CRANE. PROBE LOCATIONS WERE ESTIMATED USING TAPED MEASUREMENTS FROM EXISTING STRUCTURES.
 - PROBE DRIVING RESISTANCES WERE RECORDED IN BLOWS PER FOOT OVER THE ENTIRE PENETRATION OF THE PILE AT EACH PROBE LOCATION AND ARE PRESENTED HEREIN FOR INFORMATION ONLY. NO WARRANTY REGARDING THE ACCURACY OF THIS INFORMATION IS EITHER EXPRESSED OR IMPLIED BY GZA OR MAINE DOT.
 - ELEVATION DATA WAS ESTIMATED USING A TIDE GAUGE ON THE SOUTHWEST CORNER OF THE PIER, SET UP ON A POINT SURVEYED BY GZA IN DECEMBER 2013. MUDLINE SOUNDINGS, PILE PENETRATION BELOW WATER LEVEL AND TIDE GAUGE READINGS WERE RECORDED AT THE BEGINNING AND END OF EACH PILE INSTALLATION TO ESTIMATE MUDLINE AND PILE TIP ELEVATIONS. PROBE RESISTANCES, LOCATIONS AND ELEVATIONS SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.



PILE PROBE DATA (BLOWS PER FOOT)
SCALE: 1/4" = 1'

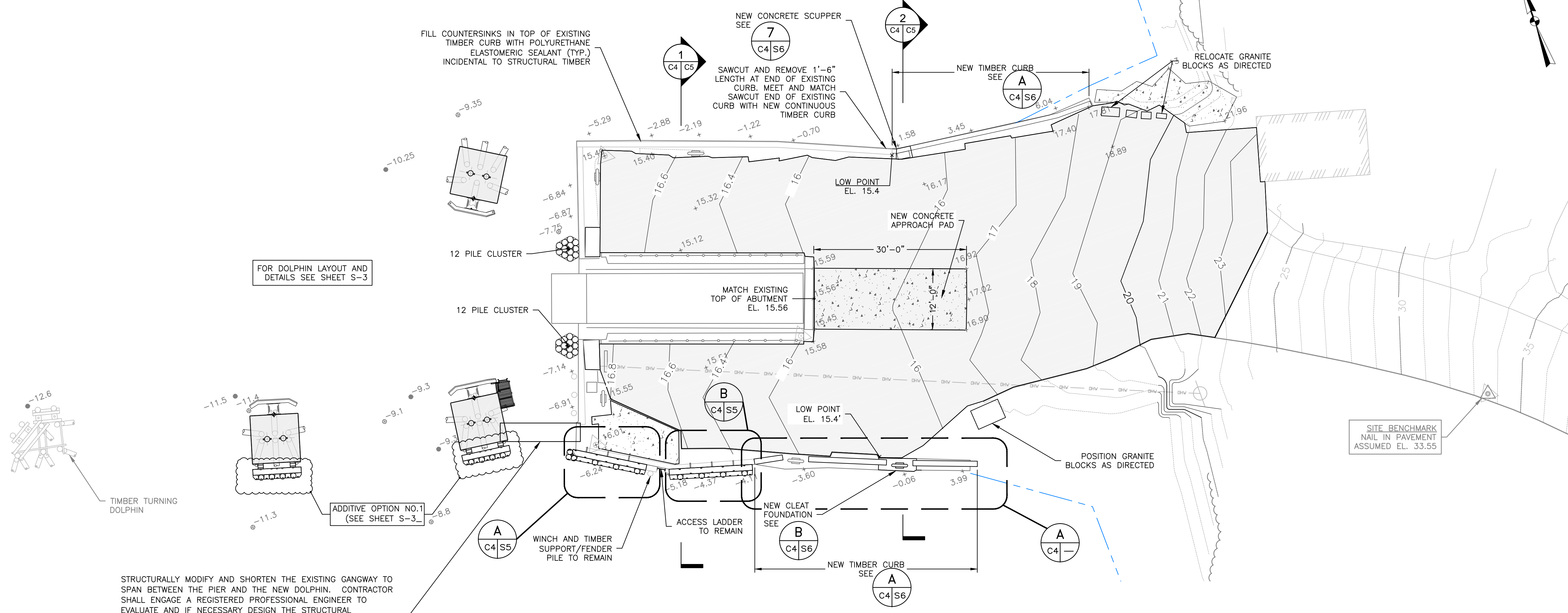
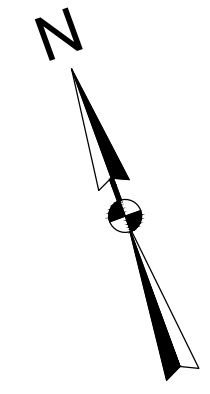


SIGNATURE
P.E. NUMBER
DATE

PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
HANCOCK COUNTY
LONG ISLAND
SUBSURFACE PROBE DATA

LUNT HARBOR

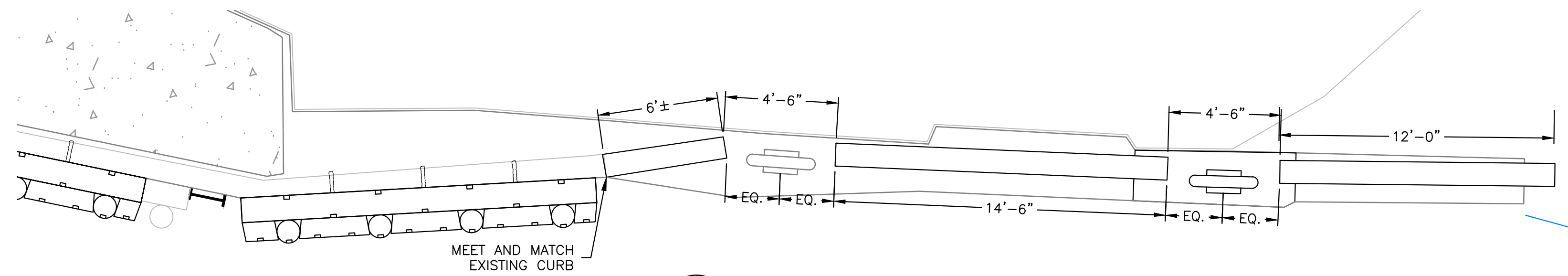
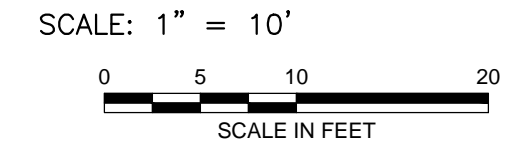


FOR DOLPHIN LAYOUT AND DETAILS SEE SHEET S-3

STRUCTURALLY MODIFY AND SHORTEN THE EXISTING GANGWAY TO SPAN BETWEEN THE PIER AND THE NEW DOLPHIN. CONTRACTOR SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO EVALUATE AND IF NECESSARY DESIGN THE STRUCTURAL MODIFICATION. SUBMIT STAMPED DESIGN CALCULATIONS AND SHOP DRAWINGS.

ADDITIVE OPTION NO. 2 IS TO PROVIDE AND INSTALL A NEW ALUMINUM WALKWAY IN ACCORDANCE WITH SECTION 536 OF THE SPECIAL PROVISIONS.

PIER-SITE IMPROVEMENTS PLAN



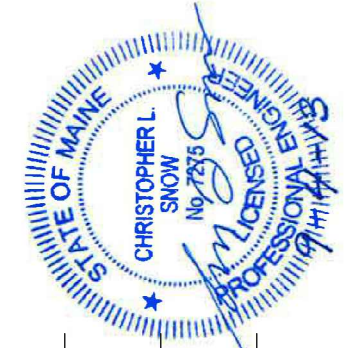
A TIMBER CURB LAYOUT DETAIL

SCALE: 1/4" = 1'



NOTE: FOR ADDITIONAL DETAIL SEE A C4 S6

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SIGNATURE
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DATE

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
HANCOCK COUNTY
LONG ISLAND
PIER-SITE IMPROVEMENTS PLAN

SHEET NUMBER

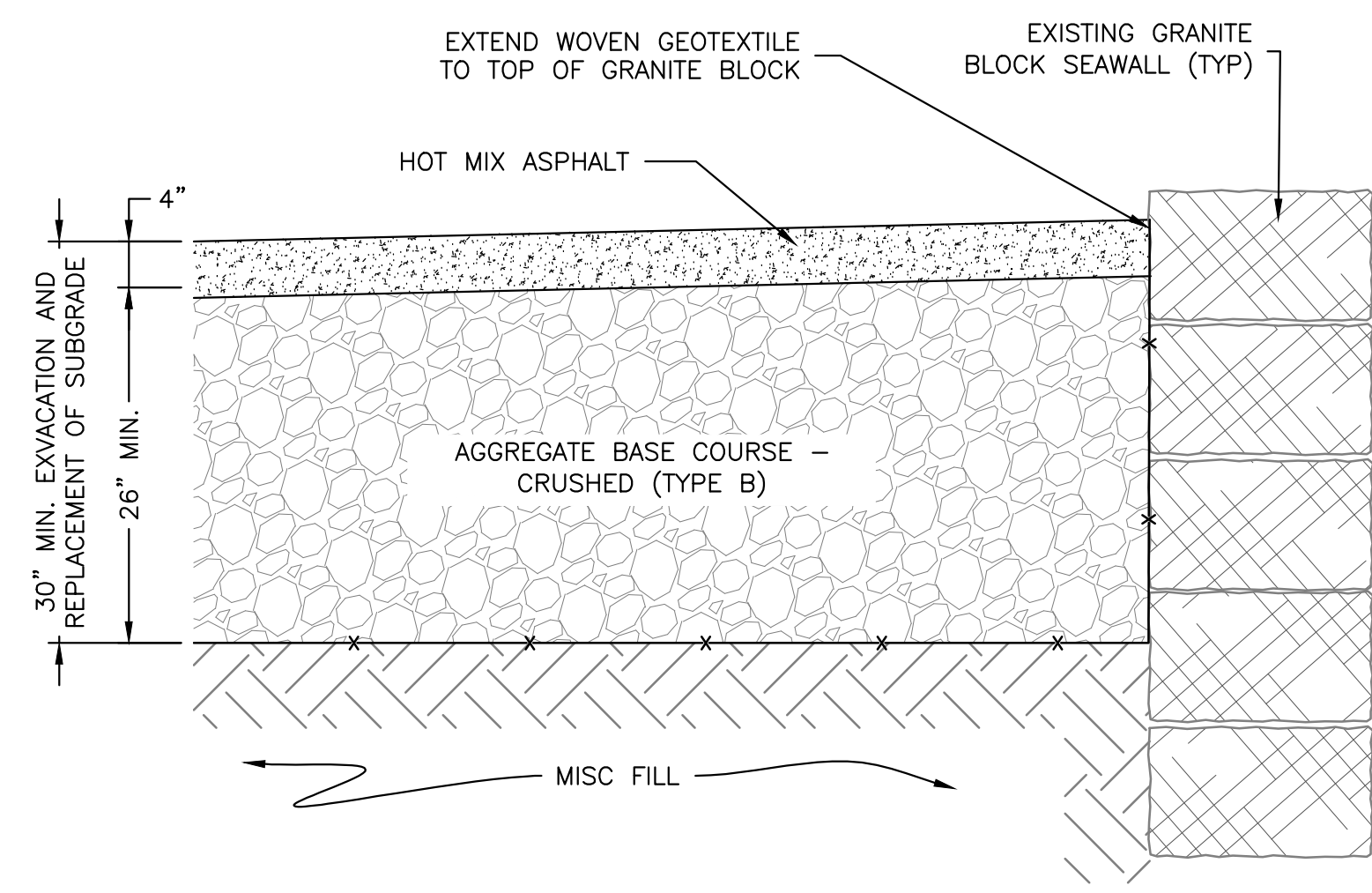
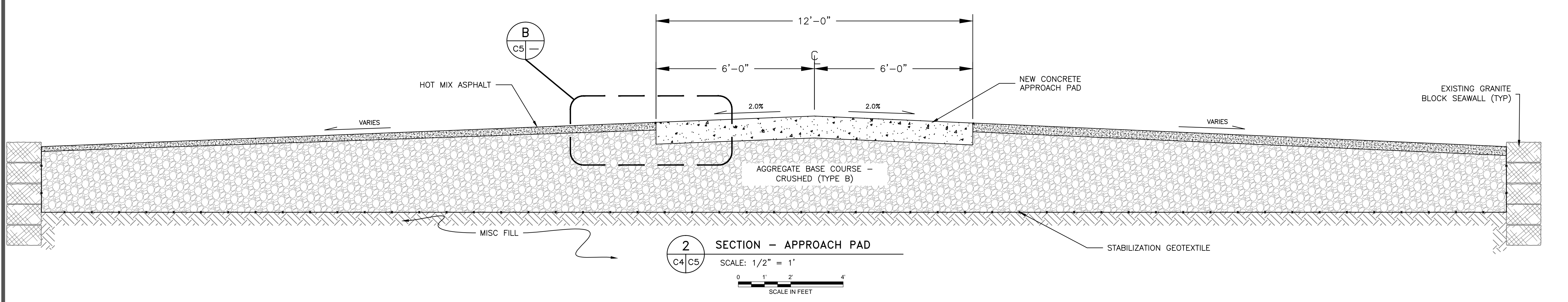
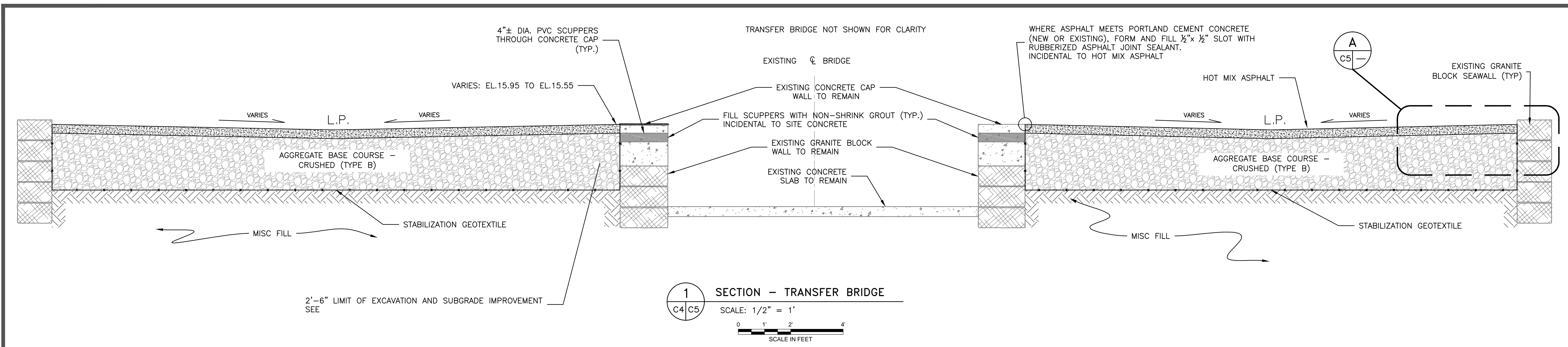
C-4

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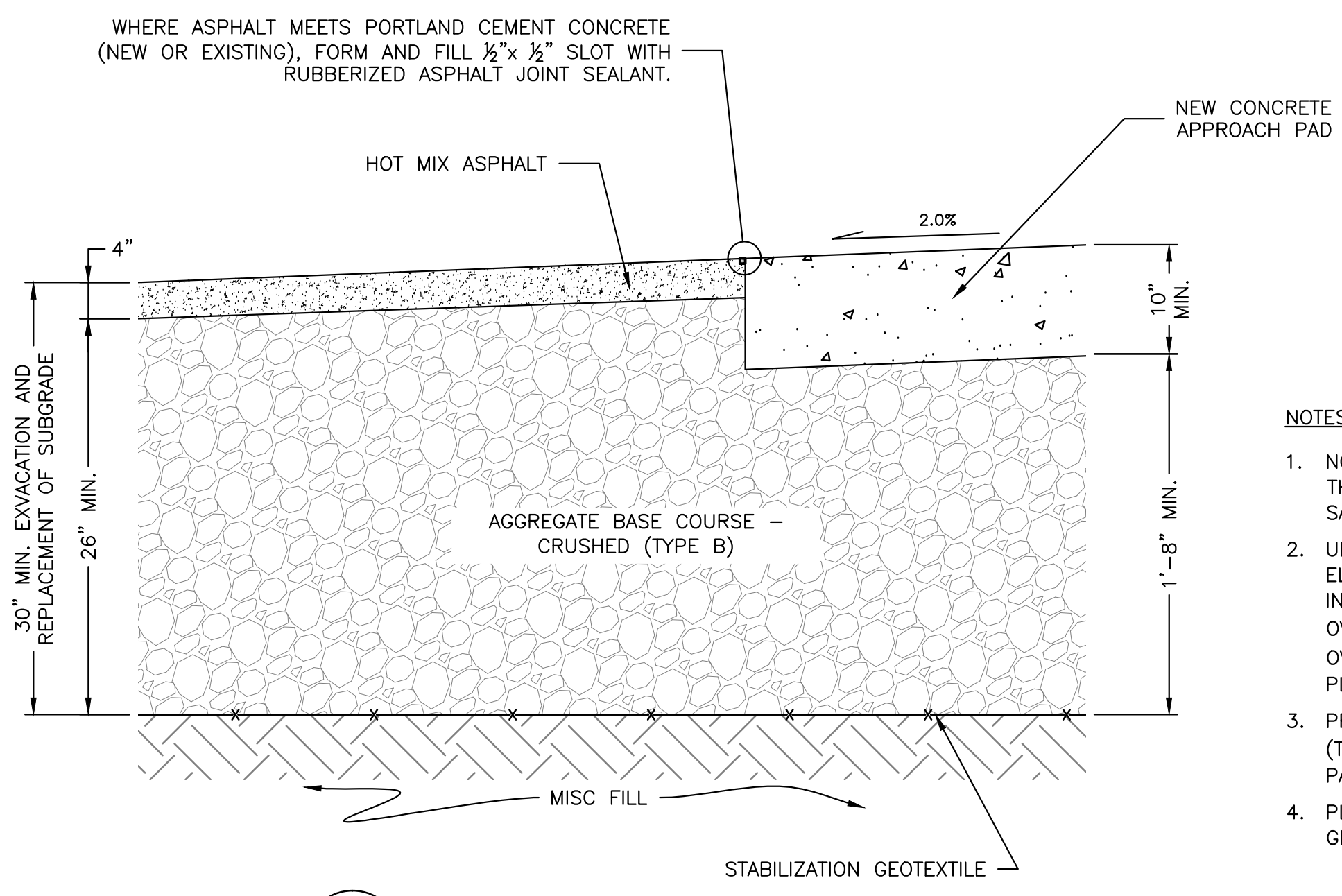
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HIGHWAY PLANS

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G:\p\10025766.00_Frenchboro\Frenchboro (Figures) (C4, DWG) (FINAL) 25766.00_P2-14.dwg, 16-2013.dwg [C-5 DETAILS SECTIONS] September 05, 2013 12:43pm michaelsabin



A SECTION - ASPHALT REPLACEMENT
 SCALE: 1/2" = 1'
 SCALE IN FEET



B SECTION - NEW PORTLAND CEMENT CONCRETE
 SCALE: 1/2" = 1'
 SCALE IN FEET

- NOTES:**
- NO SUBSURFACE EXPLORATIONS HAVE BEEN PERFORMED WITHIN THE LIMITS OF THE PIER FOR THIS PROJECT. MISCELLANEOUS FILL IS EXPECTED TO CONSIST OF SAND, GRAVEL, RUBBLE, COBBLES AND BOULDERS.
 - UPON COMPLETION OF EXCAVATION, PREPARE THE EXPOSED SUBGRADE TO ELIMINATE LARGE VOIDS, SHARP EDGES OR OTHER CONDITIONS THAT MAY RESULT IN TEARING OF THE GEOTEXTILE. IF THE EXPOSED SUBGRADE IS IRREGULAR, OVEREXCAVATE AN ADDITIONAL THREE INCHES (3) AND REPLACE THE OVER-EXCAVATED MATERIAL WITH CRUSHED AGGREGATE BASE (TYPE B) PRIOR TO PLACEMENT OF GEOTEXTILE.
 - PROOF-ROLL THE EXPOSED SUBGRADE OR ADDITIONAL CRUSHED AGGREGATE BASE (TYPE B) WITH A 20-TON VIBRATORY ROLLER. MAKE A MINIMUM OF FOUR PASSES IN EACH DIRECTION.
 - PLACE THE GEOTEXTILE LOOSELY UPON THE EXPOSED SUBGRADE AND ALONG THE GRANITE BLOCK SEAWALL.

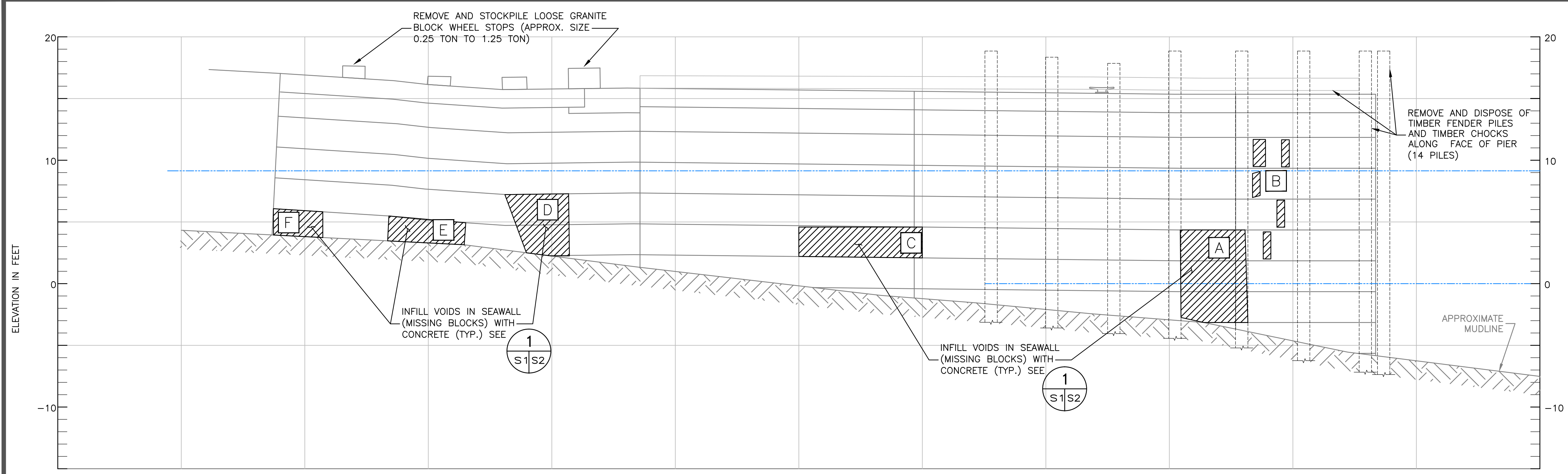
STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 FRENCHBORO PIER AND TRANSFER BRIDGE
 FRENCHBORO, MAINE
 HANCOCK COUNTY
 LONG ISLAND
 PIER SECTIONS
 SHEET NUMBER
C-5
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PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGNED-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

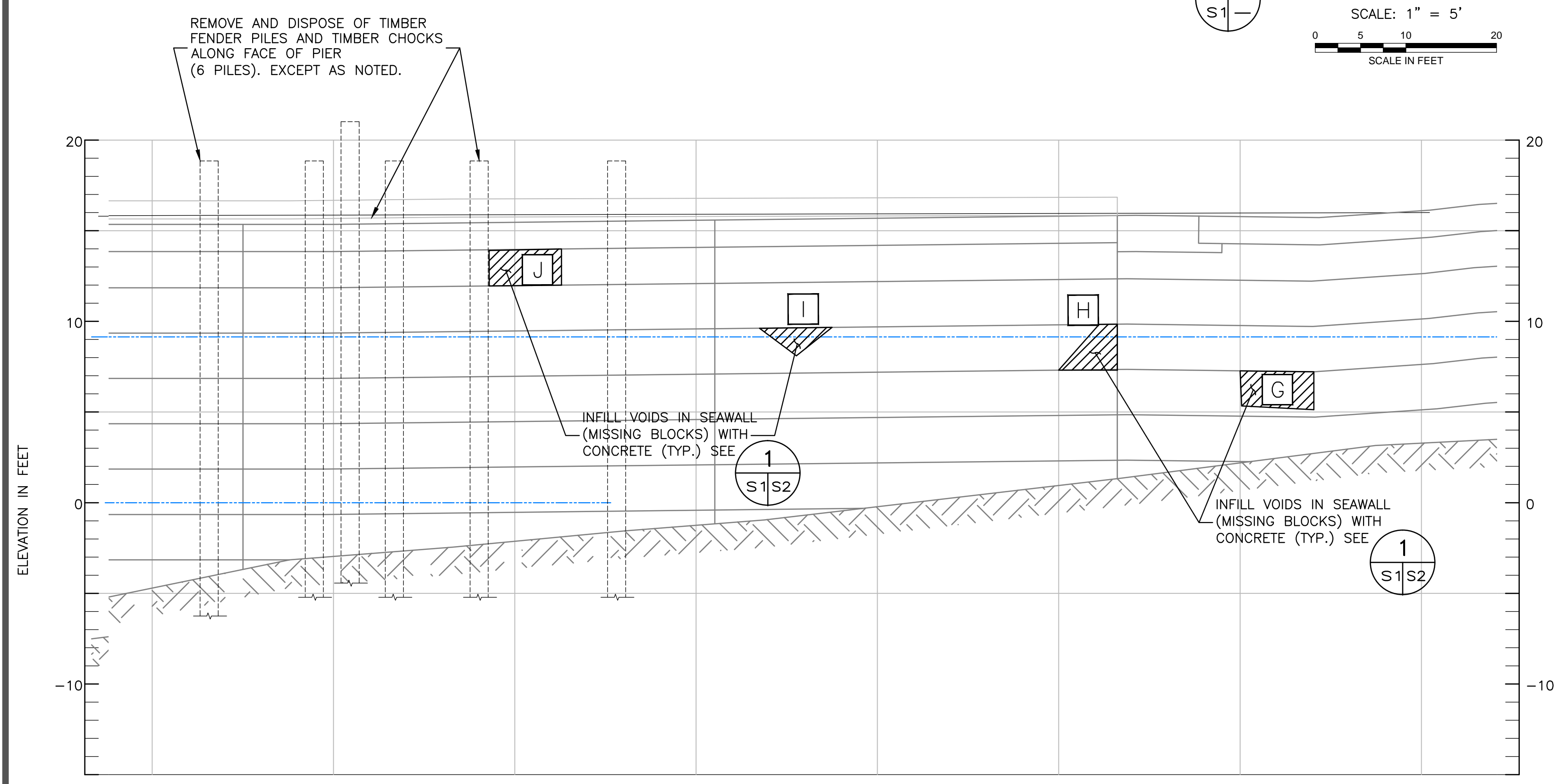
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WIN 18386.00
 HIGHWAY PLANS

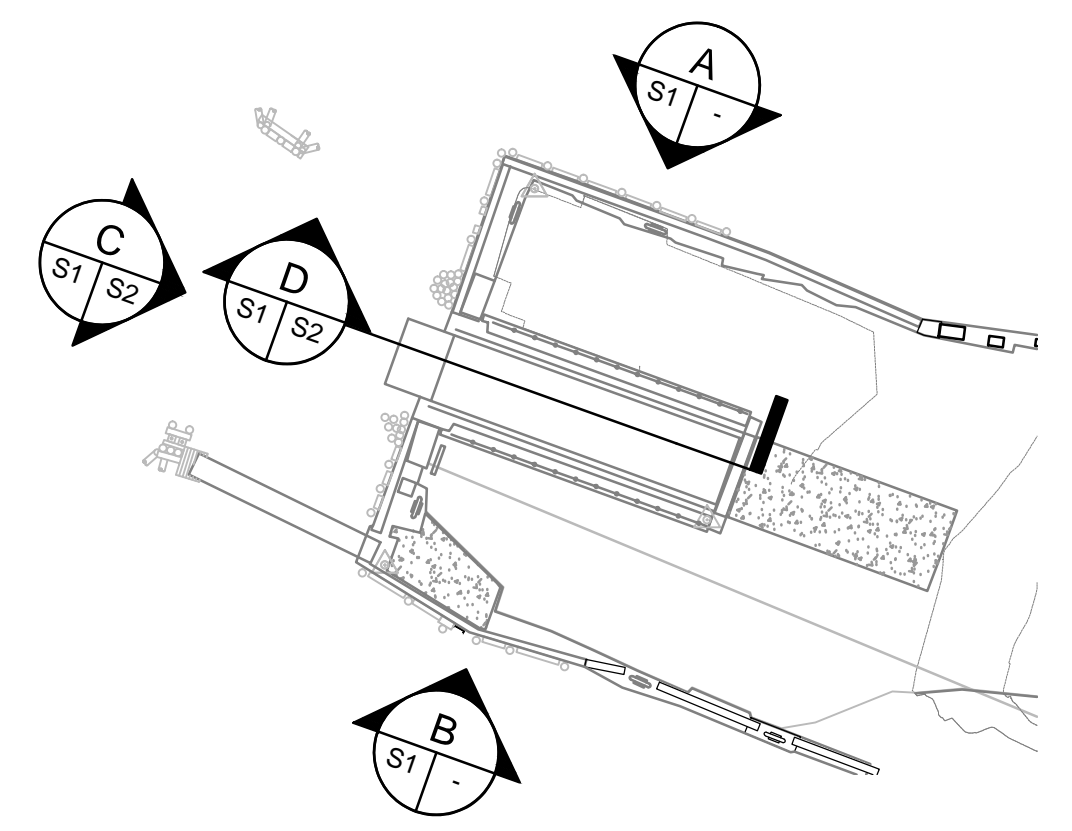
G:\p\1\02\25766.00_Frenchboro\Frenchboro (Figure) (CZ) (DWG) (FINAL) 25766.00_P1-14_R01_16-2013.dwg [S-1 PIER (E)] September 05, 2013 12:45pm michaels.dwt



A PIER ELEVATION - NORTH FACE
SCALE: 1" = 5'
0 5 10 20
SCALE IN FEET



B PIER ELEVATION - SOUTH FACE
SCALE: 1" = 5'
0 5 10 20
SCALE IN FEET



WALL REPAIR AREA	ESTIMATED CONCRETE VOLUME (CU. FT)	ESTIMATED ADHESIVE ANCHORS
A	100	10
B	30	8
C	35	10
D	40	10
E	25	6
F	25	6
G	40	8
H	5	2
I	10	4
J	10	4
K	10	4
L	10	4
M	30	4

NOTE: ADHESIVE ANCHORS ARE INCIDENTAL TO SEAWALL CONCRETE REPAIR

- NOTES:**
- ELEVATIONS WERE DEVELOPED BY PROJECTION OF EXIST CONDITIONS PLAN, SURVEY ELEVATIONS, MUDLINE SOUNDINGS AND SURVEY PHOTOGRAPHS. LOCATION OF FEATURES ARE TO BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO START OF PROJECT.
 - ESTIMATED CONCRETE VOLUMES AND NUMBER OF ADHESIVE ANCHORS ARE PROVIDED FOR BIDDING PURPOSES ONLY.
 - THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD, BEFORE ORDERING ANY MATERIAL, COMMENCING ANY FABRICATION, OR PERFORMING ANY WORK. HE SHALL NOTIFY RESIDENT, IN WRITING, OF ANY CONDITIONS OR DIMENSIONS WHICH VARY FROM THOSE SHOWN ON THE DRAWINGS AND INCORPORATE SUCH VARIATIONS IN THE CONSTRUCTION AS APPROVED BY THE DEPARTMENT.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
LONG ISLAND
PIER ELEVATIONS AND SEAWALL REPAIR DETAILS - 1

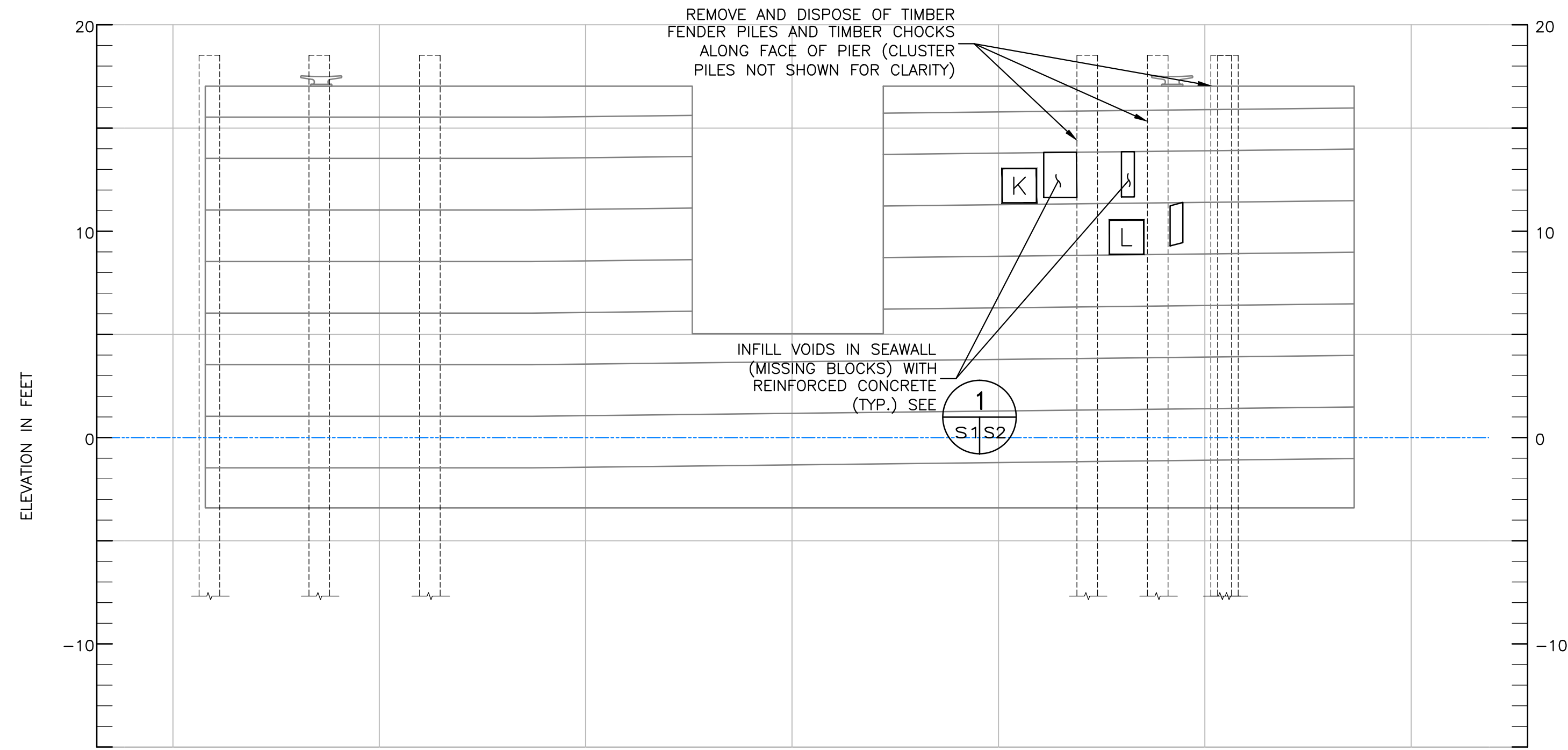
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S-1
7 OF 28

WIN
18386.00
HIGHWAY PLANS

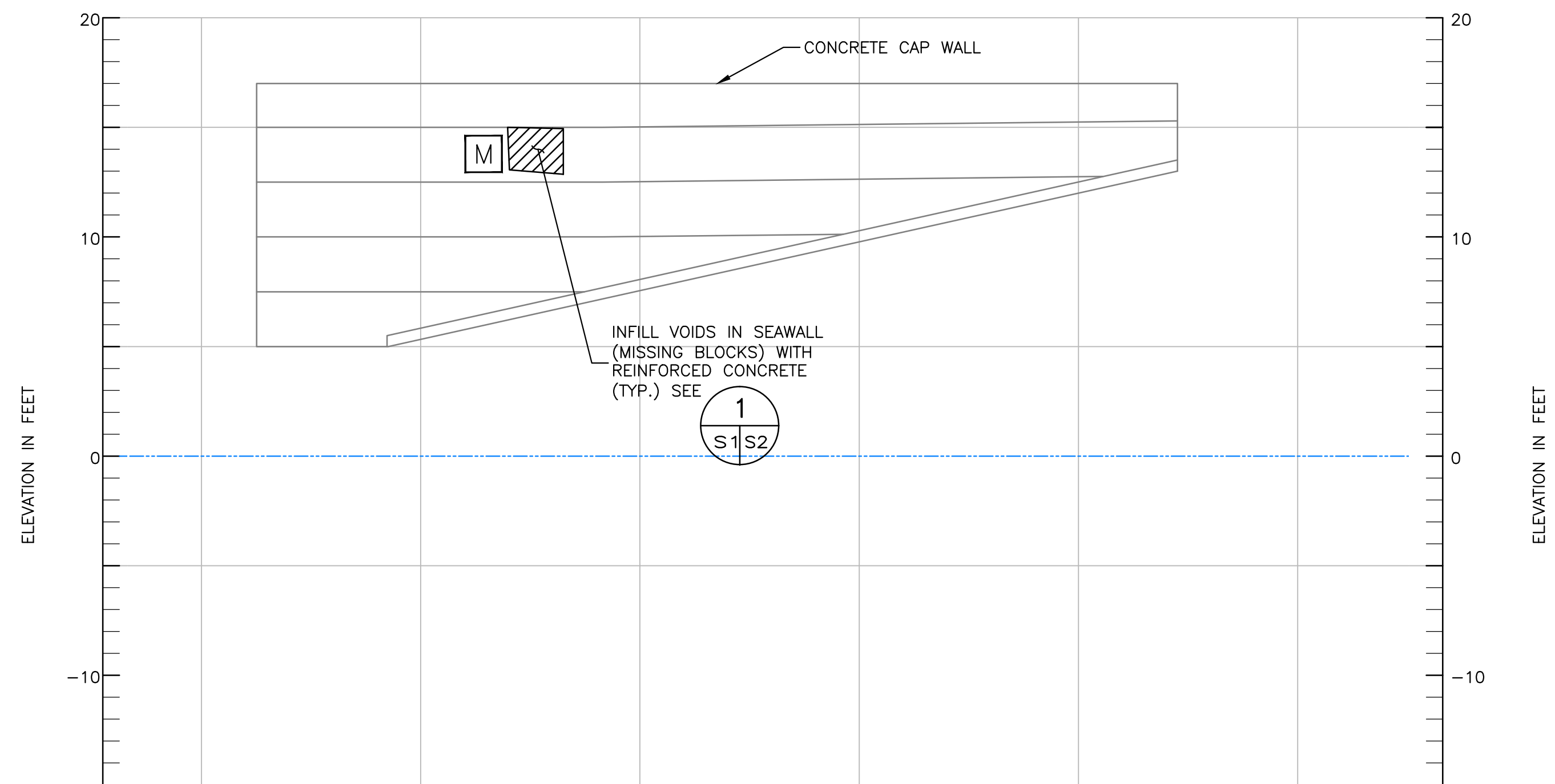
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SIGNATURE

PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

BY
DATE



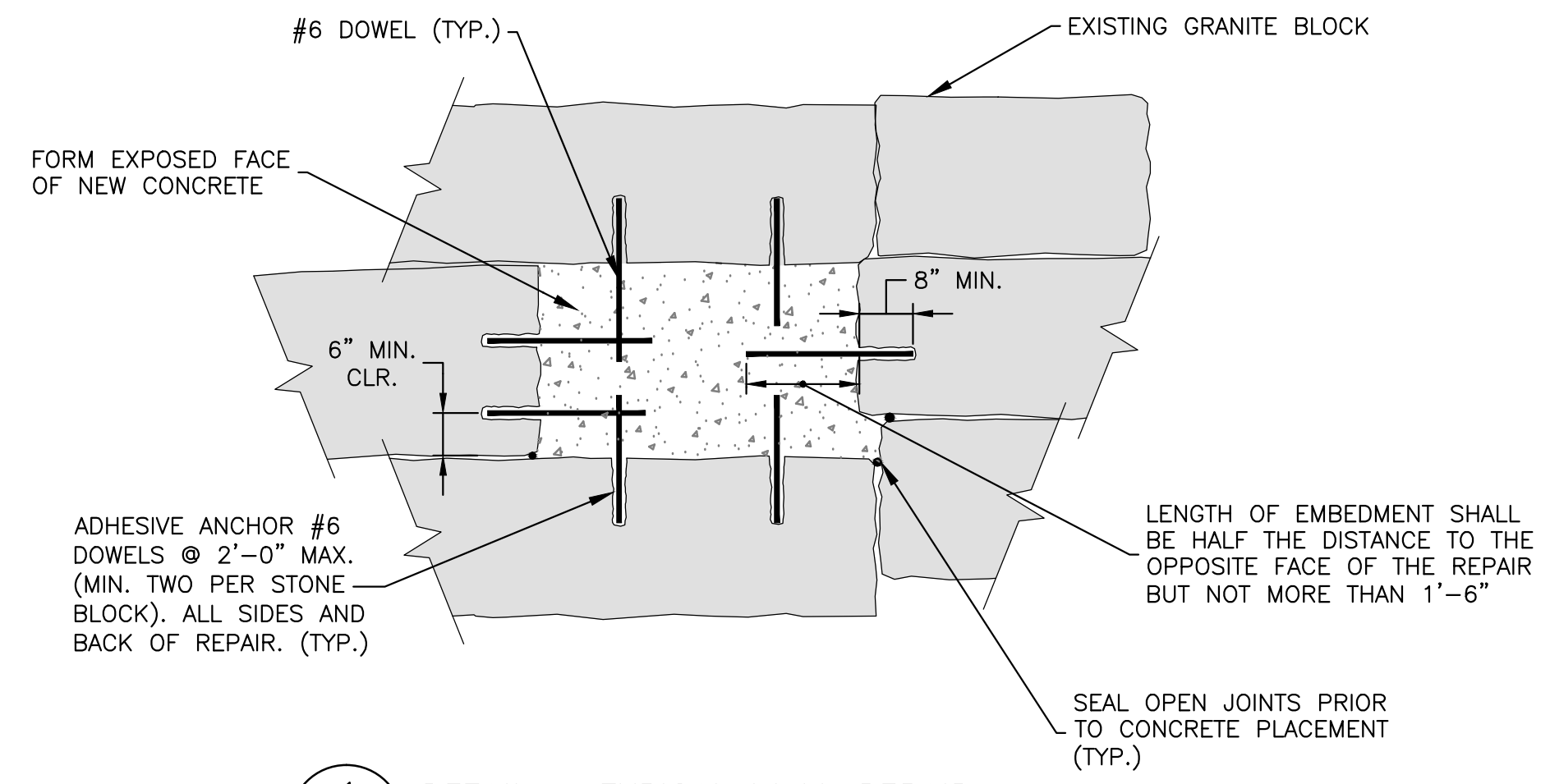
C PIER ELEVATION - WEST FACE
 S1S2
 SCALE: 1" = 5'
 0 5 10 20
 SCALE IN FEET



D SECTION - TRANSFER BRIDGE RECESS
 S1S2
 SCALE: 1" = 5'
 0 5 10 20
 SCALE IN FEET

ELEVATION IN FEET

ELEVATION IN FEET

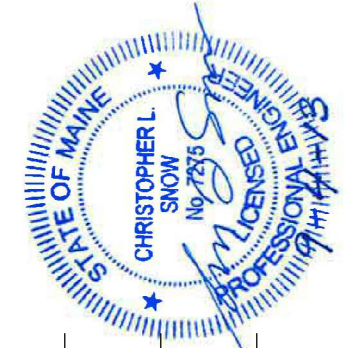


1 DETAIL - TYPICAL WALL REPAIR
 S1S2
 SCALE: 1/2" = 1'
 0 1 2 4
 SCALE IN FEET

- NOTES:**
- ELEVATIONS WERE DEVELOPED BY PROJECTION OF EXIST CONDITIONS PLAN, SURVEY ELEVATIONS, MUDLINE SOUNDINGS AND SURVEY PHOTOGRAPHS. LOCATION OF FEATURES ARE TO BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO START OF PROJECT.
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STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION



SIGNATURE
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PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	-	-
CHECKED-REVIEWED	-	-
DESIGN-DETAILED	-	-
REVISIONS 1	-	-
REVISIONS 2	-	-
REVISIONS 3	-	-
REVISIONS 4	-	-
FIELD CHANGES	-	-

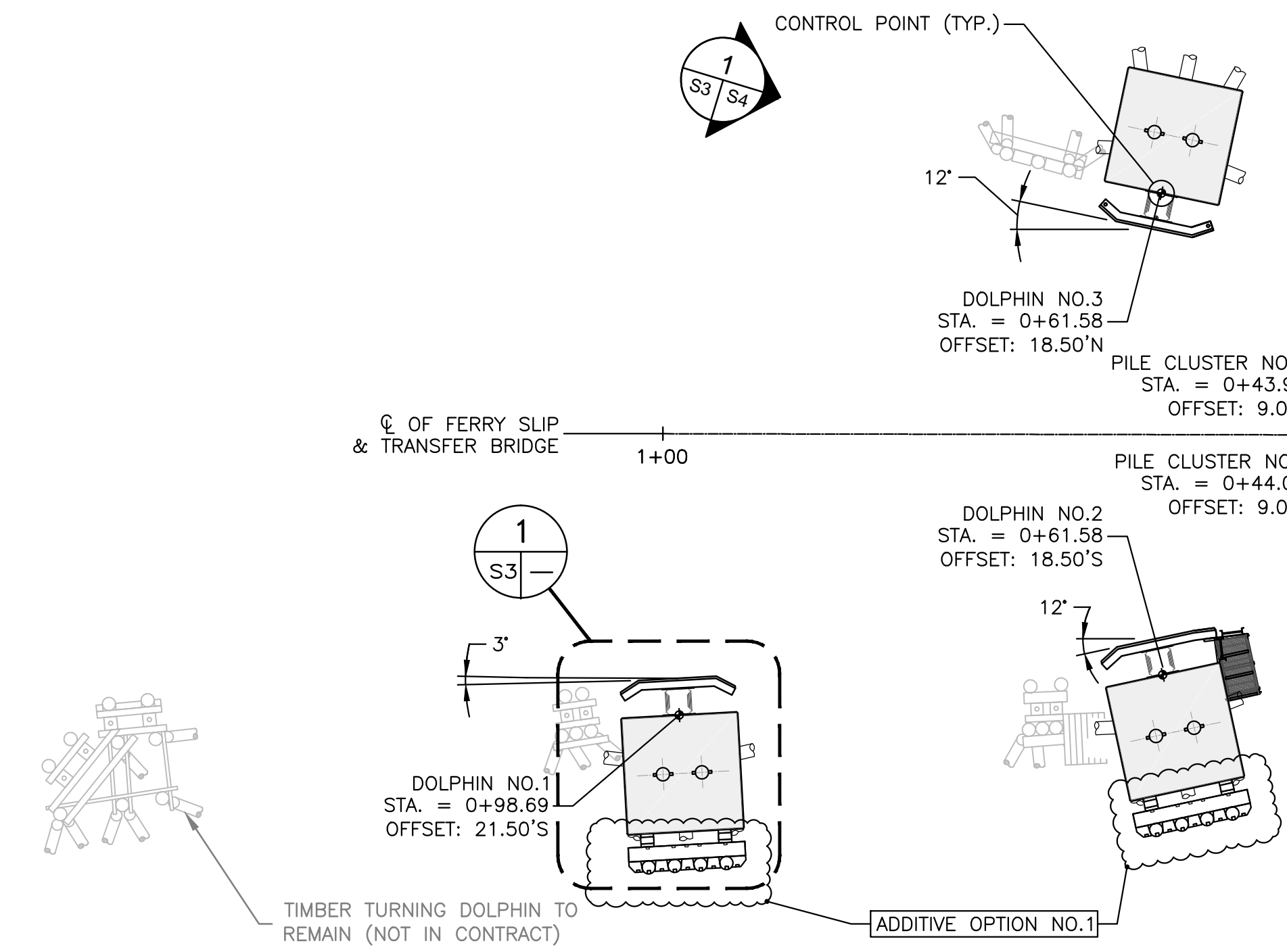
FRENCHBORO PIER AND TRANSFER BRIDGE
 FRENCHBORO, MAINE
 LONG ISLAND
 HANCOCK COUNTY
 PIER ELEVATIONS AND
 SEAWALL REPAIR DETAILS - 2

SHEET NUMBER

S-2

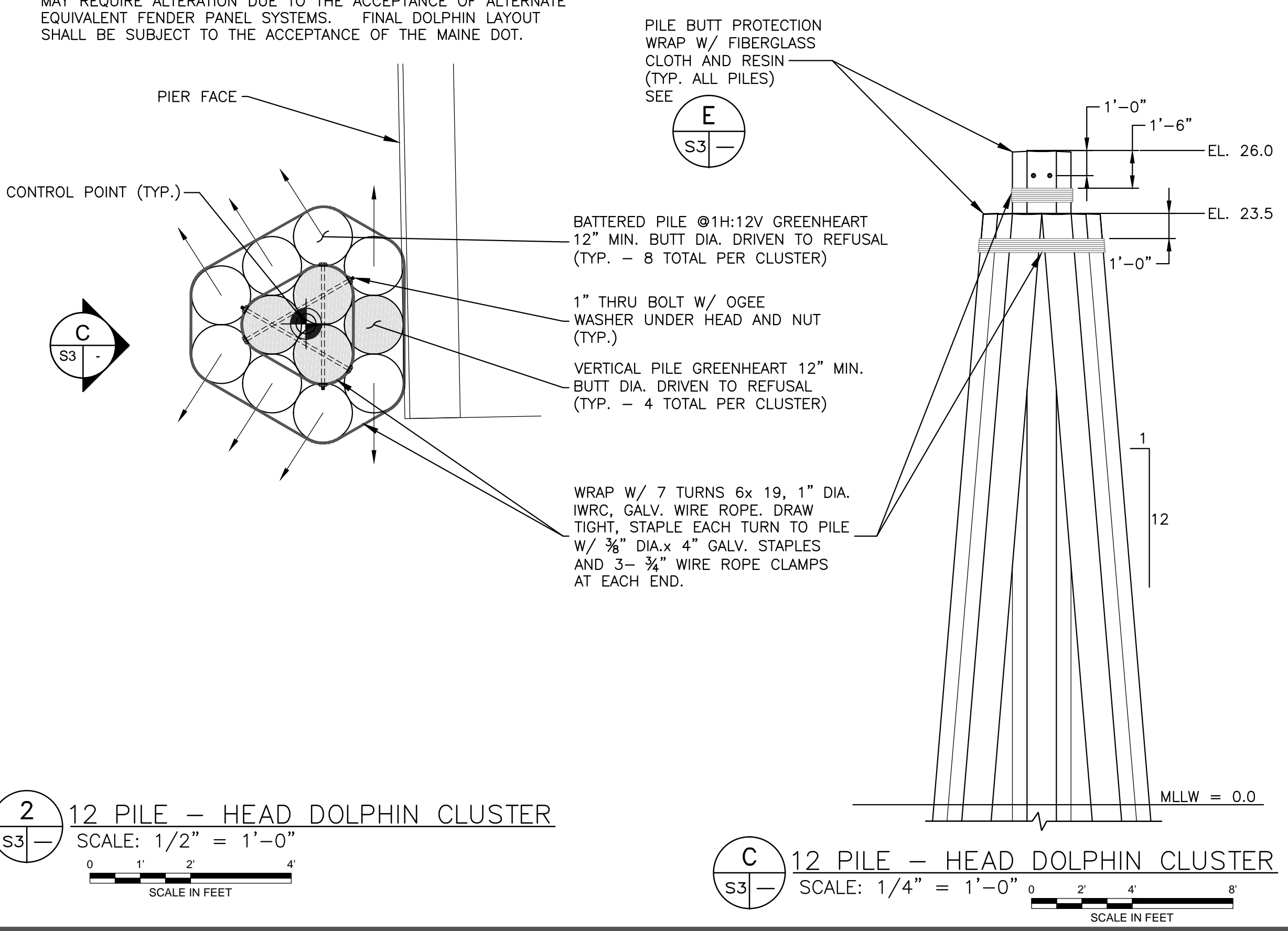
WIN
 18386.00
 HIGHWAY PLANS

G:\p\1\02\25766.00\Frenchboro (Figures) (CZ) (DWG) (FINAL) 25766.00_P2-14.dwg, & 16-2013.dwg [S-3] (DOLPHIN-PILE LAYOUT) September 05, 2013 12:41pm michaels.dwg



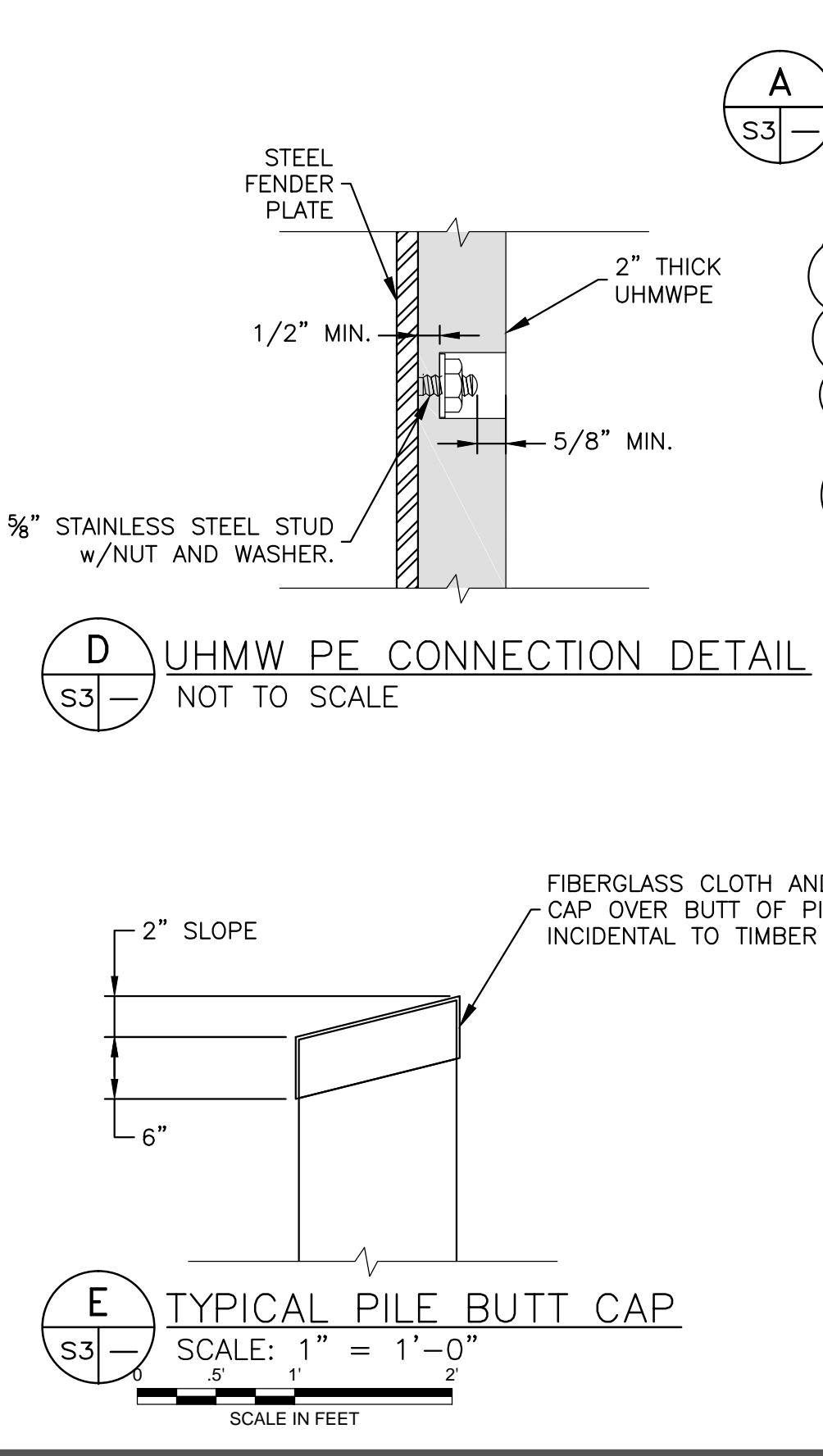
- NOTES:**
1. VERTICAL DATUM IS MLLW = 0.00
 2. THE DOLPHIN AND FENDER PANEL SYSTEM CONTROL POINTS AND LAYOUT SHOWN ON THE DRAWINGS ARE BASED UPON THE PARTICULAR ELASTOMERIC FENDER UNIT AND FENDER PANEL SHOWN ON THIS DRAWING. THE DOLPHIN CONTROL POINTS AND LAYOUT MAY REQUIRE ALTERATION DUE TO THE ACCEPTANCE OF ALTERNATE EQUIVALENT FENDER PANEL SYSTEMS. FINAL DOLPHIN LAYOUT SHALL BE SUBJECT TO THE ACCEPTANCE OF THE MAINE DOT.

LAYOUT PLAN
SCALE IN FEET



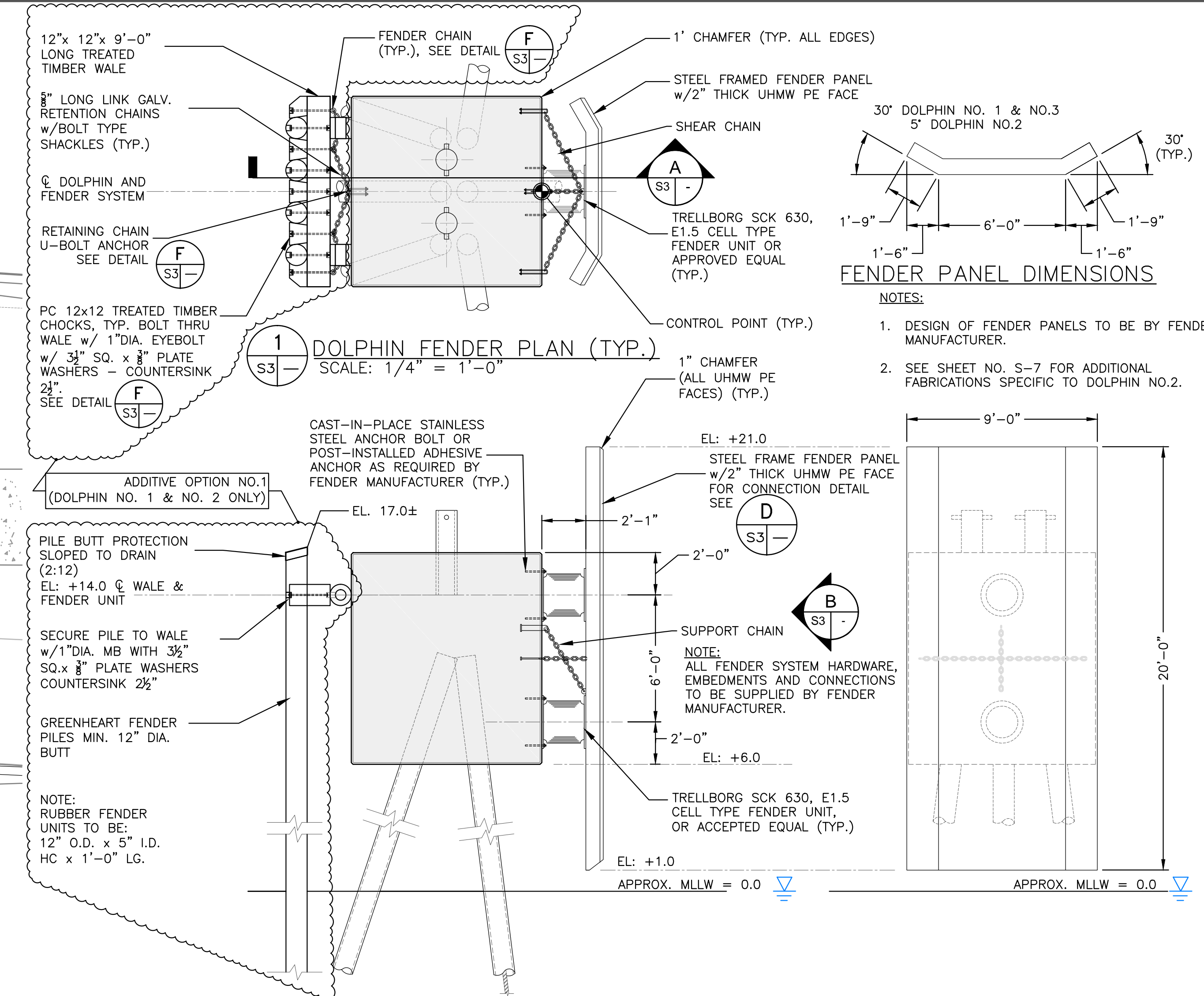
2 12 PILE - HEAD DOLPHIN CLUSTER
SCALE: 1/2" = 1'-0"
SCALE IN FEET

C 12 PILE - HEAD DOLPHIN CLUSTER
SCALE: 1/4" = 1'-0"
SCALE IN FEET



D UHMW PE CONNECTION DETAIL
SCALE: NOT TO SCALE

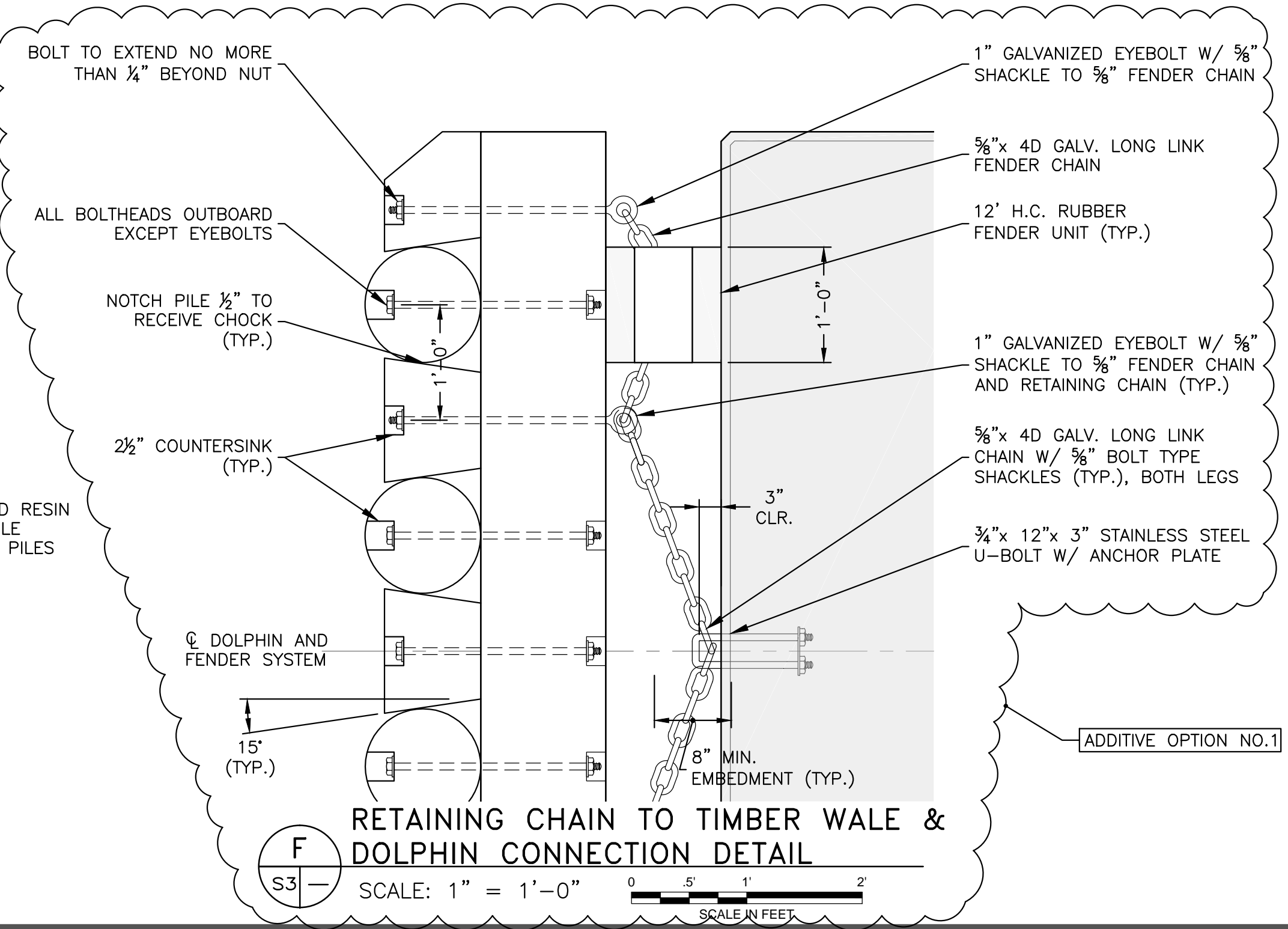
E TYPICAL PILE BUTT CAP
SCALE: 1" = 1'-0"
SCALE IN FEET



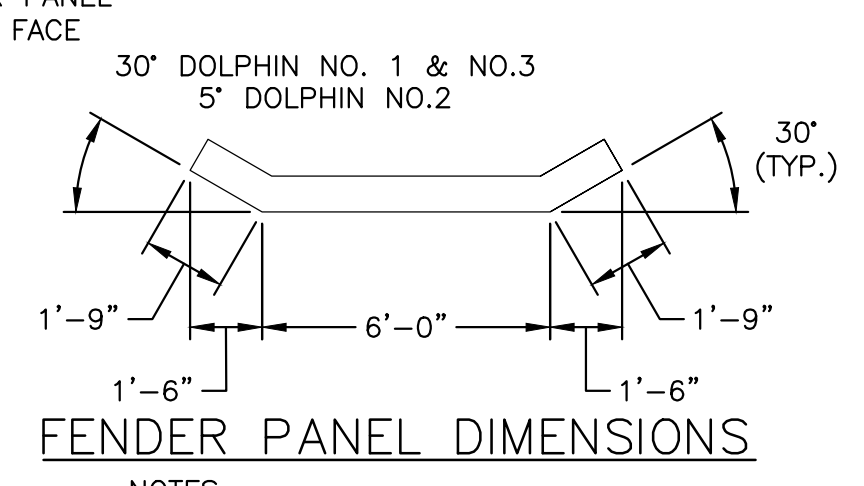
1 DOLPHIN FENDER PLAN (TYP.)
SCALE: 1/4" = 1'-0"

A DOLPHIN FENDER ELEVATION (TYP.)
SCALE: 1/4" = 1'-0"
SCALE IN FEET

B FENDER PANEL ELEVATION
SCALE: 1/4" = 1'-0"
SCALE IN FEET



F RETAINING CHAIN TO TIMBER WALE & DOLPHIN CONNECTION DETAIL
SCALE: 1" = 1'-0"
SCALE IN FEET



- NOTES:**
1. DESIGN OF FENDER PANELS TO BE BY FENDER MANUFACTURER.
 2. SEE SHEET NO. S-7 FOR ADDITIONAL FABRICATIONS SPECIFIC TO DOLPHIN NO.2.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE HANCOCK COUNTY
LONG ISLAND

FENDER PLAN AND ELEVATIONS

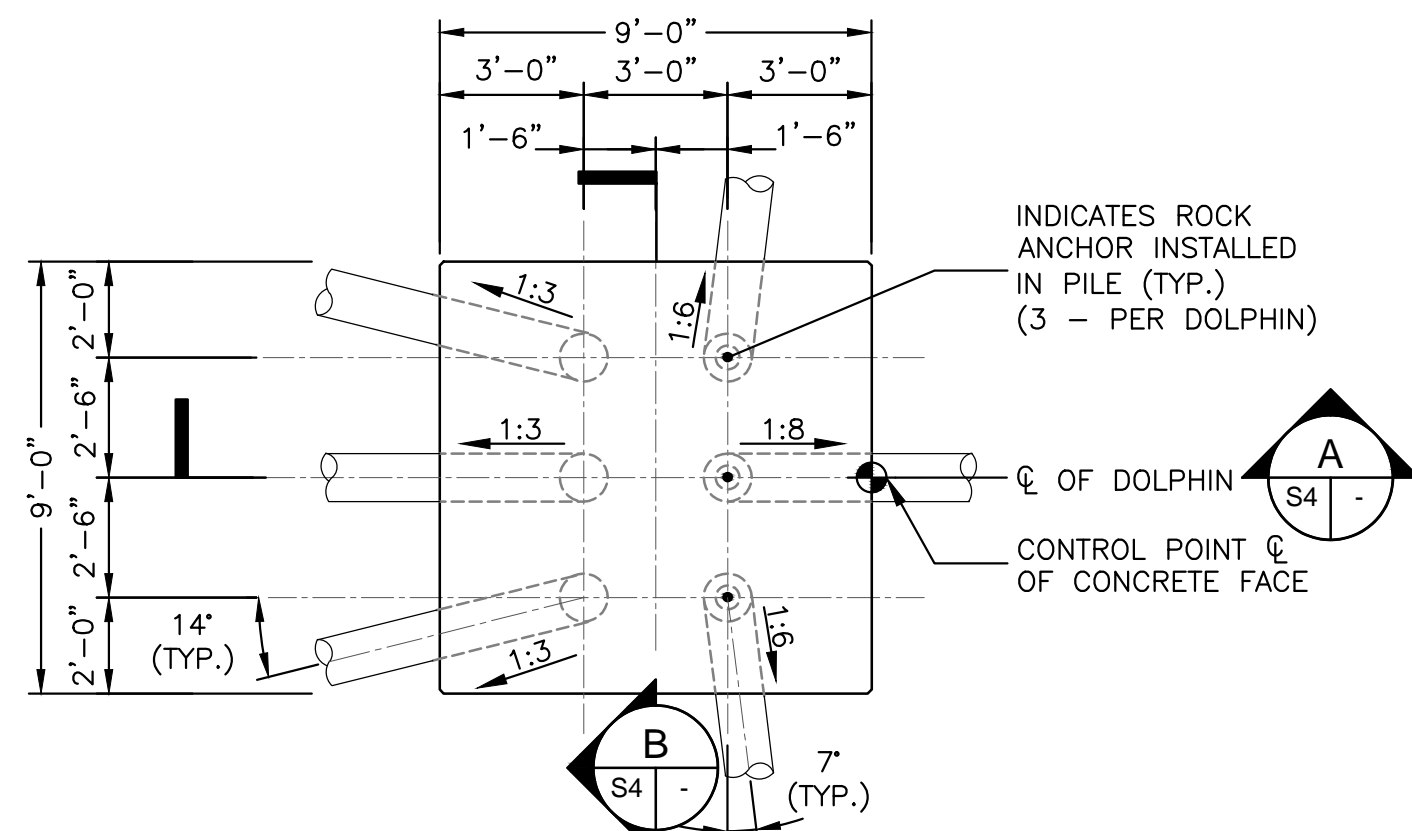
PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGNED-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

SIGNATURE: _____ P.E. NUMBER: _____ DATE: _____

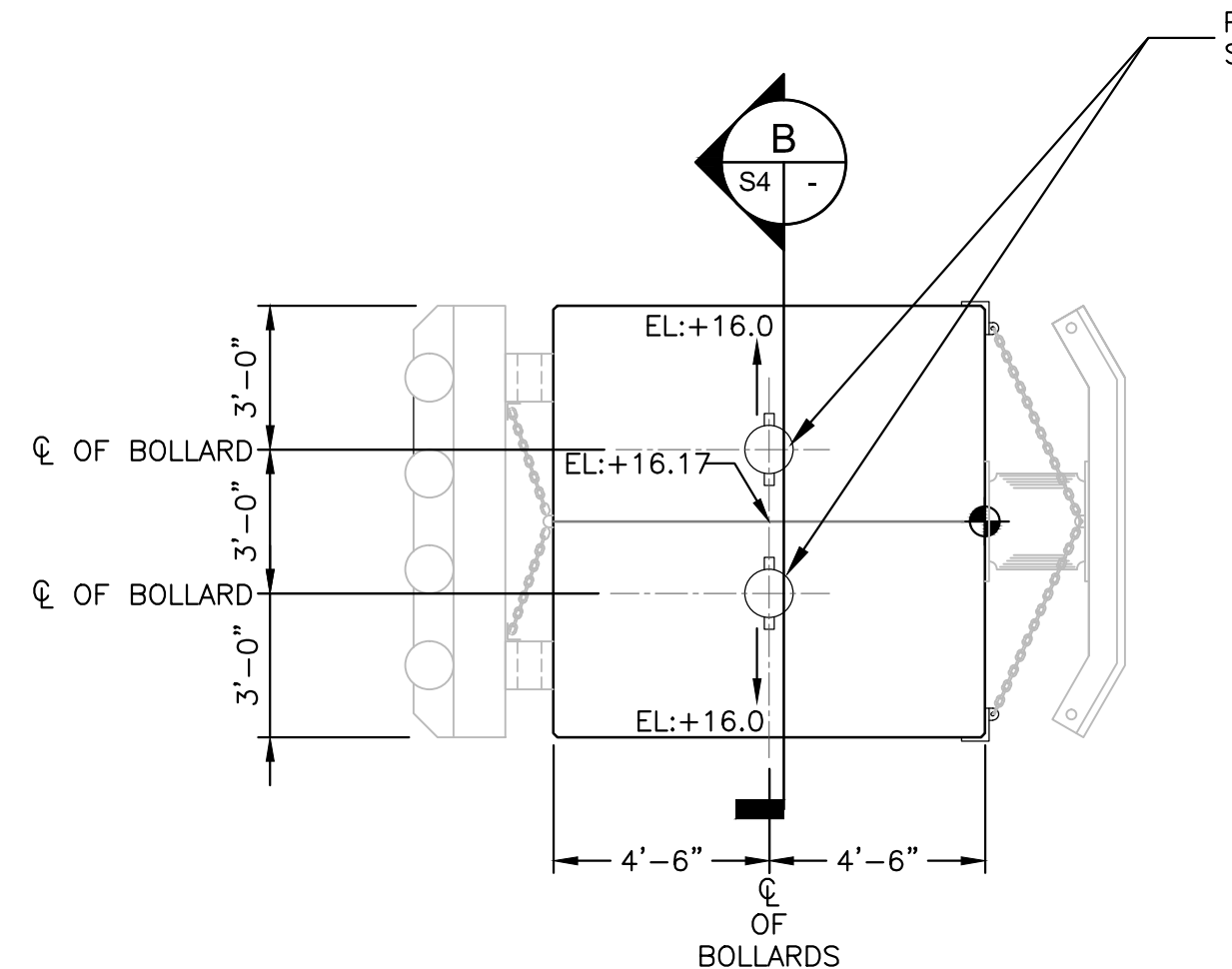
SHEET NUMBER: **S-3**

9 OF 28

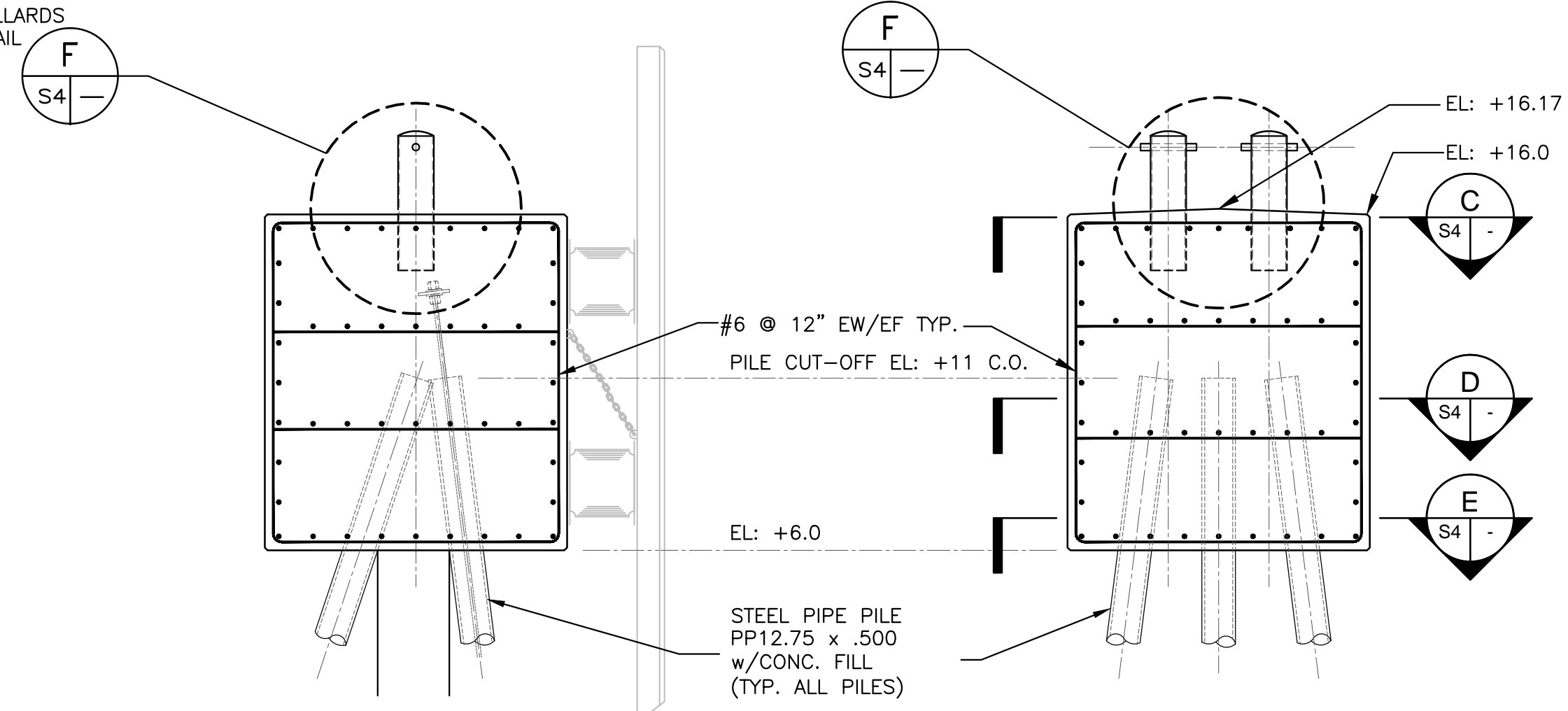
WIN 18386.00 HIGHWAY PLANS



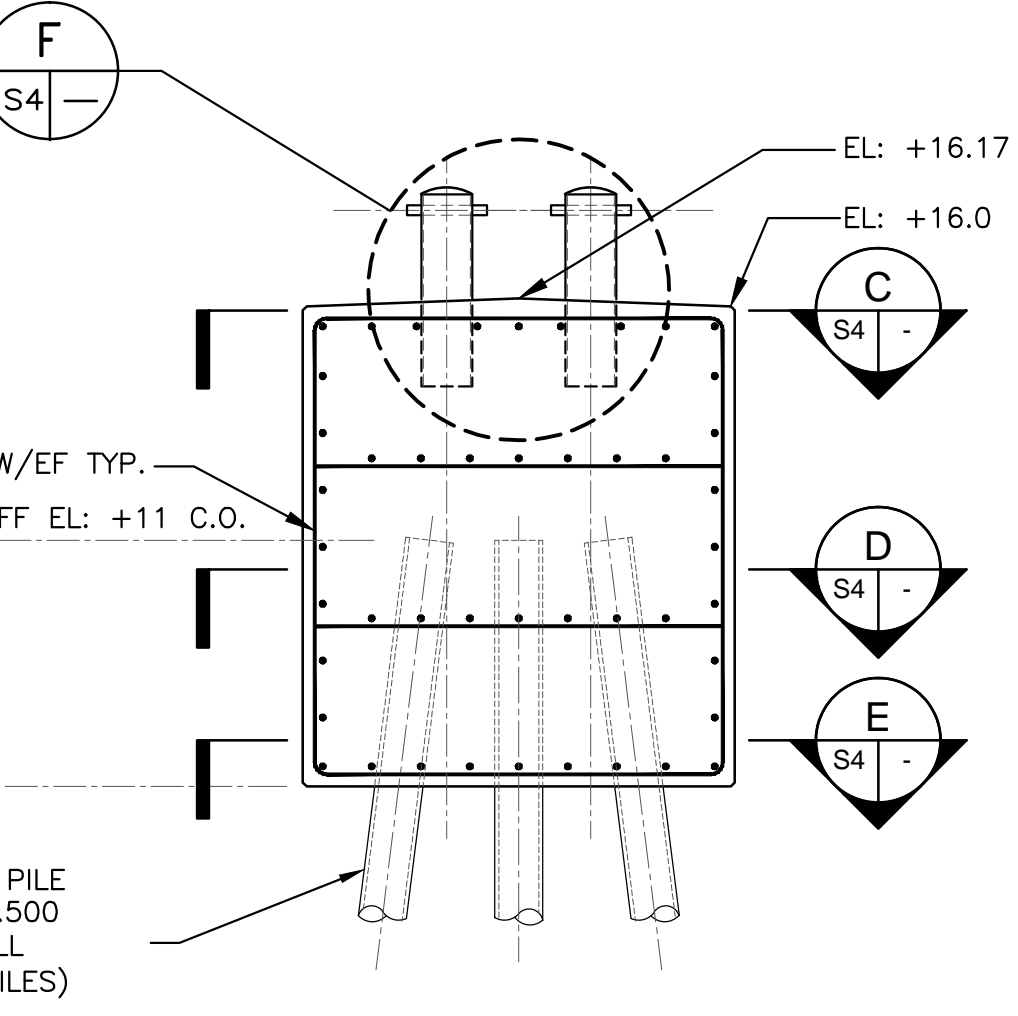
2 SIDE DOLPHIN PILE PLAN - TYPICAL
 NOTE: PILES LOCATIONS SHOWN AT BOTTOM OF CONCRETE, EL:+6.0



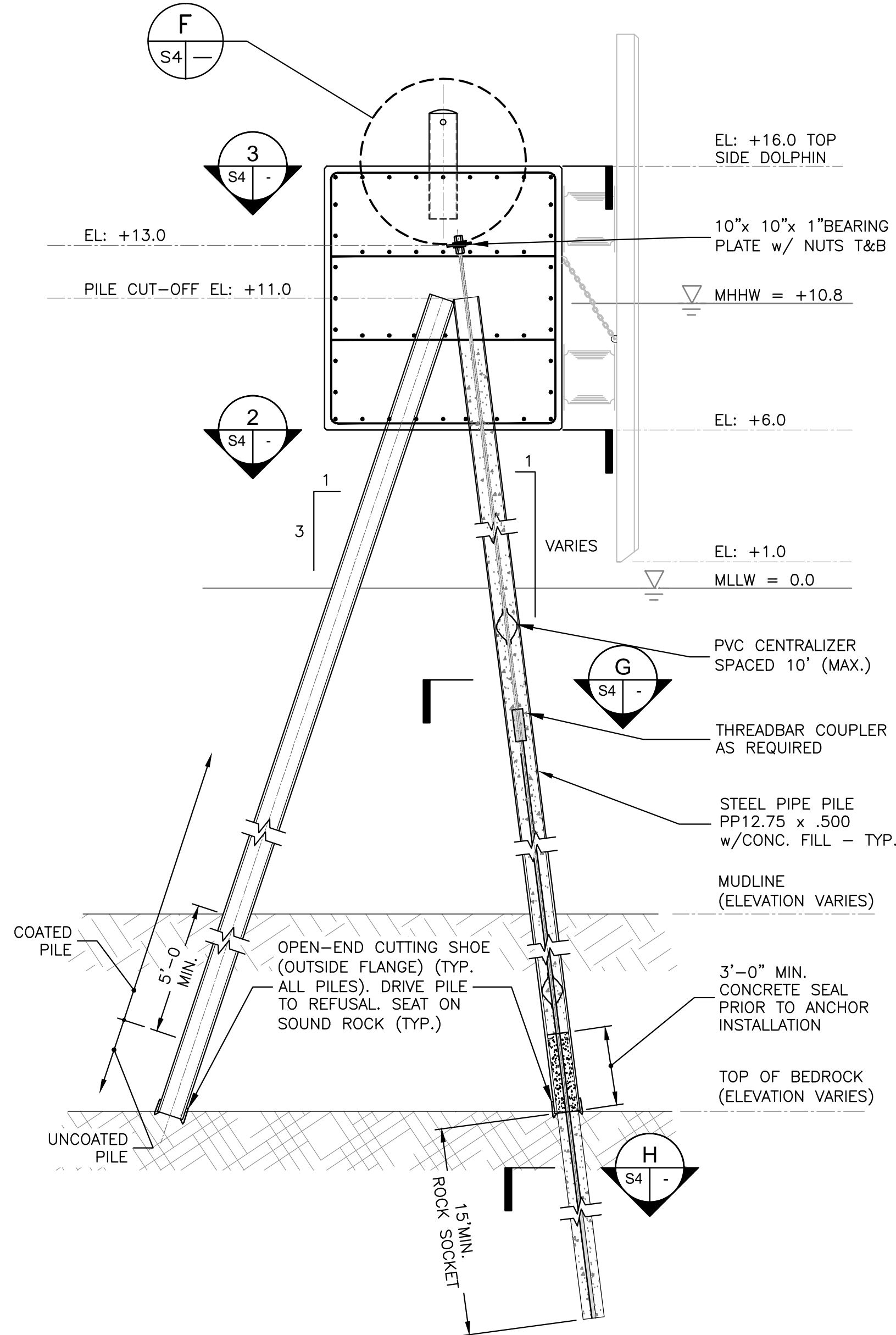
3 TYPICAL DOLPHIN DECK PLAN
 SCALE: 1/4" = 1'-0"



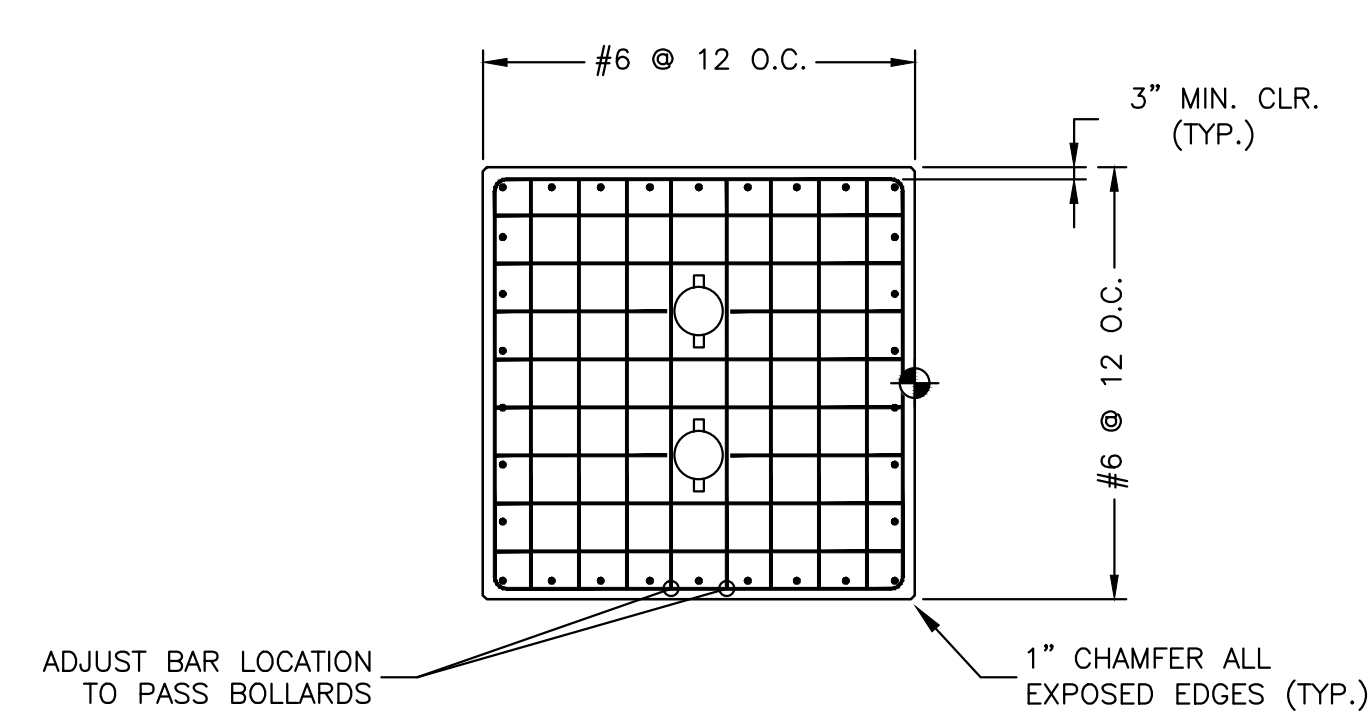
A DOLPHIN REINFORCING DETAIL
 SCALE: 1/4" = 1'-0"



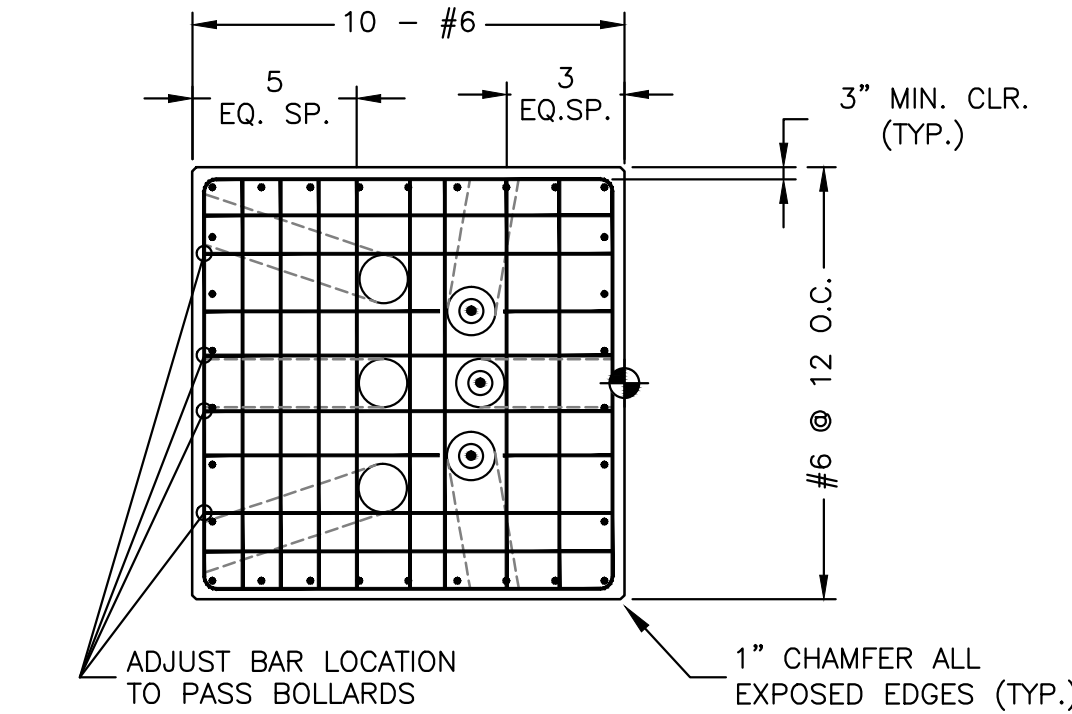
B DOLPHIN REINFORCING DETAIL
 SCALE: 1/4" = 1'-0"



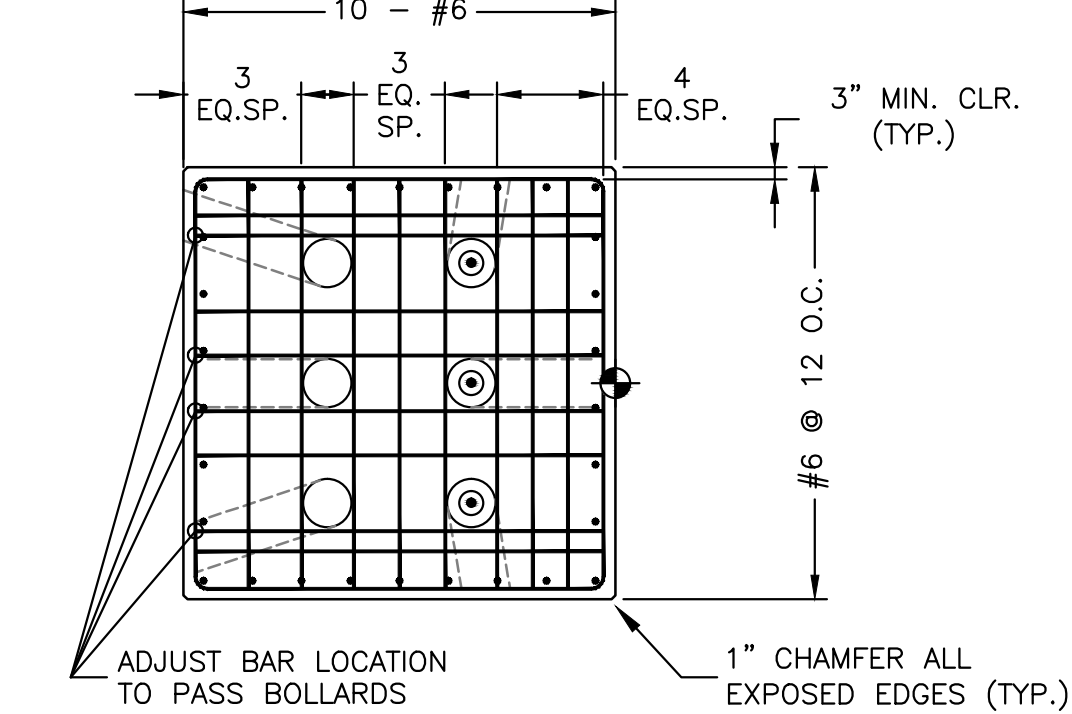
1 SIDE DOLPHIN PILE LAYOUT - TYPICAL
 SCALE: 1/4" = 1'-0"



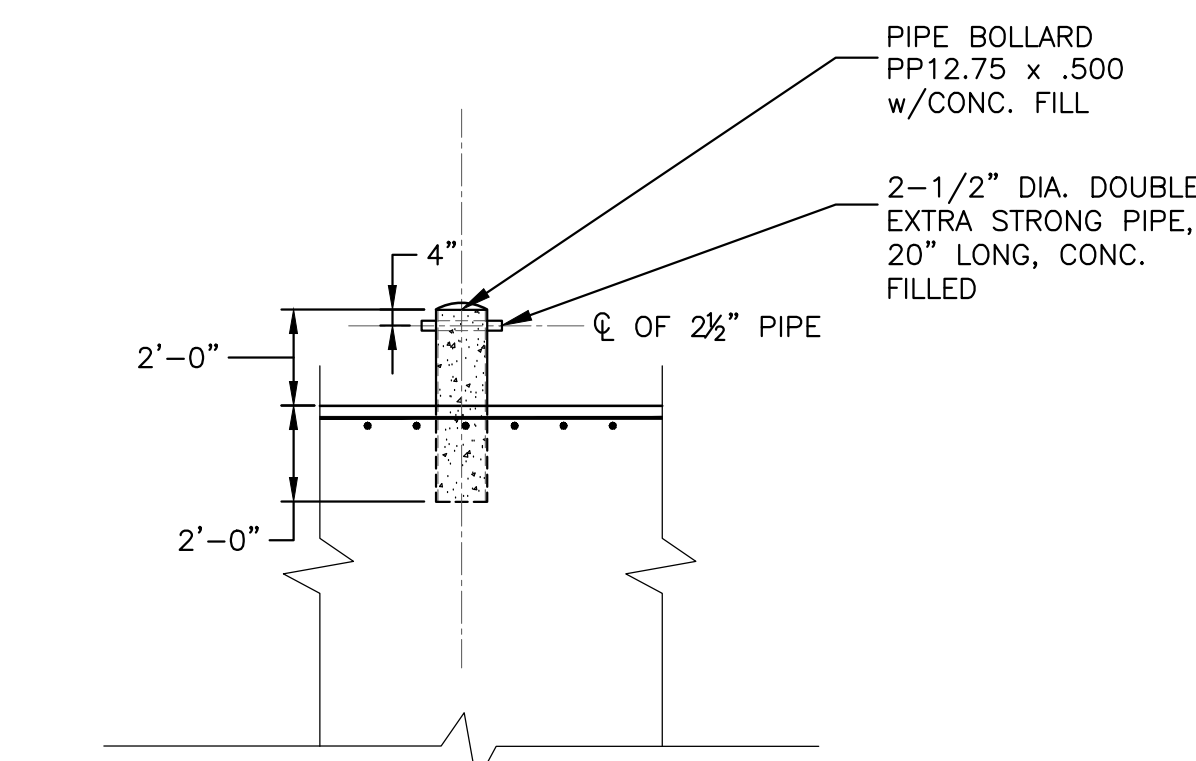
C TOP REINFORCING LAYOUT
 EL:+15.7 & EL:+12.5
 SCALE: 1/4" = 1'-0"



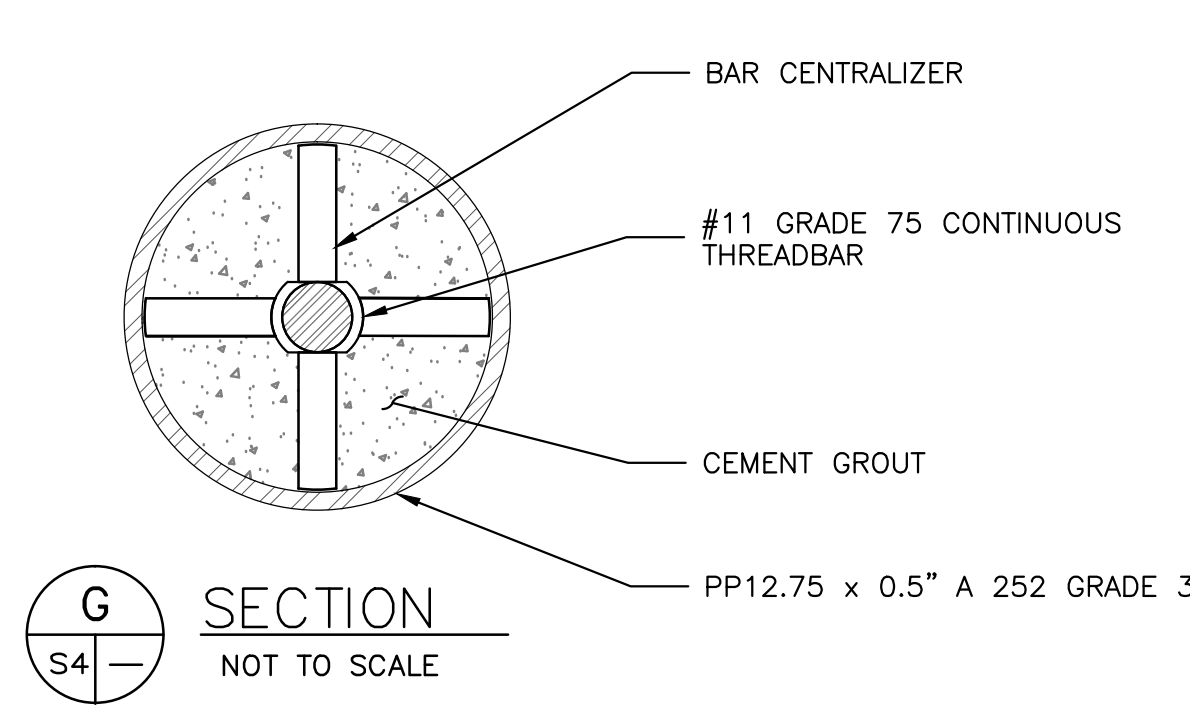
D REINFORCING LAYOUT
 EL:+9.6
 SCALE: 1/4" = 1'-0"



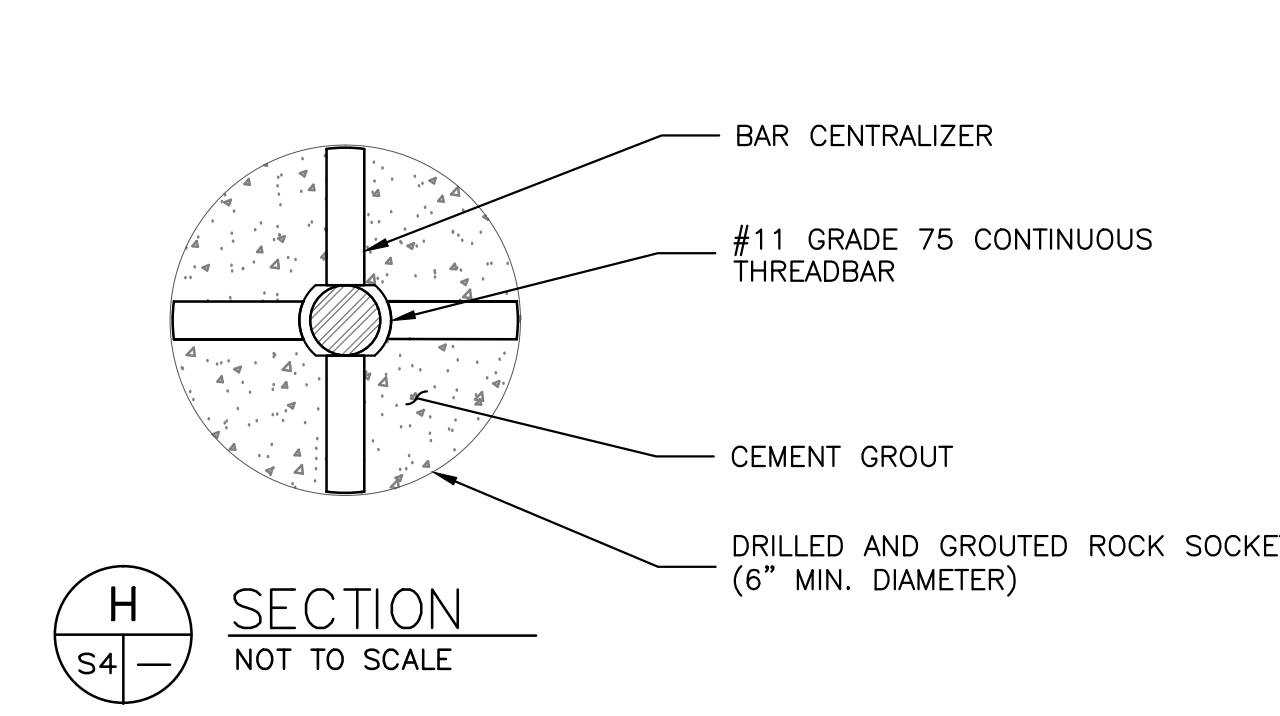
E BOTTOM REINFORCING LAYOUT
 EL:+6.3
 SCALE: 1/4" = 1'-0"



F TYPICAL BOLLARD DETAIL
 SCALE: 1/4" = 1'-0"



G SECTION
 NOT TO SCALE



H SECTION
 NOT TO SCALE

G:\p\1\02\025766.00_Frenchboro\Figures\GA_DWG\FINAL_25766.00_P1-14.dwg, 8/16/2013, 12:40pm, mchard@maine.com

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

FRENCHBORO PIER AND TRANSFER BRIDGE
 FRENCHBORO, MAINE
 LONG ISLAND

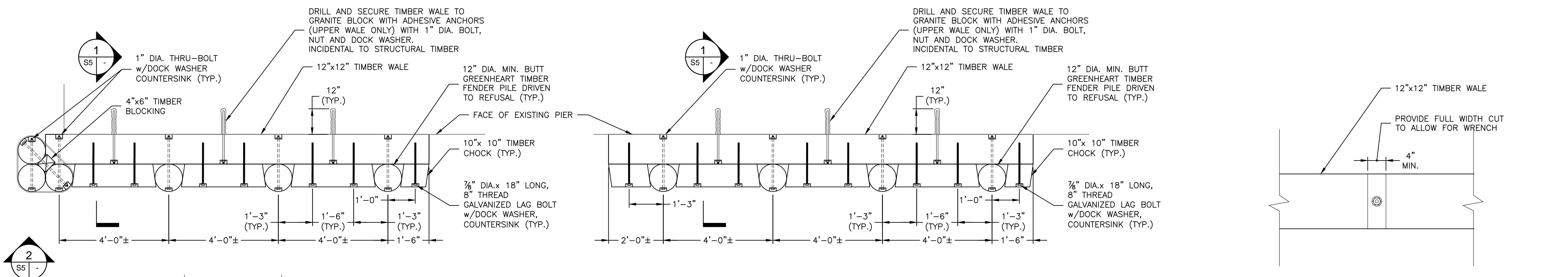
DOLPHIN AND FENDER
 ELEVATIONS AND DETAILS

WIN
 18386.00
 HIGHWAY PLANS

PROJ. MANAGER	PROGRAMMERS	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	REVISIONS 1			
			REVISIONS 2			
			REVISIONS 3			
			REVISIONS 4			
			FIELD CHANGES			

SHEET NUMBER
S-4
 10 OF 28

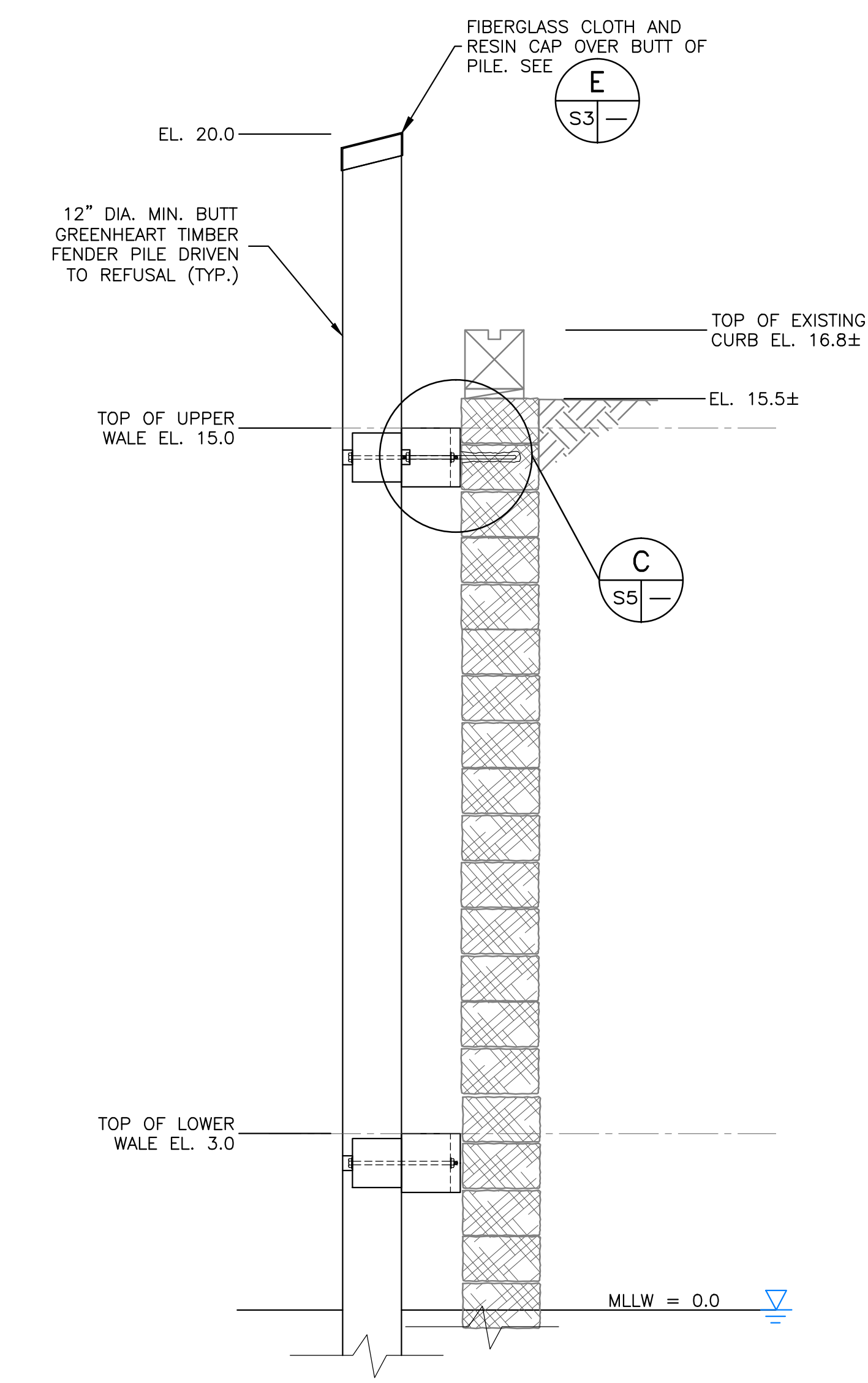
C:\p\1\02\025766.00_Frenchboro\Figures\CA_DWG\DWG_25766.00_2-14_80_8-16-2013.dwg [S-5 PIER (ENGR)] September 05, 2013 - 12:39pm michel.dubin



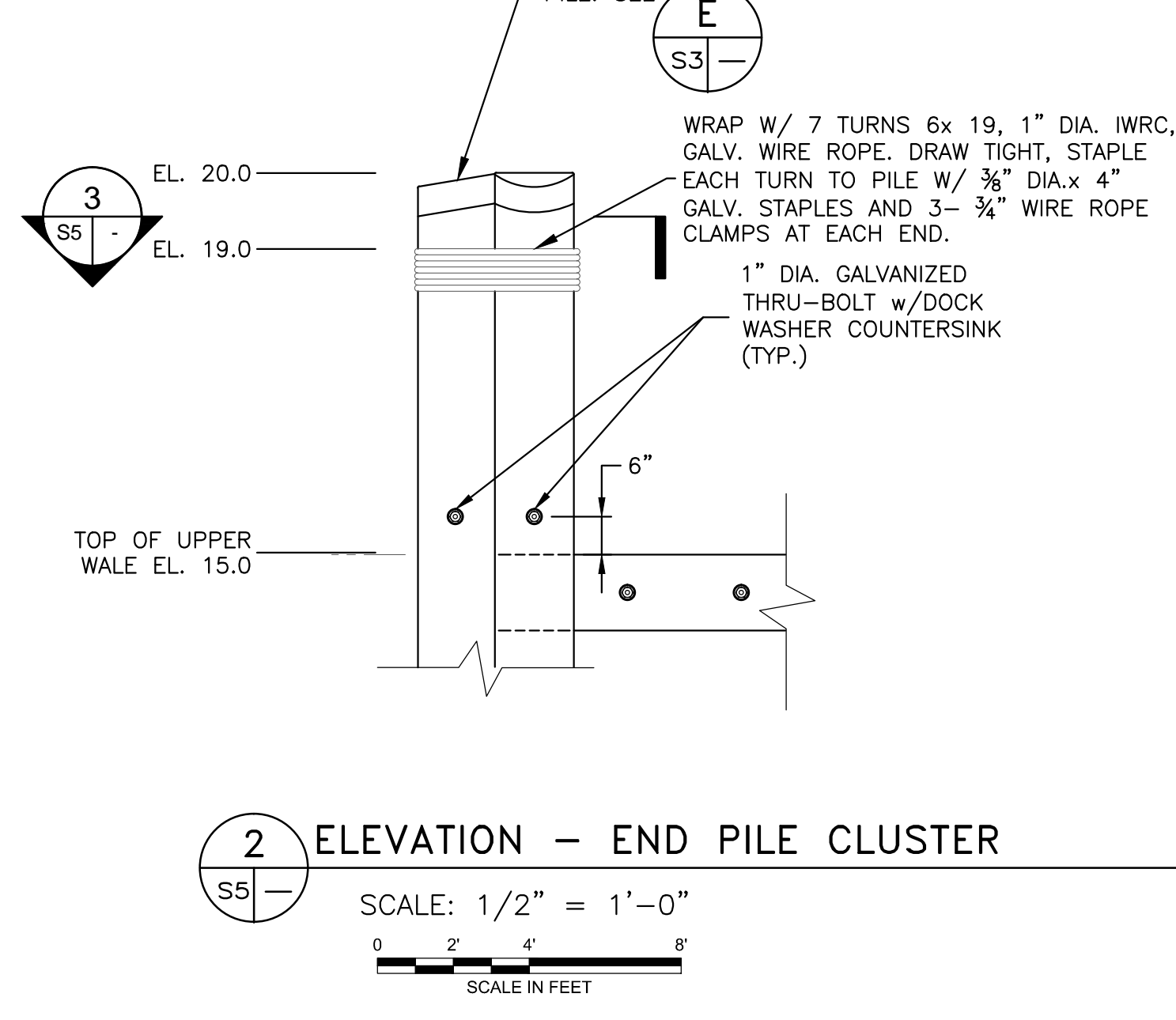
1 PLAN- PIER TIMBER FENDER SYSTEM
TYPICAL UPPER AND LOWER WALE
SCALE: 1/2" = 1'-0"
SCALE IN FEET

2 PLAN- PIER TIMBER FENDER SYSTEM
TYPICAL UPPER AND LOWER WALE
SCALE: 1/2" = 1'-0"
SCALE IN FEET

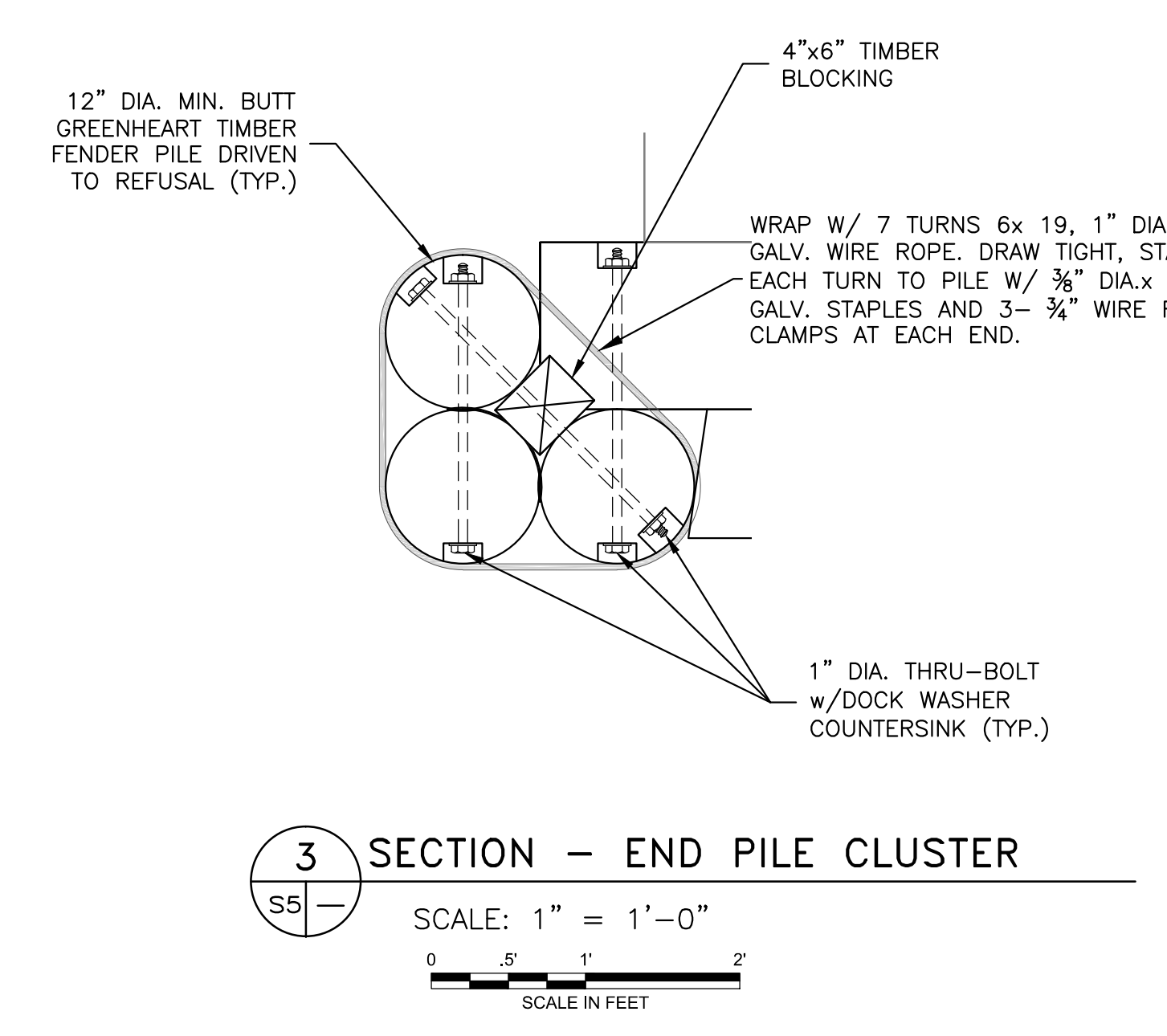
3 DETAIL- TYPICAL UPPER AND LOWER
WALE CONNECTION SLOT
SCALE: 1" = 1'-0"



1 TYPICAL SECTION - PIER FENDER SYSTEM
SCALE: 1/2" = 1'-0"
SCALE IN FEET



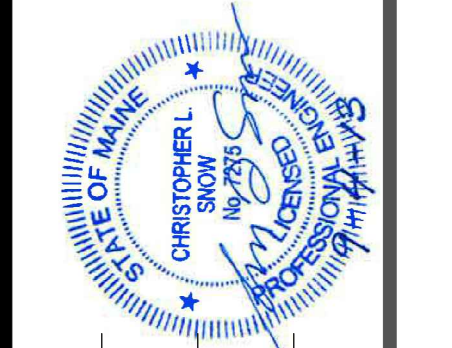
2 ELEVATION - END PILE CLUSTER
SCALE: 1/2" = 1'-0"
SCALE IN FEET



3 SECTION - END PILE CLUSTER
SCALE: 1" = 1'-0"
SCALE IN FEET

NOTE:
PRIOR TO ORDERING PILES, THE CONTRACTOR SHALL PROBE ALONG THE SOUTH SIDE OF THE PIER TO DETERMINE PRACTICAL REFUSAL AND POTENTIAL FENDER PILE EMBEDMENT. PROBES SHALL BE PERFORMED USING A VIBRATORY OR IMPACT HAMMER AND A STEEL H-PILE. ALL PROBES SHALL BE PERFORMED IN THE PRESENCE OF THE MAINE DOT RESIDENT. RESULTS SHALL BE SUBMITTED TO THE RESIDENT FOR REVIEW. PILES SHALL NOT BE ORDERED UNTIL THE MAINE DOT RESIDENT'S REVIEW IS COMPLETE.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
WIN 18386.00
HIGHWAY PLANS



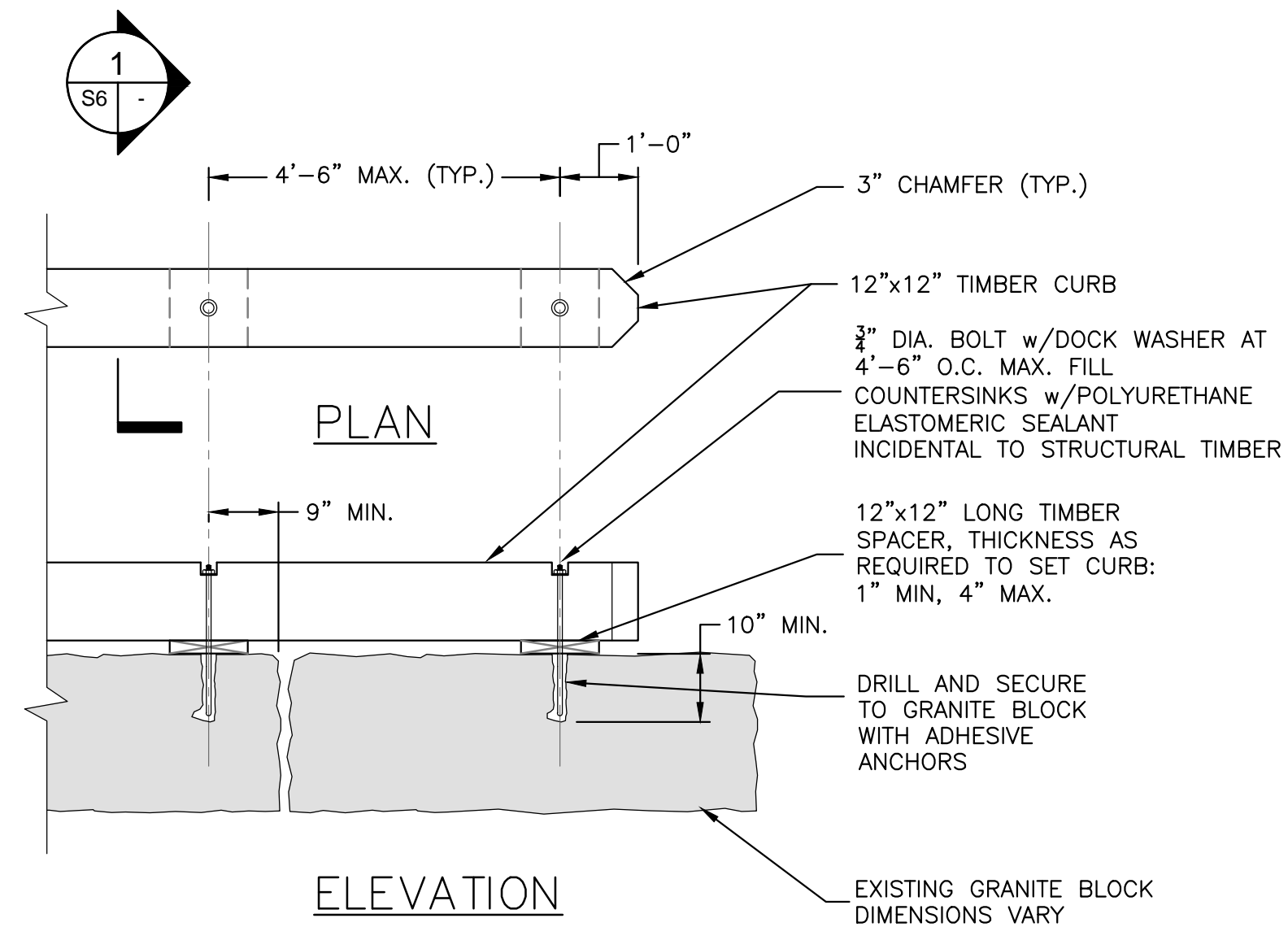
SIGNATURE
P.E. NUMBER
DATE

PROJ. MANAGER	PROJ. MANAGERS	BY	DATE
DESIGN-DETAILED	-	-	-
CHECKED-REVIEWED	-	-	-
DESIGN-DETAILED	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

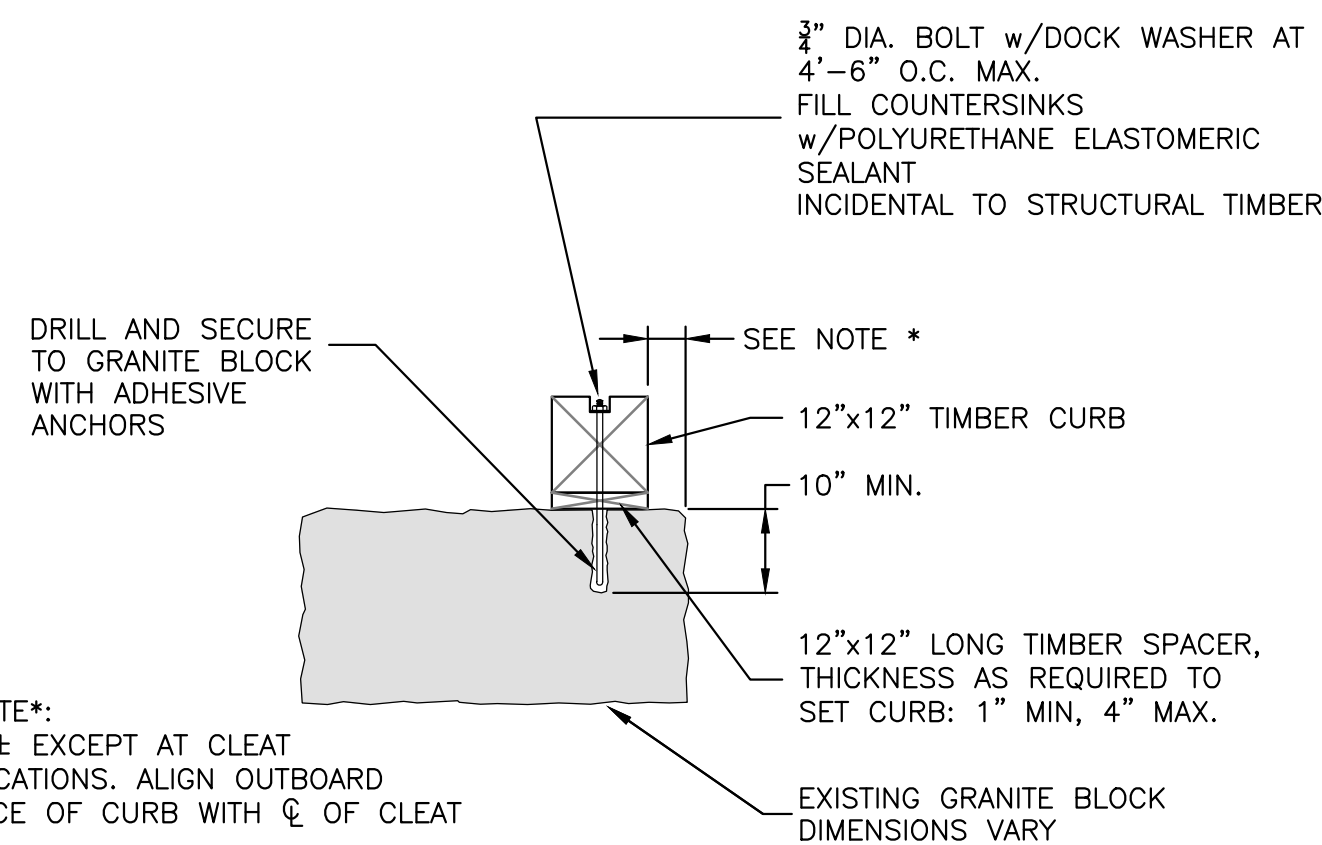
FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
LONG ISLAND
HANCOCK COUNTY
PIER FENDER DETAILS

SHEET NUMBER

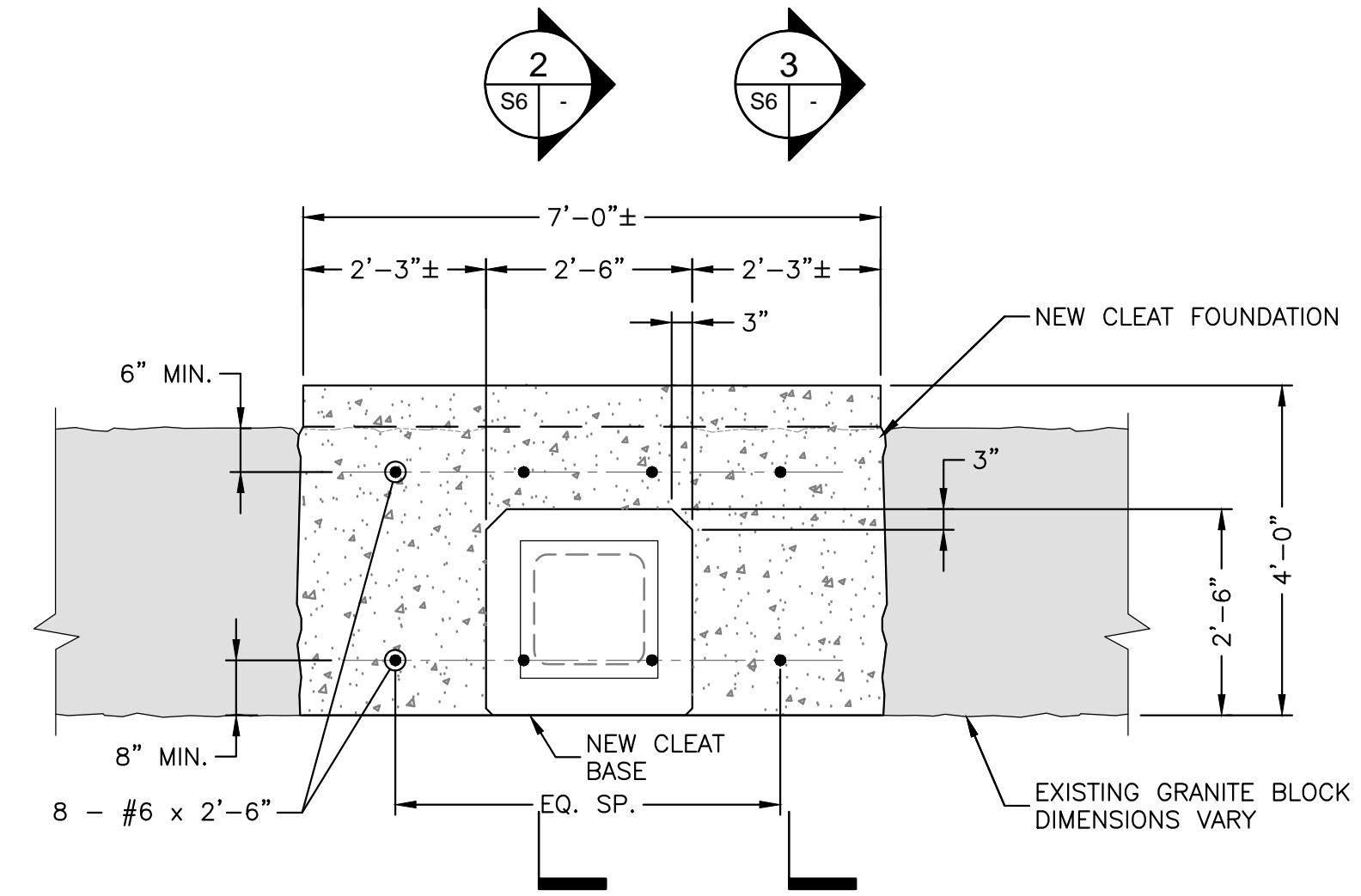
S-5
11 OF 28



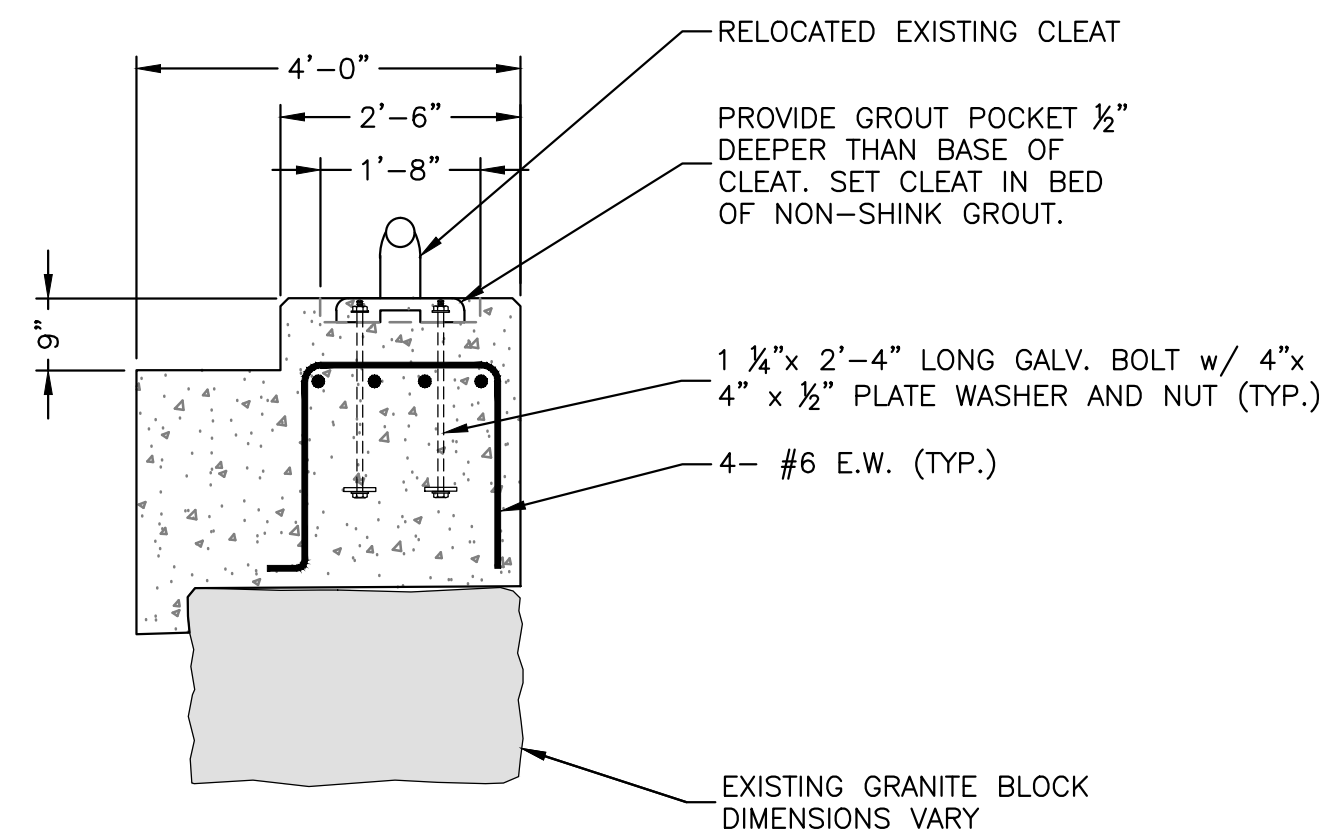
A TYP. CURB DETAIL
SCALE: 1/2" = 1'-0"



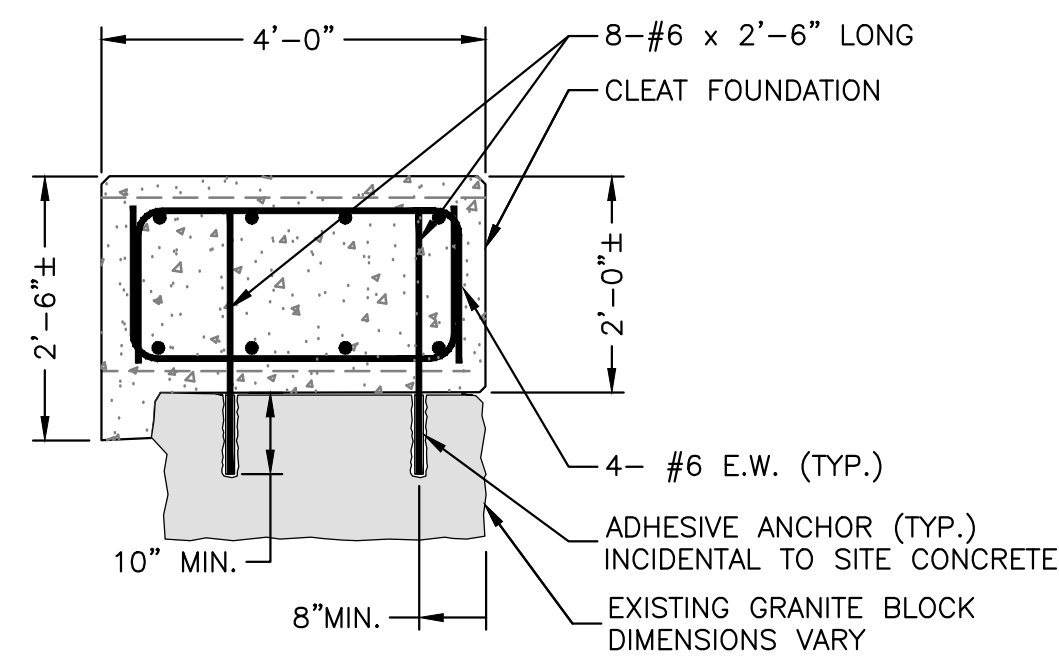
1 TIMBER CURB SECTION
SCALE: 1/2" = 1'-0"



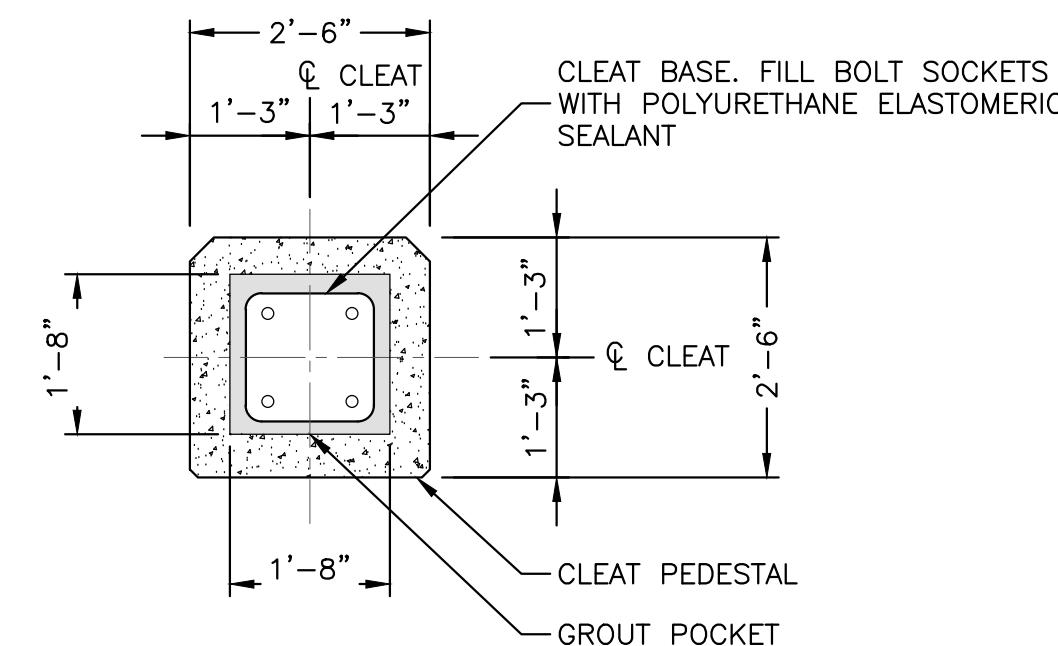
B CLEAT BASE
SCALE: 1/2" = 1'-0"



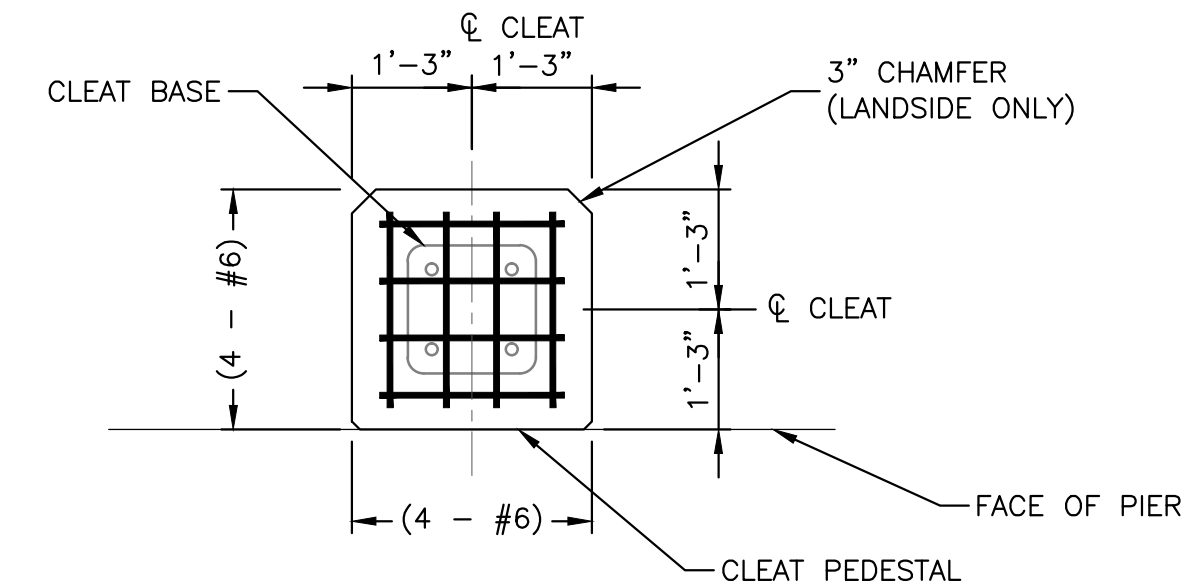
2 SECTION - PEDESTAL REINFORCING
SCALE: 1/2" = 1'-0"



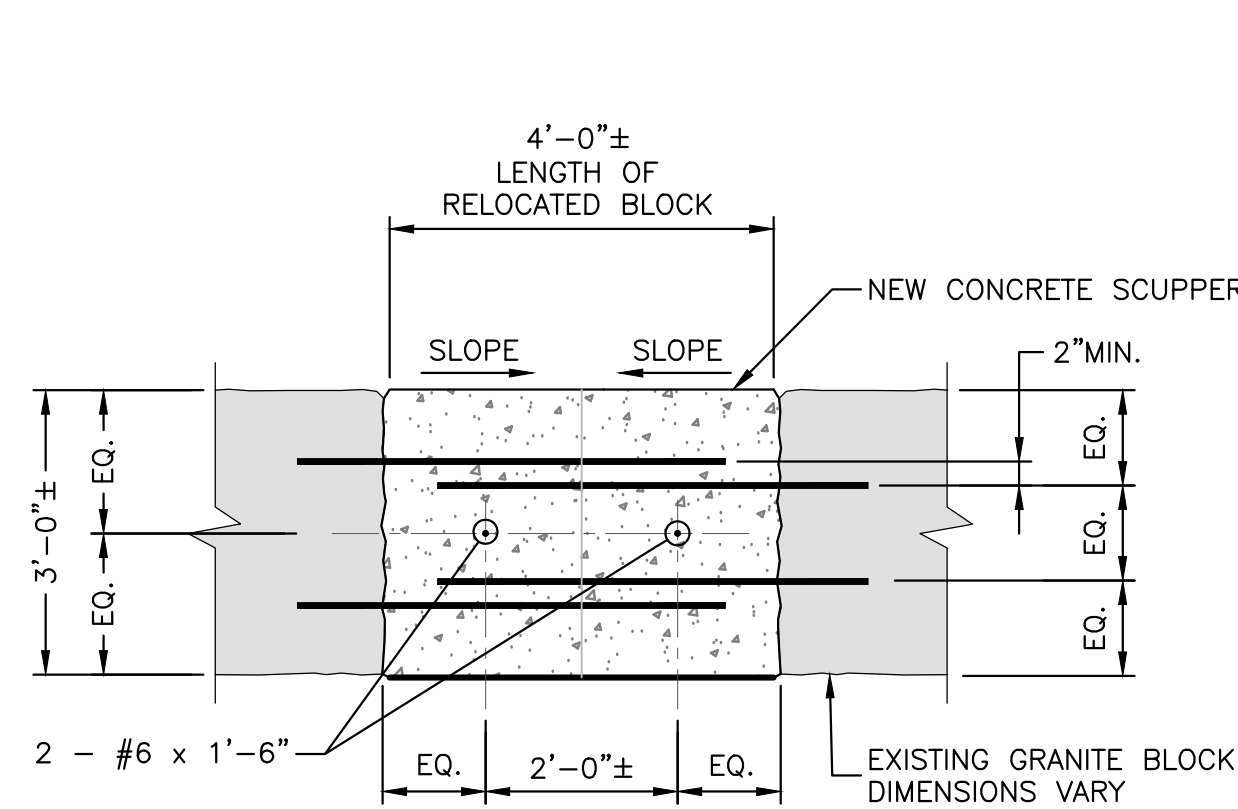
3 SECTION - FOUNDATION REINFORCING
SCALE: 1/2" = 1'-0"



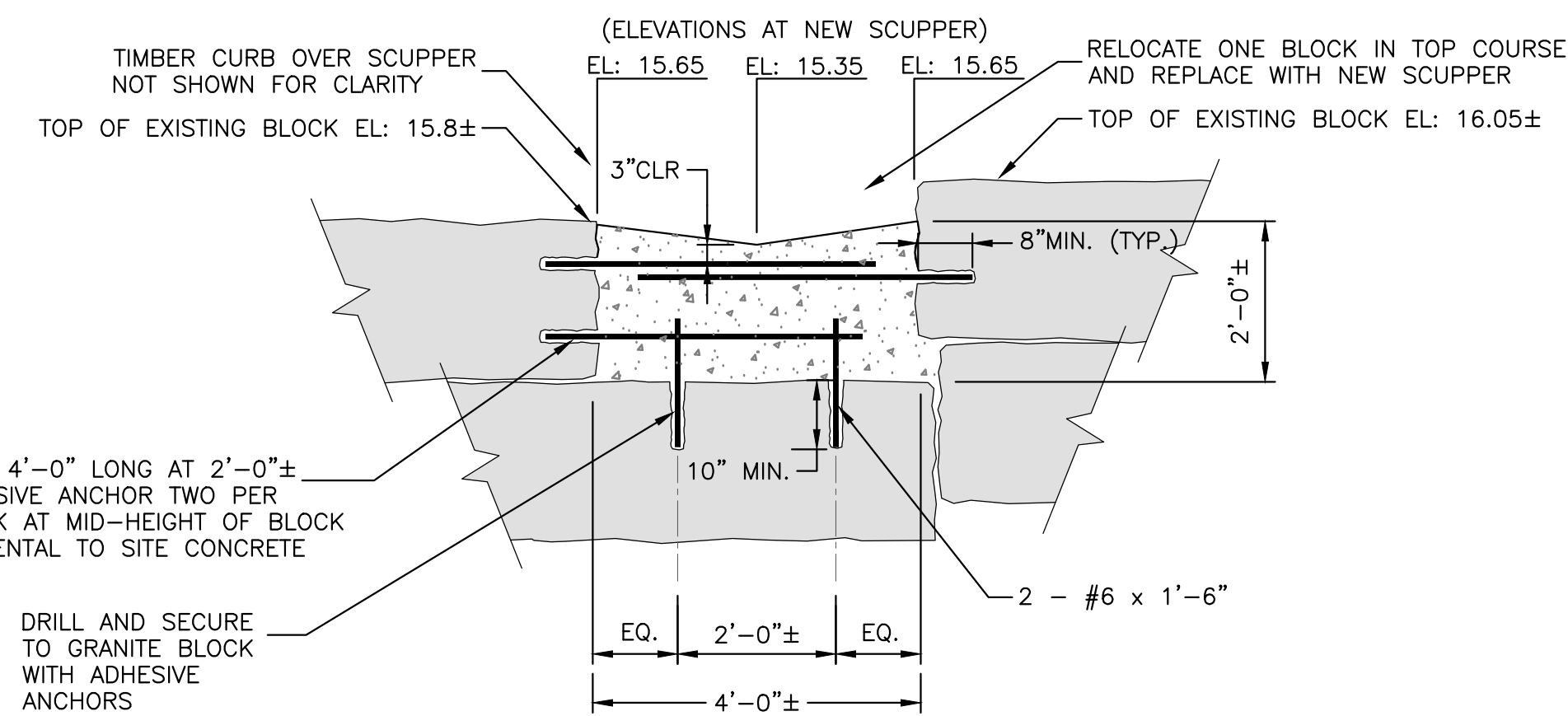
4 PLAN - CLEAT PEDESTAL
SCALE: 1/2" = 1'-0"



5 CLEAT REINFORCING
SCALE: 1/2" = 1'-0"



6 PLAN - CONCRETE SCUPPER
SCALE: 1/2" = 1'-0"

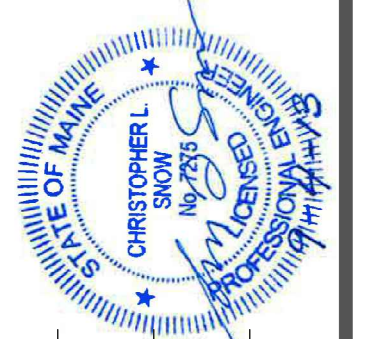


7 SECTION - CONCRETE SCUPPER
SCALE: 1/2" = 1'-0"

NOTES:

1. VERTICAL DATUM IS MLLW = 0.00
2. THE DOLPHIN AND FENDER PANEL SYSTEM CONTROL POINTS AND LAYOUT SHOWN ON THE DRAWINGS ARE BASED UPON THE PARTICULAR ELASTOMERIC FENDER UNIT AND FENDER PANEL SHOWN ON THIS DRAWING. THE DOLPHIN CONTROL POINTS AND LAYOUT MAY REQUIRE ALTERATION DUE TO THE ACCEPTANCE OF ALTERNATE EQUIVALENT FENDER PANEL SYSTEMS. FINAL DOLPHIN LAYOUT SHALL BE SUBJECT TO THE ACCEPTANCE OF THE MAINE DOT.

G:\1-CAD\03\25766.00_Frenchboro\Figures\CA_SWS\FINAL_25766.00_P2-14_Rev. 8-16-2013.dwg [S-6 SECTIONS-01.3] September 05, 2013 - 12:00pm mshah@auburn.edu



SIGNATURE
P.E. NUMBER
DATE

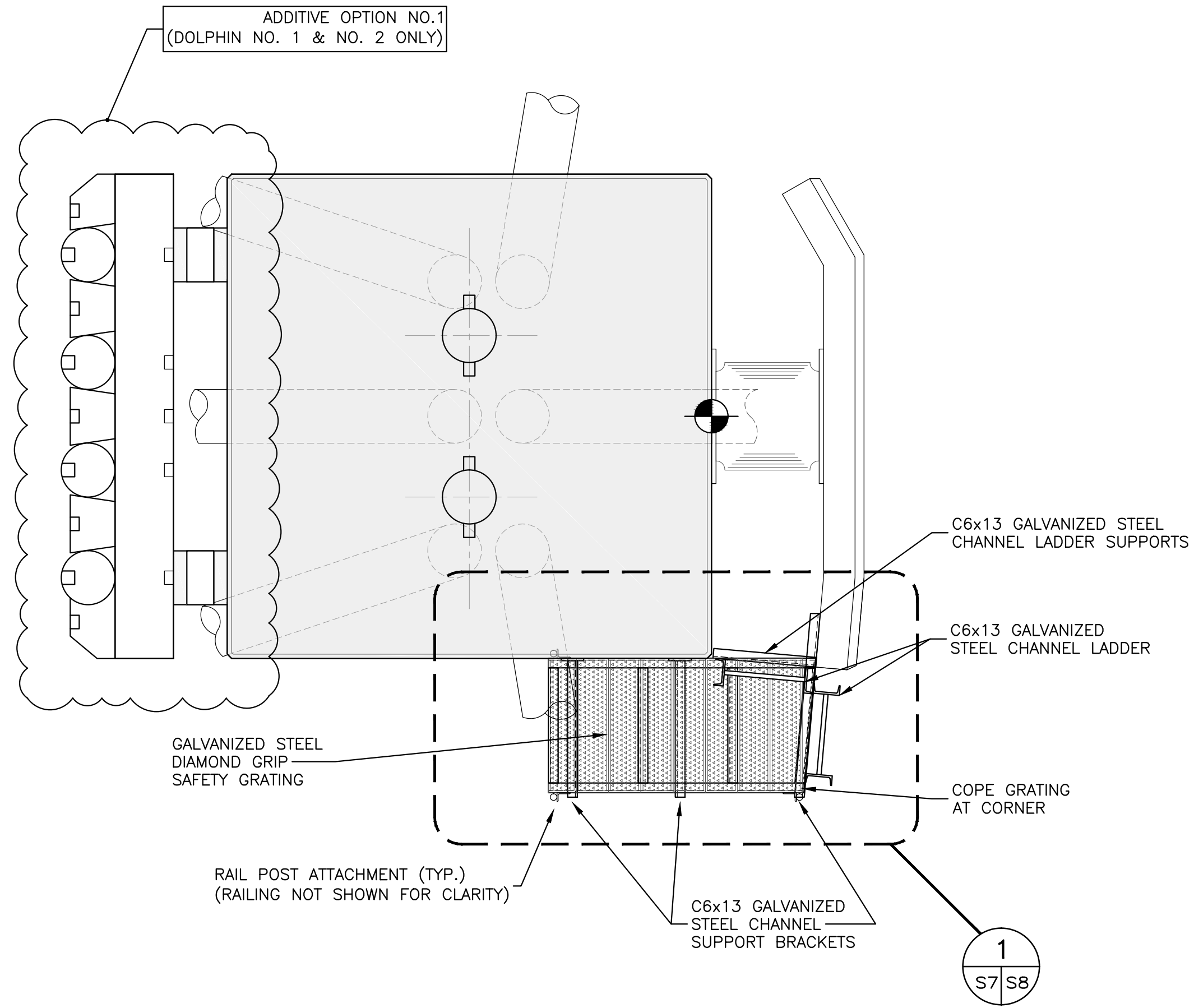
PROJ. MANAGER	PROGRAMMERS	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SHEET NUMBER

S-6

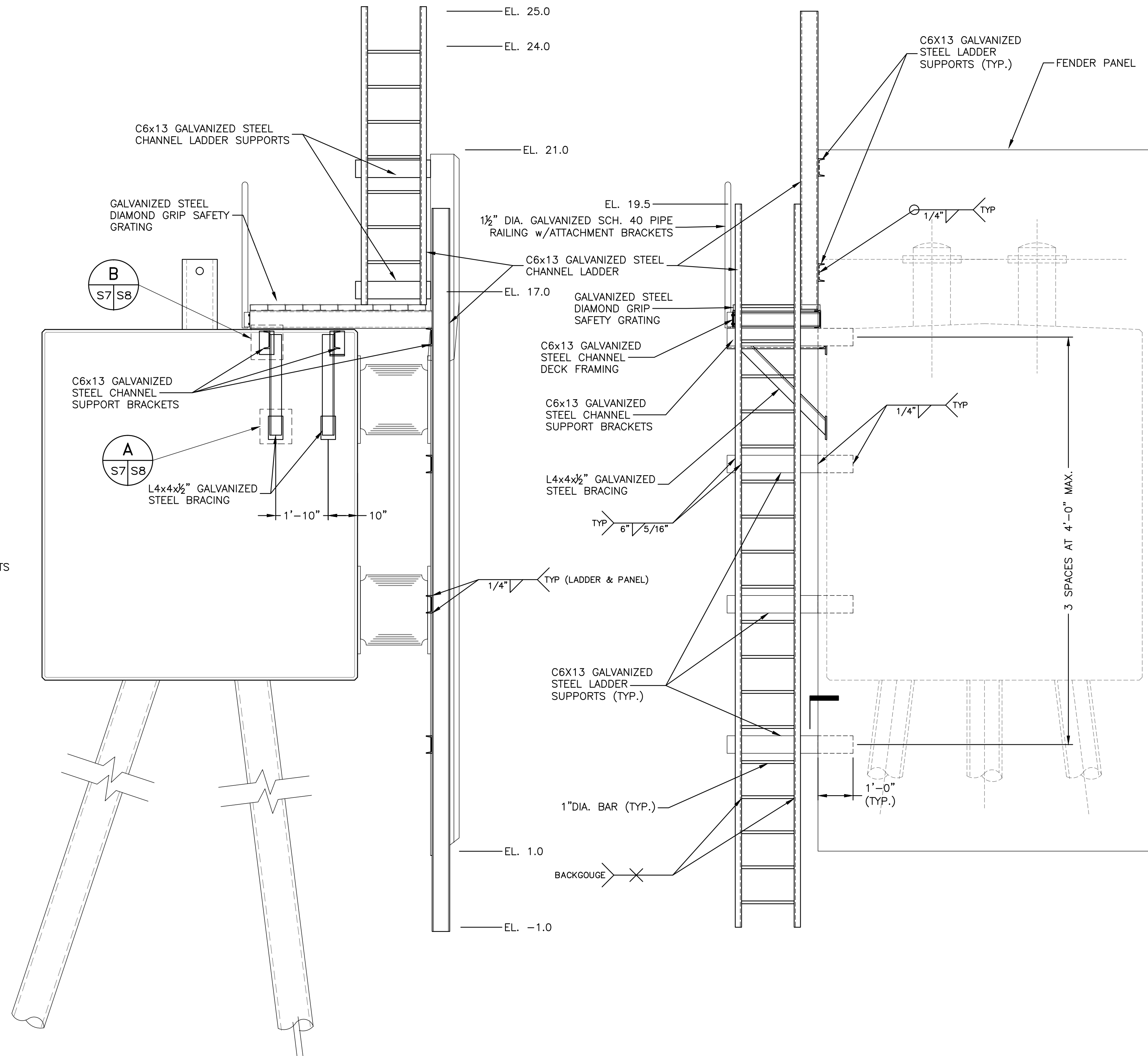
12 OF 28

G:\p\1\02\025766.00_Frenchboro\Frenchboro (Figures) (2) (DWG) (FINAL) 25766.00_2-14_Rev. 8-16-2013.dwg [S-7 Platform] September 05, 2013 - 12:35pm michaels.dubin



1 PLAN - DOLPHIN NO. 2 PLATFORM/LADDER
SCALE: 1/2" = 1'-0"

NOTE: PLATFORM AND LADDERS ARE INCIDENTAL TO FENDER PANEL SYSTEM

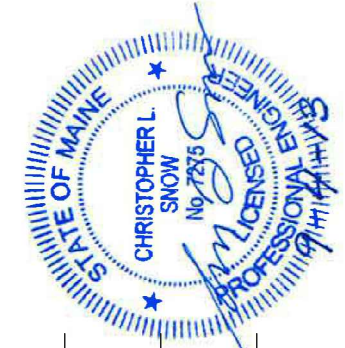


2 ELEVATION - DOLPHIN NO. 2 PLATFORM/LADDER
SCALE: 1/2" = 1'-0"

3 ELEVATION - DOLPHIN NO. 2 PLATFORM/LADDER
SCALE: 1/2" = 1'-0"

- NOTES:
1. VERTICAL DATUM IS MLLW = 0.00
 2. THE DOLPHIN AND FENDER PANEL SYSTEM CONTROL POINTS AND LAYOUT SHOWN ON THE DRAWINGS ARE BASED UPON THE PARTICULAR ELASTOMERIC FENDER UNIT AND FENDER PANEL SHOWN ON THIS DRAWING. THE DOLPHIN CONTROL POINTS AND LAYOUT MAY REQUIRE ALTERATION DUE TO THE ACCEPTANCE OF ALTERNATE EQUIVALENT FENDER PANEL SYSTEMS. FINAL DOLPHIN LAYOUT SHALL BE SUBJECT TO THE ACCEPTANCE OF THE MAINE DOT.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SIGNATURE
P.E. NUMBER
DATE

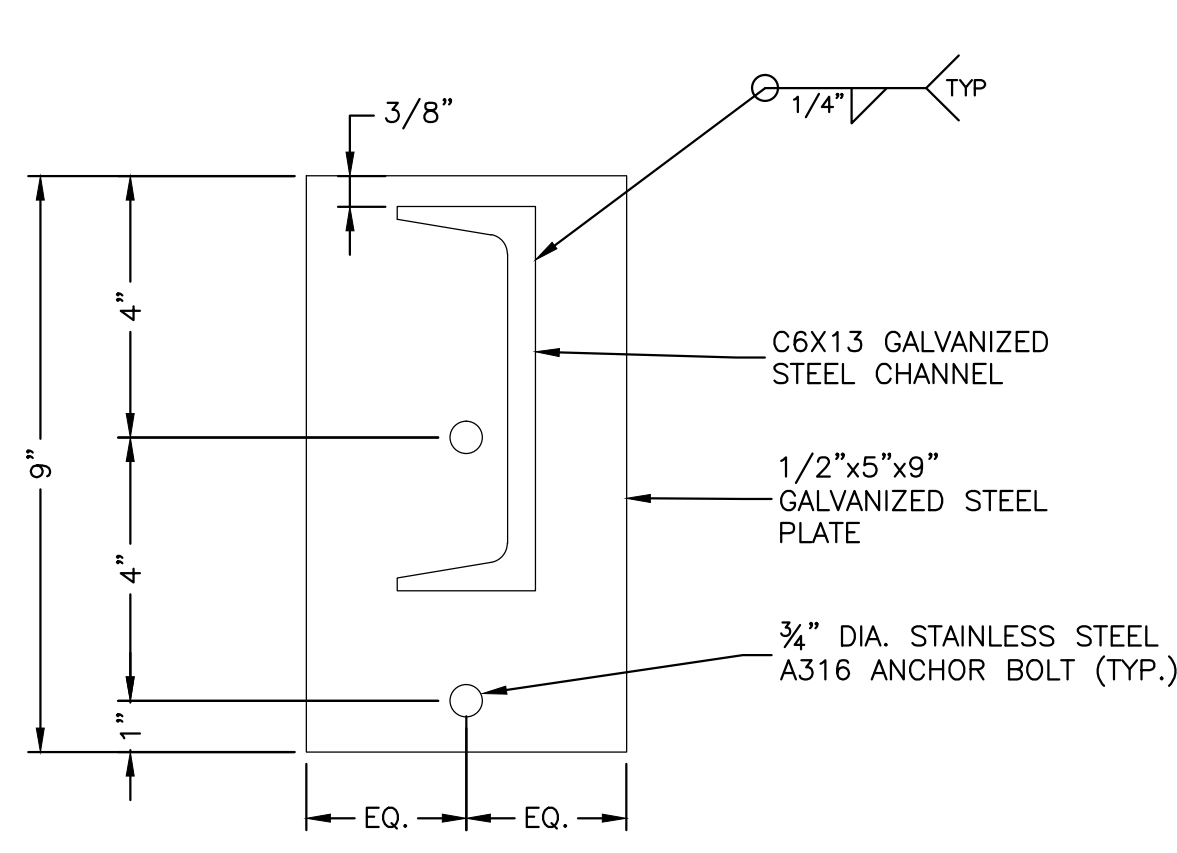
PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
LONG ISLAND
HANCOCK COUNTY
DOLPHIN ACCESS
PLATFORM/LADDER

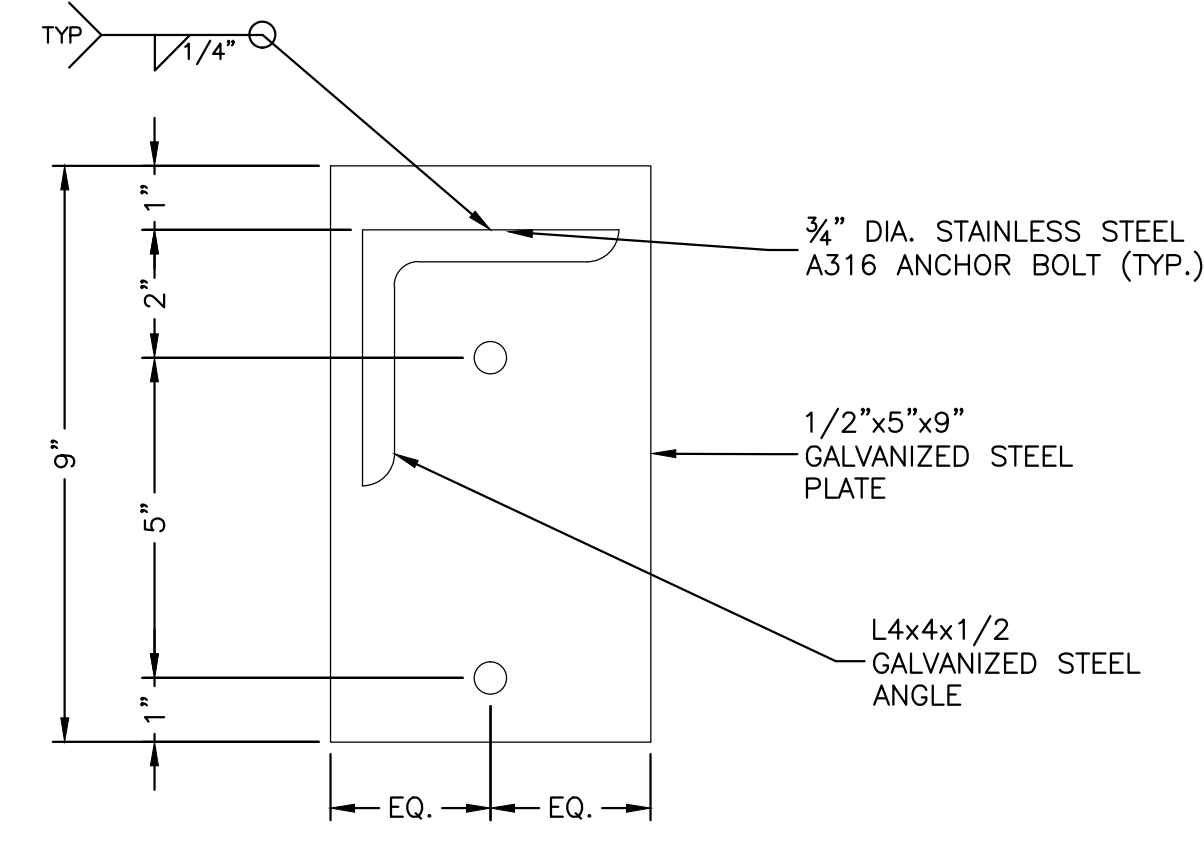
SHEET NUMBER

S-7
13 OF 28

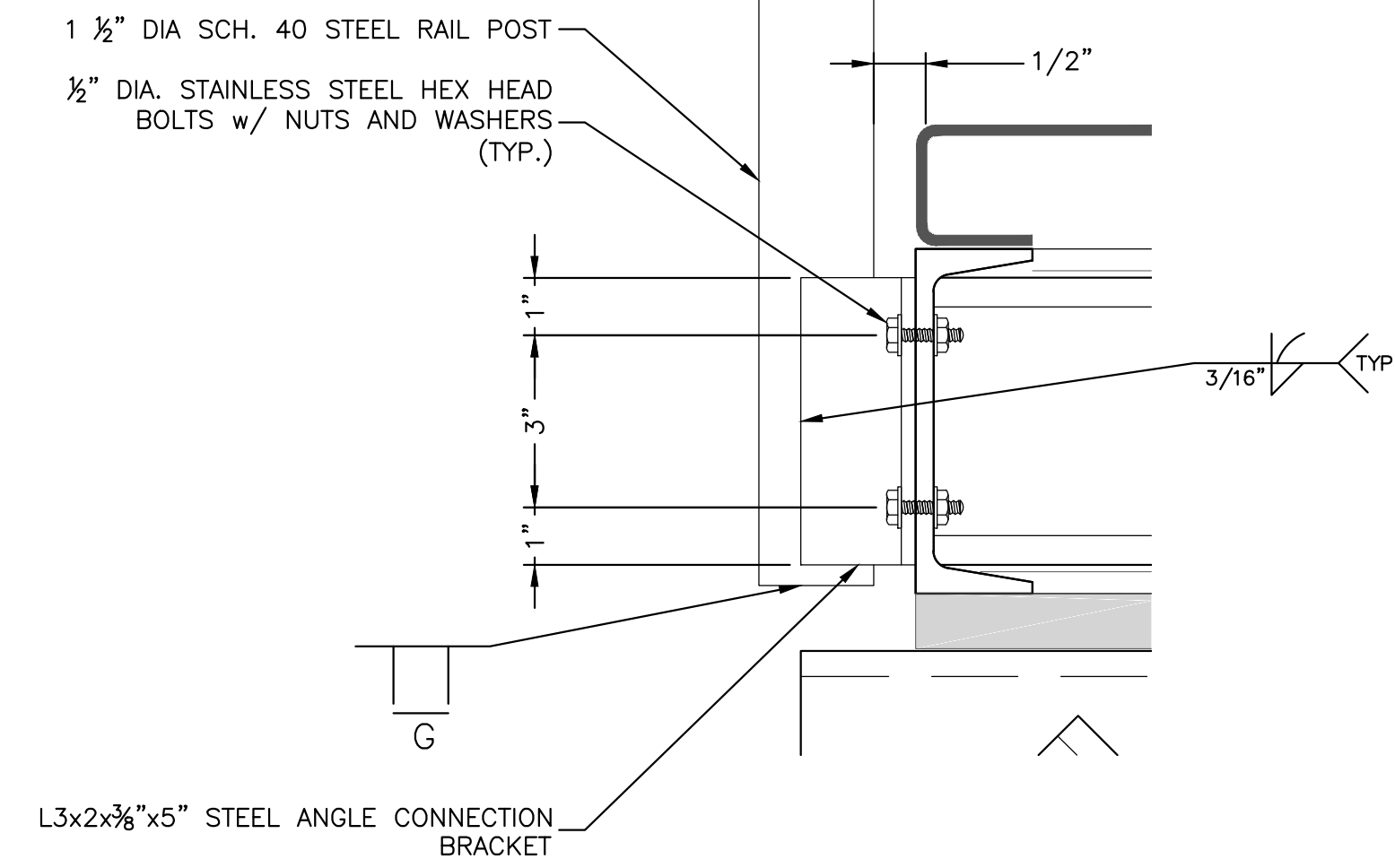
WIN
18386.00
HIGHWAY PLANS



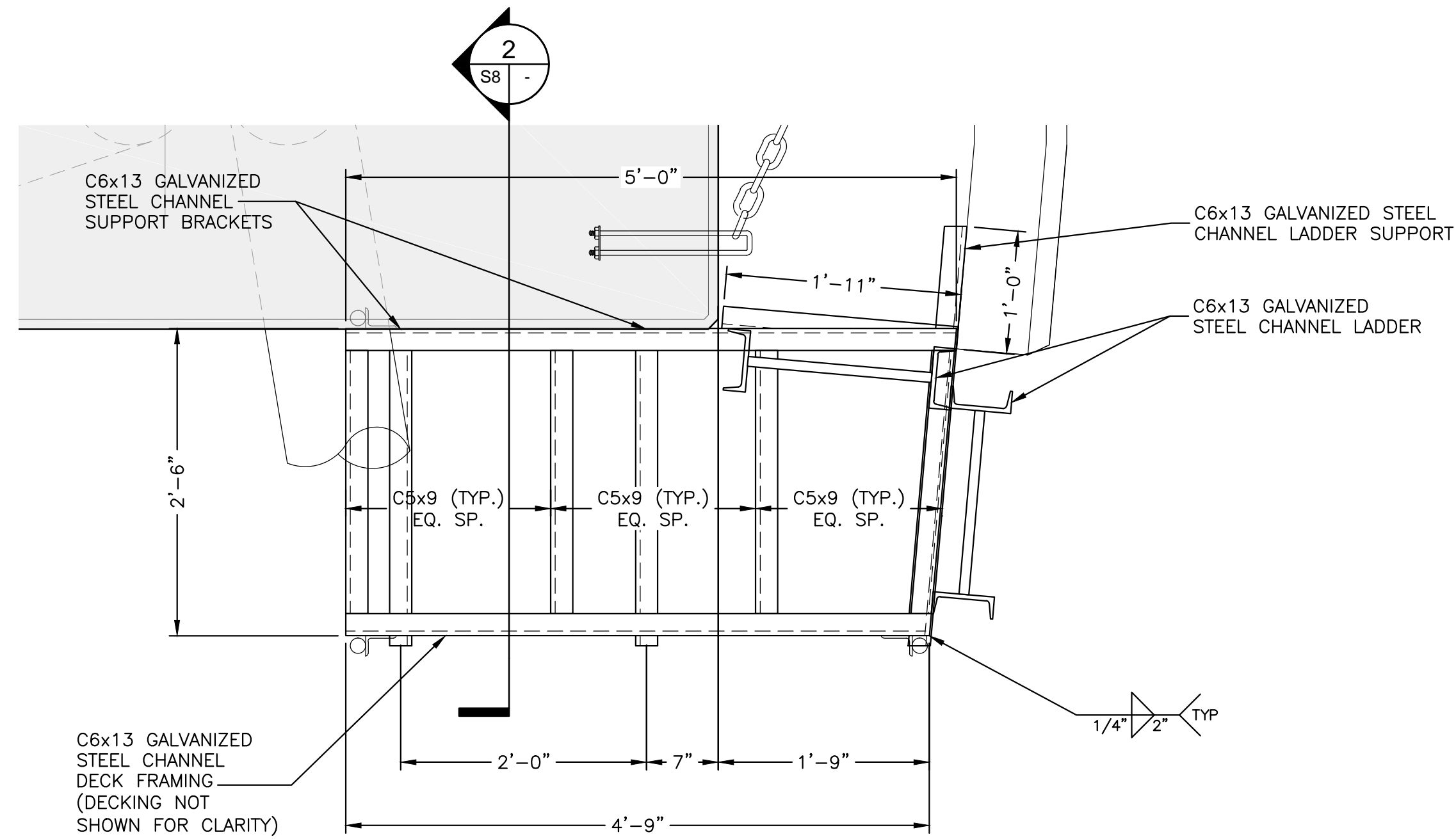
A CHANNEL CONNECTION DETAIL
S7/S8 NOT TO SCALE



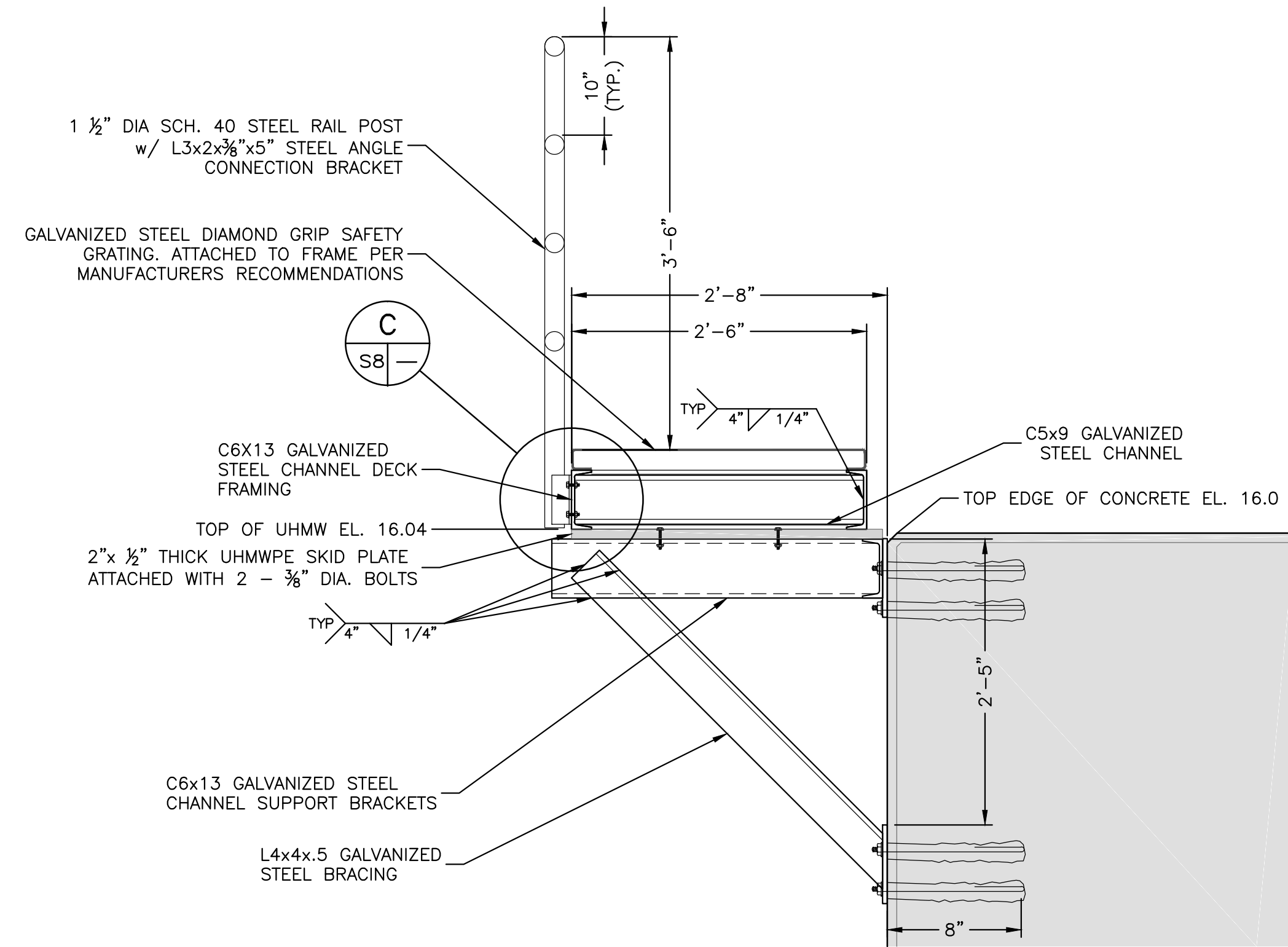
B ANGLE CONNECTION DETAIL
S7/S8 NOT TO SCALE



C RAILING CONNECTION DETAIL
S8 - NOT TO SCALE



1 PLAN - DOLPHIN NO. 2 PLATFORM/LADDER
S7/S8 SCALE: 1" = 1'-0"



2 SECTION - DOLPHIN NO. 2 PLATFORM/LADDER
S8 - SCALE: 1" = 1'-0"

- NOTES:**
1. VERTICAL DATUM IS MLLW = 0.00
 2. THE DOLPHIN AND FENDER PANEL SYSTEM CONTROL POINTS AND LAYOUT SHOWN ON THE DRAWINGS ARE BASED UPON THE PARTICULAR ELASTOMERIC FENDER UNIT AND FENDER PANEL SHOWN ON THIS DRAWING. THE DOLPHIN CONTROL POINTS AND LAYOUT MAY REQUIRE ALTERATION DUE TO THE ACCEPTANCE OF ALTERNATE EQUIVALENT FENDER PANEL SYSTEMS. FINAL DOLPHIN LAYOUT SHALL BE SUBJECT TO THE ACCEPTANCE OF THE DEPARTMENT.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SIGNATURE
P.E. NUMBER
DATE

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	-	-
CHECKED-REVIEWED	-	-
DESIGN-DETAILED	-	-
REVISIONS 1	-	-
REVISIONS 2	-	-
REVISIONS 3	-	-
REVISIONS 4	-	-
FIELD CHANGES	-	-

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
HANCOCK COUNTY
LONG ISLAND
DOLPHIN ACCESS
PLATFORM/LADDER DETAILS

SHEET NUMBER

S-8

14 OF 28

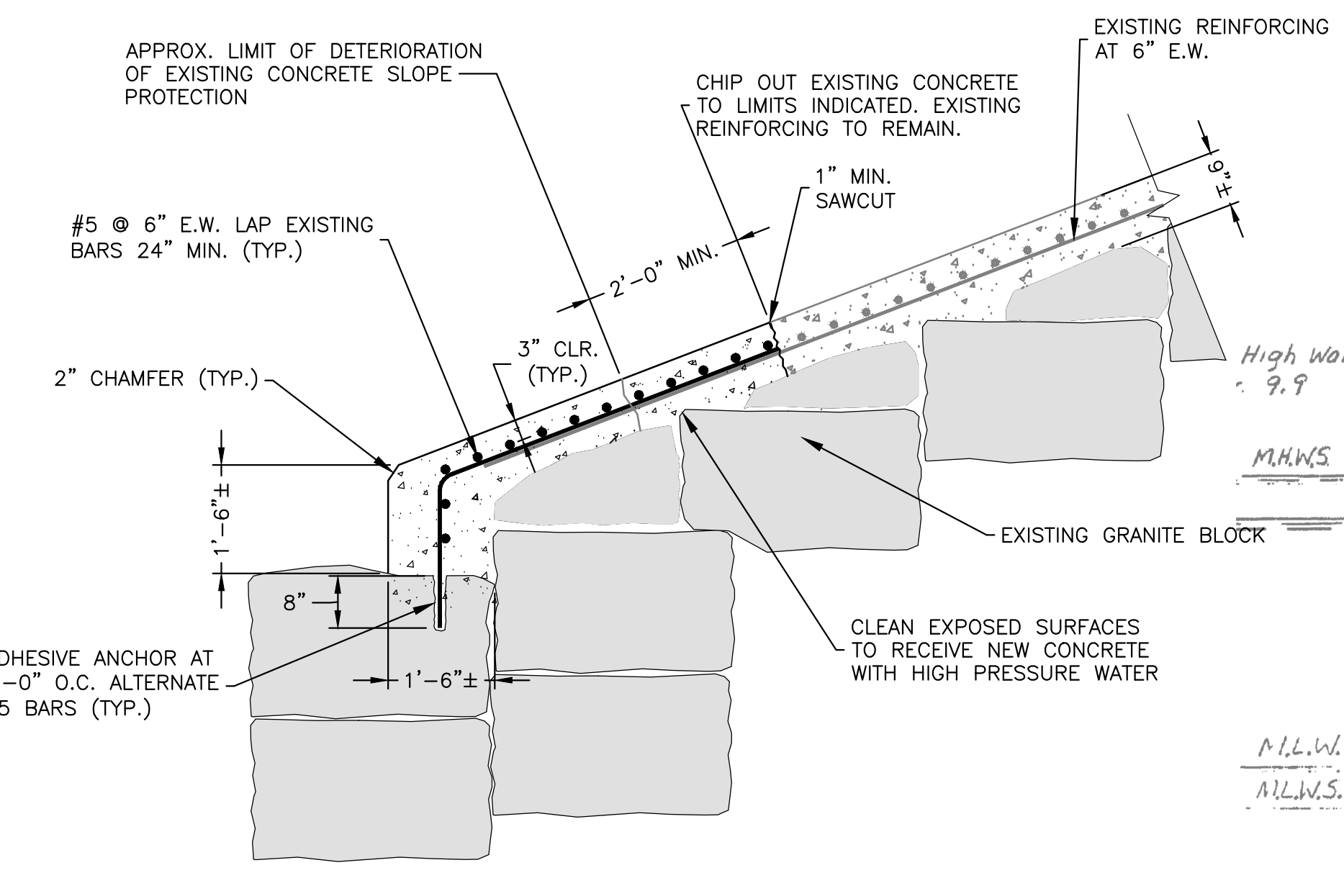
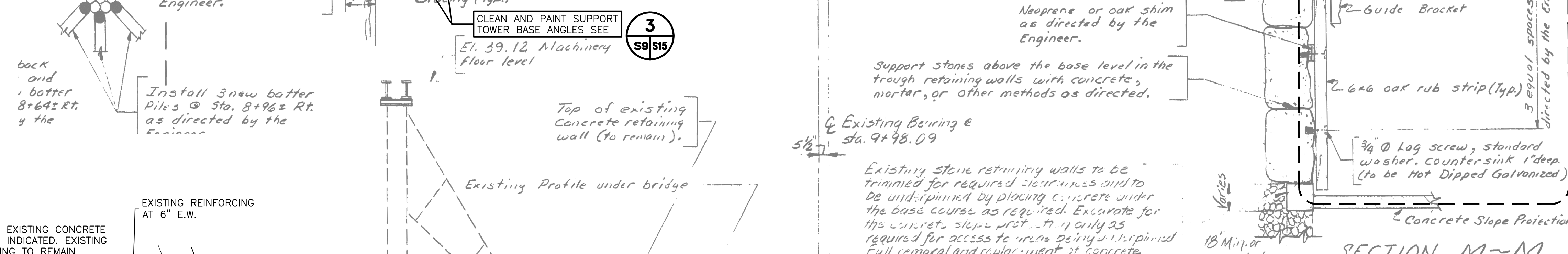
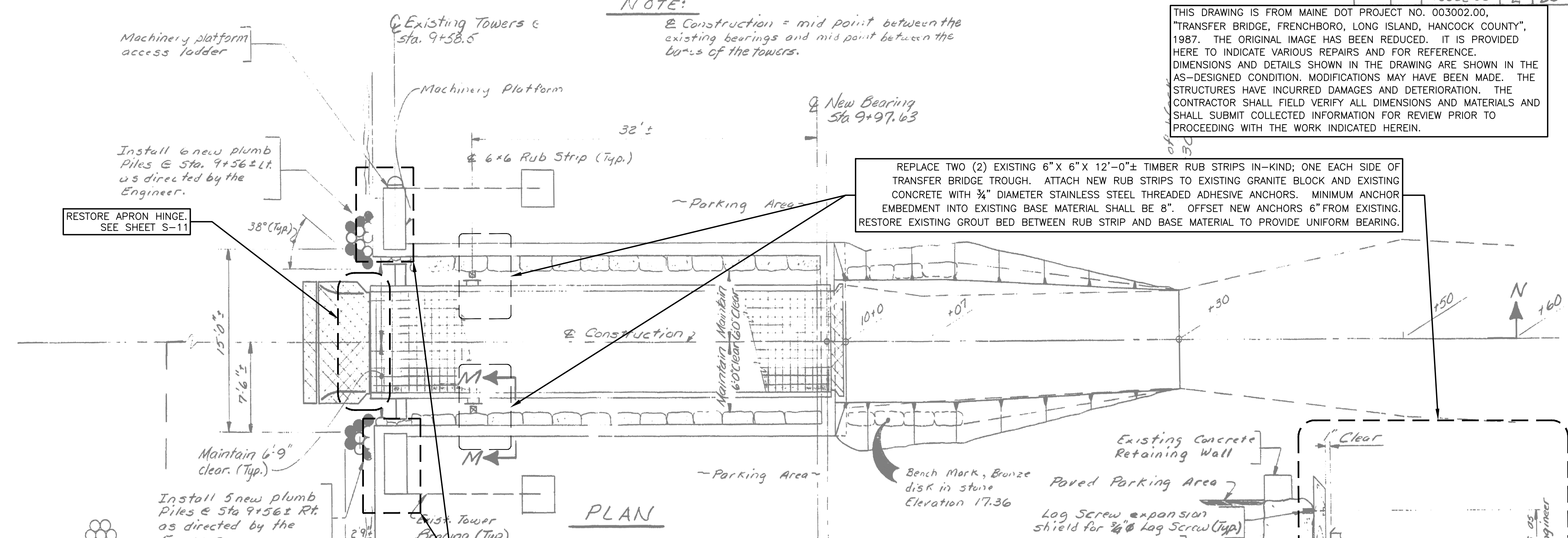
WIN
18386.00
HIGHWAY PLANS

C:\p\1\00\0025766.00_Frenchboro\Figures\GA_BNCS\FINAL_25766.00_P2-14_BNCS-16-2013.dwg [S-8 PLATFORM DETAILS] September 05, 2013 1:42pm michaelsab

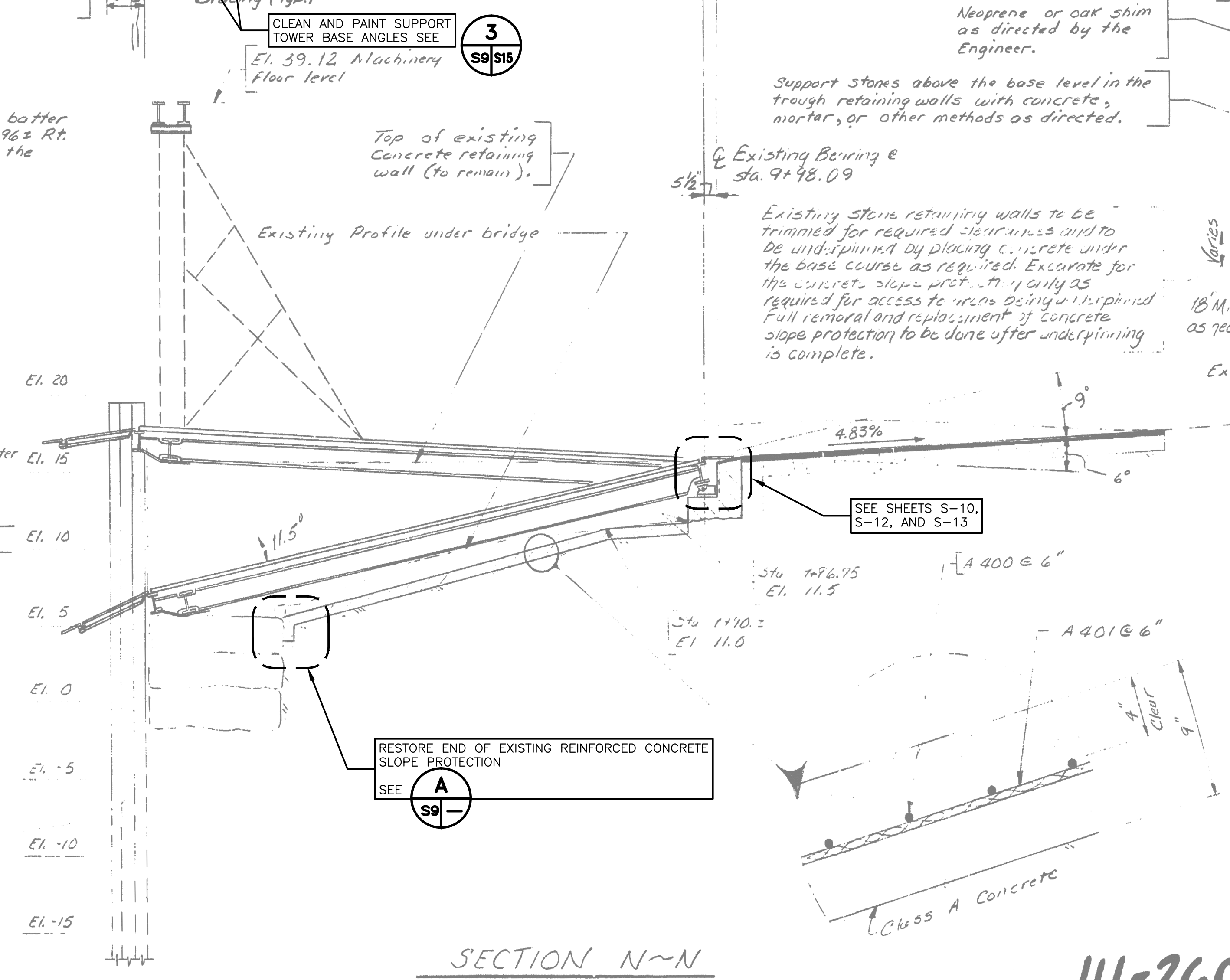
F.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	003002.00	2	20

THIS DRAWING IS FROM MAINE DOT PROJECT NO. 003002.00, "TRANSFER BRIDGE, FRENCHBORO, LONG ISLAND, HANCOCK COUNTY", 1987. THE ORIGINAL IMAGE HAS BEEN REDUCED. IT IS PROVIDED HERE TO INDICATE VARIOUS REPAIRS AND FOR REFERENCE. DIMENSIONS AND DETAILS SHOWN IN THE DRAWING ARE SHOWN IN THE AS-DESIGNED CONDITION. MODIFICATIONS MAY HAVE BEEN MADE. THE STRUCTURES HAVE INCURRED DAMAGES AND DETERIORATION. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND MATERIALS AND SHALL SUBMIT COLLECTED INFORMATION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK INDICATED HEREIN.

NOTE:
 @ Construction = mid point between the existing bearings and mid point between the bents of the towers.



A
 S9
 DETAIL - SLOPE PROTECTION REPAIR
 SCALE: 1/2" = 1'
 SCALE IN FEET

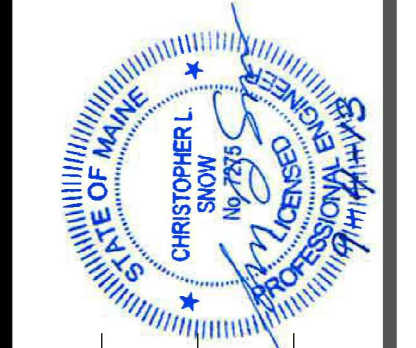


A
 S9
 RESTORE END OF EXISTING REINFORCED CONCRETE SLOPE PROTECTION
 SEE

- ~ LEGEND ~
- Existing pile to remain
 - New oak pile
 - El Elevation
 - M.H.W.S. Mean High Water (Spring Tide)
 - M.L.W. Mean Low Water
 - M.L.W.S. Mean Low Water (Spring Tide)

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY
 GENERAL PLAN

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION



PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED					
CHECKED-REVIEWED					
DESIGN-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

FRENCHBORO PIER AND TRANSFER BRIDGE
 FRENCHBORO, MAINE
 HANCOCK COUNTY
 LONG ISLAND
 MISC. PIER AND TRANSFER
 BRIDGE REPAIRS

SHEET NUMBER
S-9
 SHEET 2 OF 20 AUGUSTA, MAINE
 15 OF 28

WIN
 18386.00
 HIGHWAY PLANS

G:\p\1\003002\003002\Frenchboro (Figures)\C2A.DWG (FINAL) 25766.00 11-15-21 80.84 16-2013.dwg [5-9 (111-260)] September 05, 2013 - 12:54pm michael.dubin

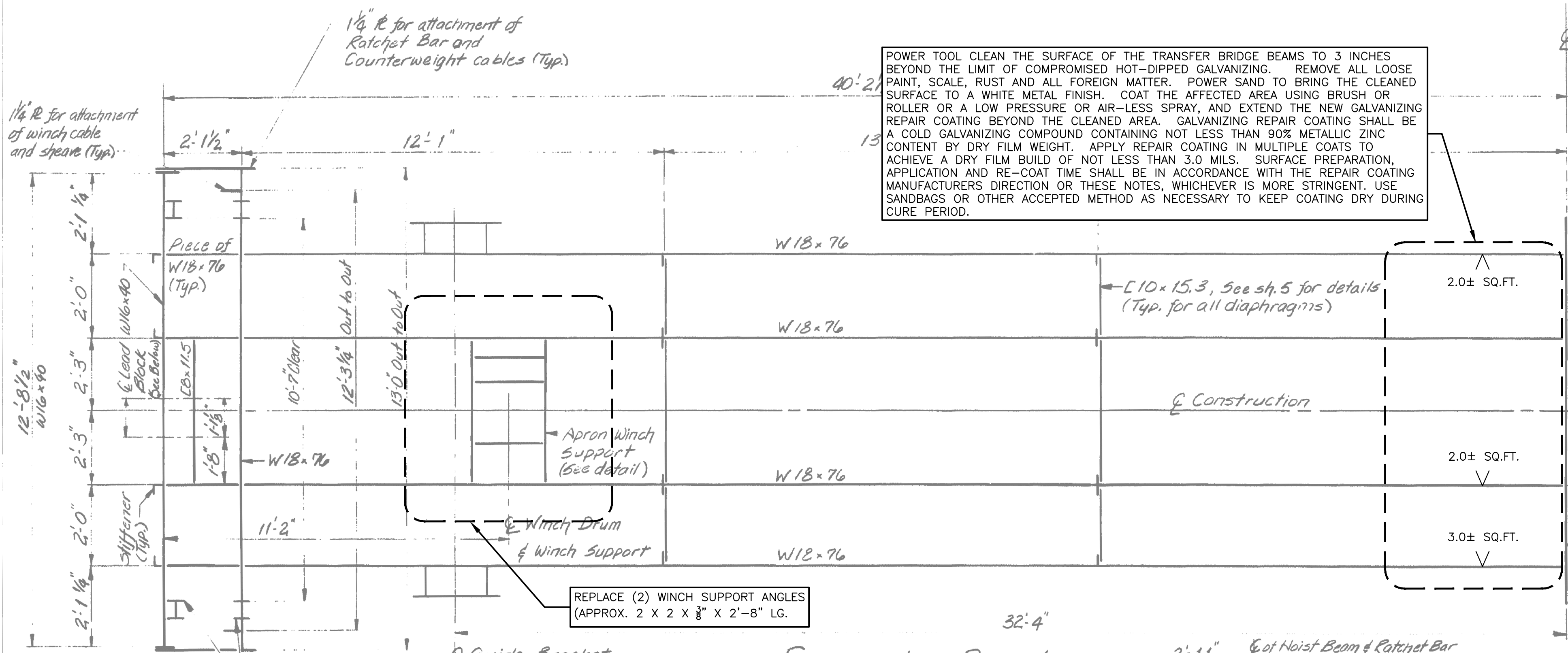
111-260

PK & SEQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	00300-2.00	7	20

FABRICATION NOTES

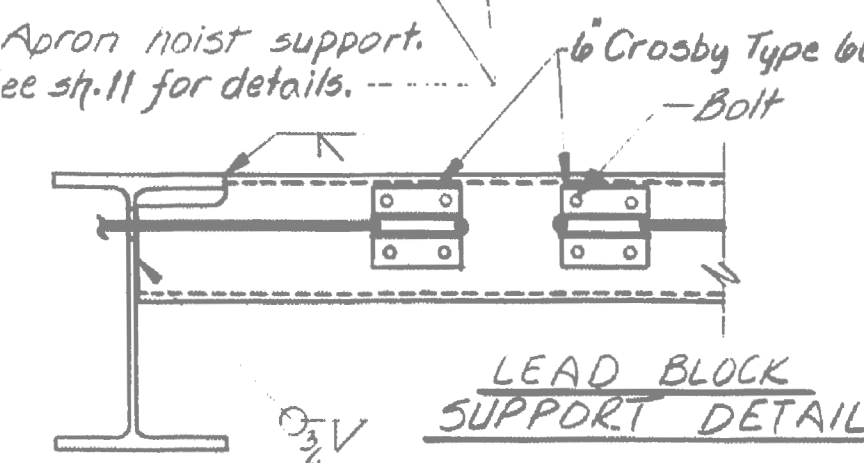
- All bolts shall be $\frac{1}{2}$ " @ H.S. Bolts. * Hole sizes for bolts shall conform to section 504.23 of the Standard Specifications, and edge distances shall be $\frac{1}{2}$ " min. unless otherwise noted.
 - Diaphragm connection plate shall be normal to the top flange.
- * Bolts shall have a Heavy Hex nut & Standard washer unless otherwise noted.

POWER TOOL CLEAN THE SURFACE OF THE TRANSFER BRIDGE BEAMS TO 3 INCHES BEYOND THE LIMIT OF COMPROMISED HOT-DIPPED GALVANIZING. REMOVE ALL LOOSE PAINT, SCALE, RUST AND ALL FOREIGN MATTER. POWER SAND TO BRING THE CLEANED SURFACE TO A WHITE METAL FINISH. COAT THE AFFECTED AREA USING BRUSH OR ROLLER OR A LOW PRESSURE OR AIR-LESS SPRAY, AND EXTEND THE NEW GALVANIZING REPAIR COATING BEYOND THE CLEANED AREA. GALVANIZING REPAIR COATING SHALL BE A COLD GALVANIZING COMPOUND CONTAINING NOT LESS THAN 90% METALLIC ZINC CONTENT BY DRY FILM WEIGHT. APPLY REPAIR COATING IN MULTIPLE COATS TO ACHIEVE A DRY FILM BUILD OF NOT LESS THAN 3.0 MILS. SURFACE PREPARATION, APPLICATION AND RE-COAT TIME SHALL BE IN ACCORDANCE WITH THE REPAIR COATING MANUFACTURERS DIRECTION OR THESE NOTES, WHICHEVER IS MORE STRINGENT. USE SANDBAGS OR OTHER ACCEPTED METHOD AS NECESSARY TO KEEP COATING DRY DURING CURE PERIOD.

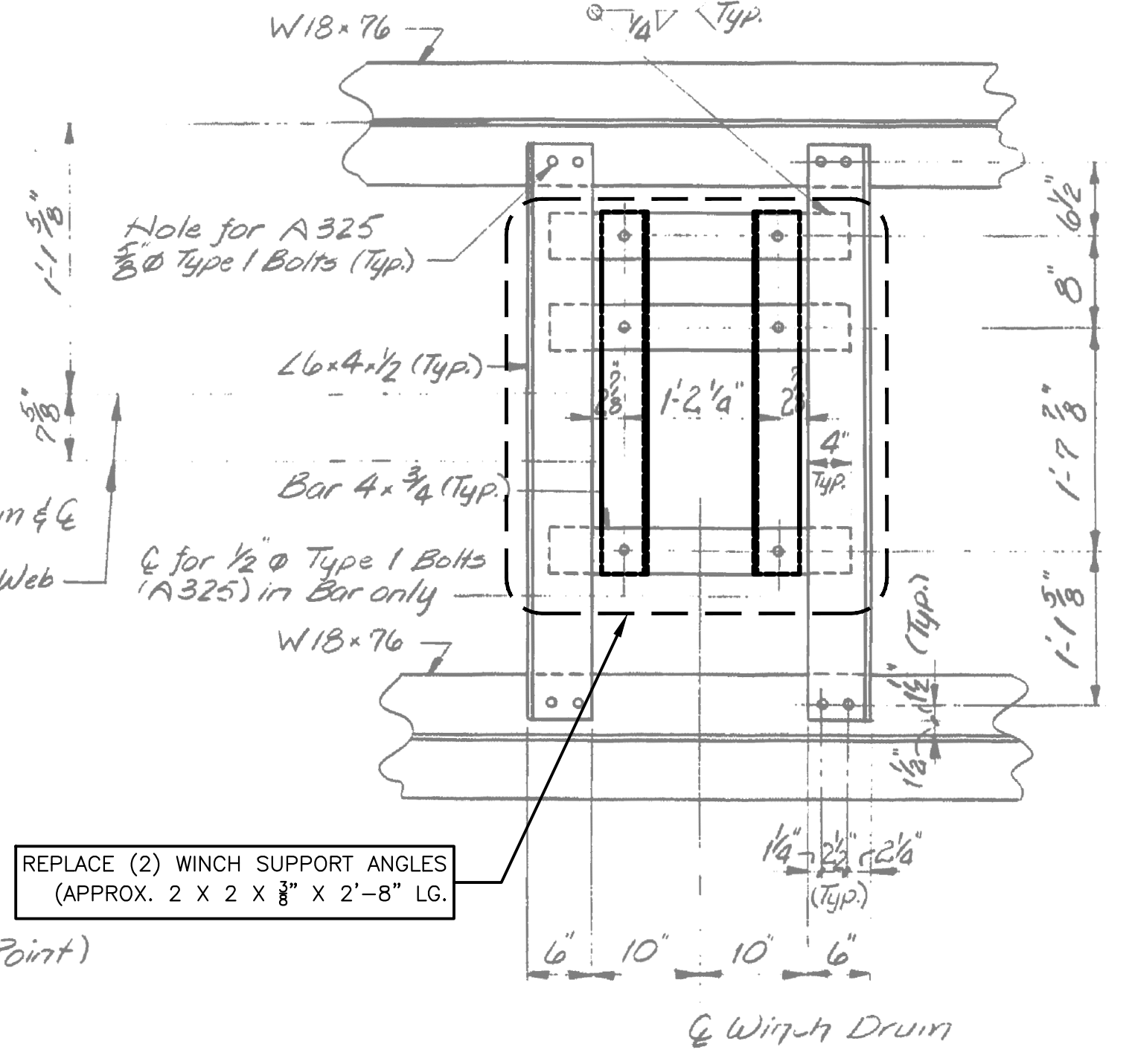


FRAMING PLAN

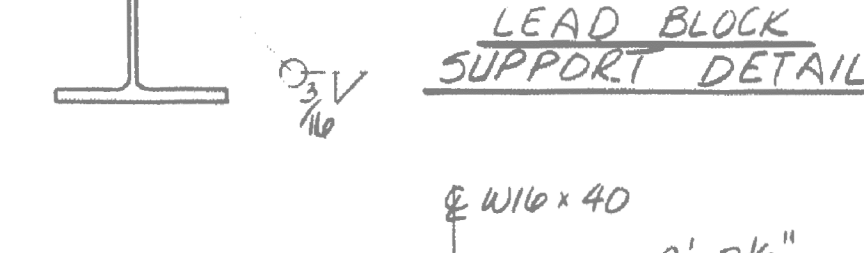
DETAIL OF 1/4" THICK PLATE (Winch Cable / Sheave Attachment)



DETAIL OF 1/4" THICK PLATE (Ratchet Bar / Counterweight Attachment)



LEAD BLOCK SUPPORT DETAIL

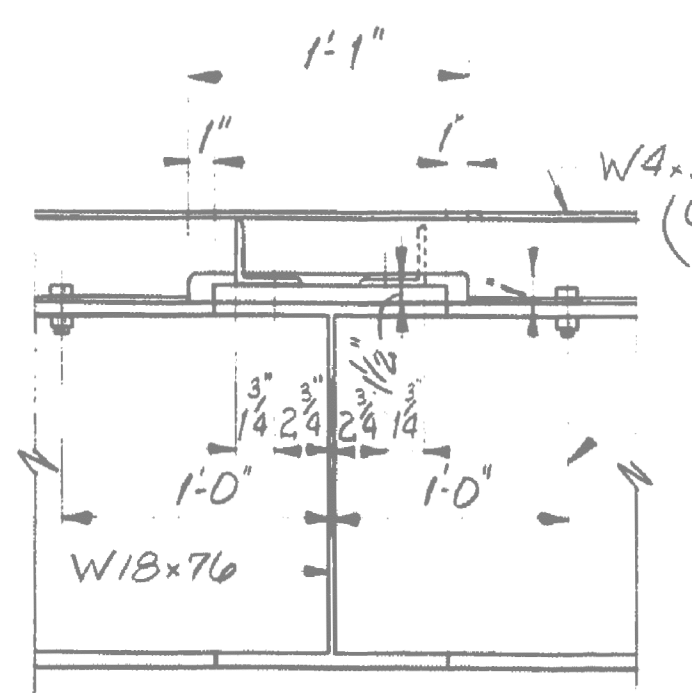


BEAM ELEVATION

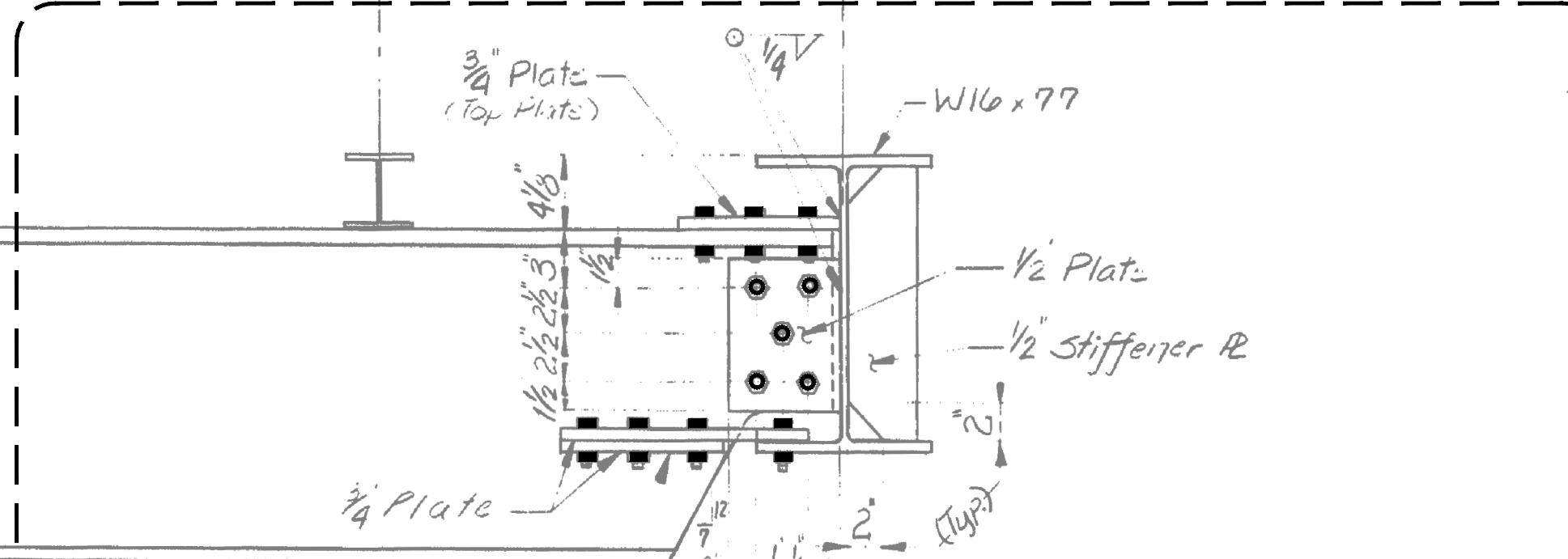
REMOVE EXISTING BOLTS AND NUTS AND REPLACE WITH NEW, IN-KIND AT EACH W18. (17 BOLTS PER) ALL NEW HARDWARE SHALL BE HOT-DIPPED GALVANIZED.

THIS DRAWING IS FROM MAINE DOT PROJECT NO. 003002.00, "TRANSFER BRIDGE, FRENCHBORO, LONG ISLAND, HANCOCK COUNTY", 1987. THE ORIGINAL IMAGE HAS BEEN REDUCED. IT IS PROVIDED HERE TO INDICATE VARIOUS REPAIRS AND FOR REFERENCE. DIMENSIONS AND DETAILS SHOWN IN THE DRAWING ARE SHOWN IN THE AS-DESIGNED CONDITION. MODIFICATIONS MAY HAVE BEEN MADE. THE STRUCTURES HAVE INCURRED DAMAGES AND DETERIORATION. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND MATERIALS AND SHALL SUBMIT COLLECTED INFORMATION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK INDICATED HEREIN.

NEEDLE BEAM COPING DETAIL



WINCH SUPPORT DETAIL



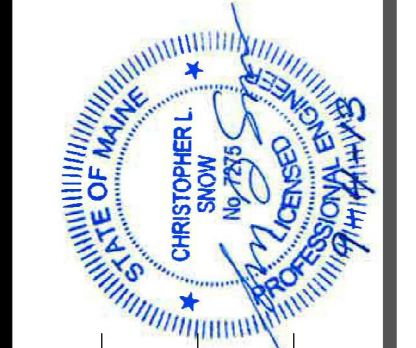
MATERIAL SPECIFICATIONS

- STRUCTURAL STEEL: ASTM A36 & GRATING (Hot Dipped Galv)
 BOLTS: ASTM A325 Type 1 (Galv)
 HANDRAIL: A35, Type B, Grade E or 5
 BASIC DESIGN STRESSES
 ASTM A36 $F_y = 36,000$ psi
 ASTM A325 $F_y = 25,000$ psi

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY
 RAMP FRAME

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 WIN
 18386.00
 HIGHWAY PLANS



SIGNATURE
 P.E. NUMBER
 DATE

PROJ. MANAGER	DESIGN-DETAILED	CHECKED	DESIGN-REVIEWED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

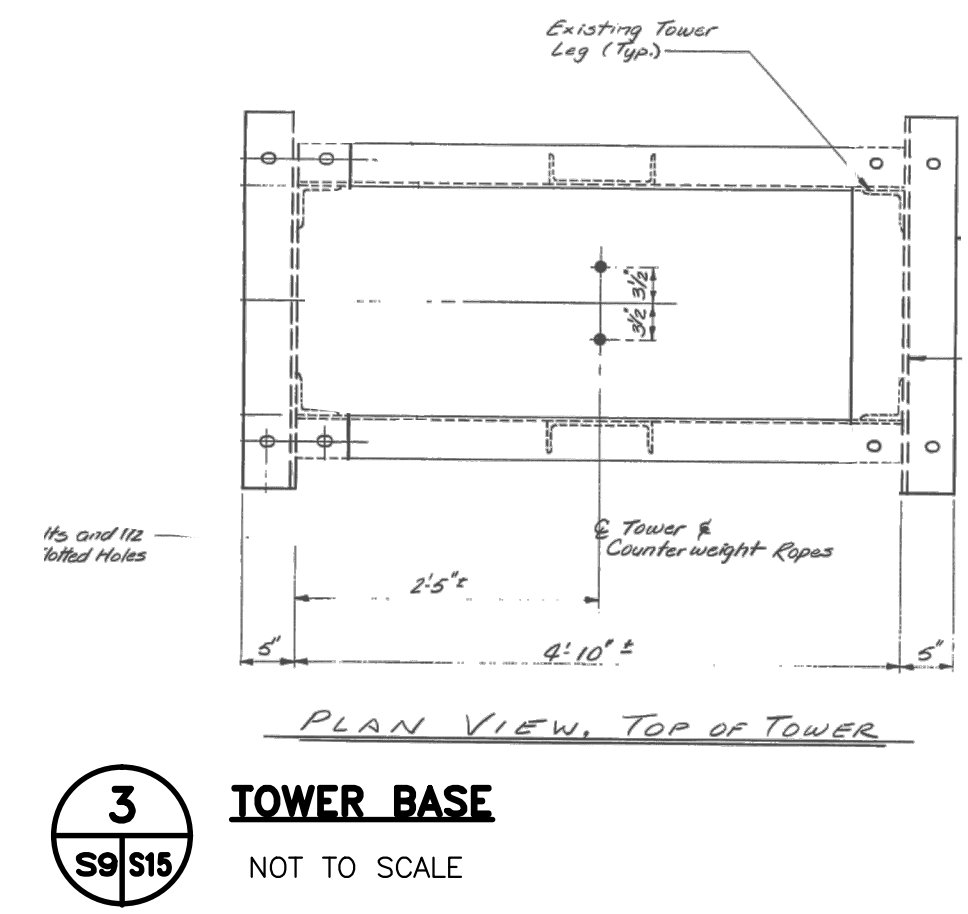
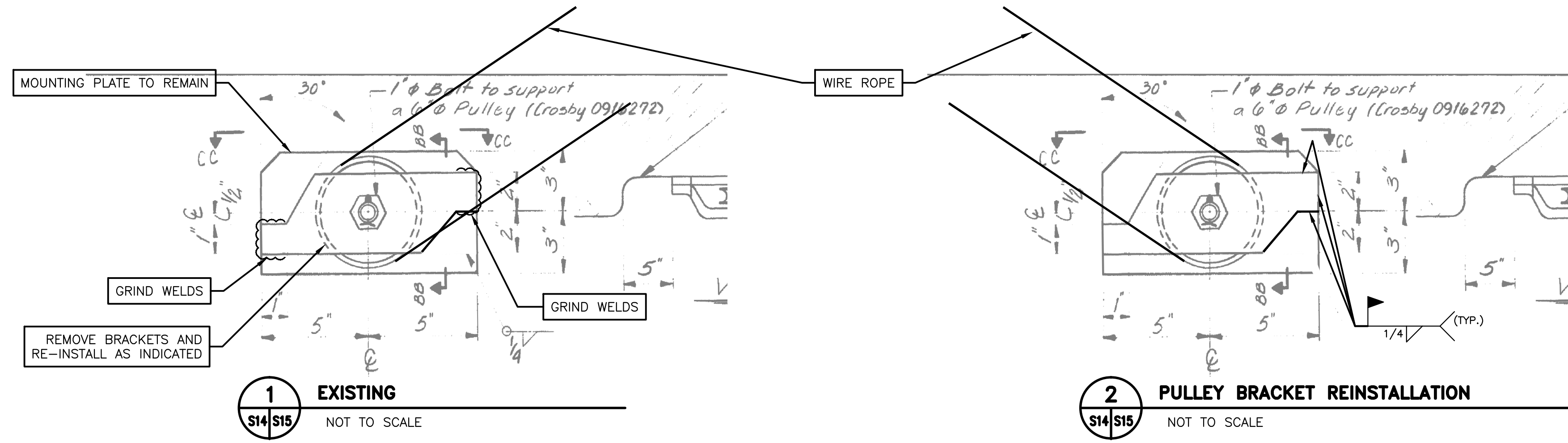
FRENCHBORO PIER AND TRANSFER BRIDGE
 FRENCHBORO, MAINE
 HANCOCK COUNTY
 LONG ISLAND
 TRANSFER BRIDGE
 REPAIRS - 3

SHEET NUMBER

S-12

G:\p\100\003002.00\Frenchboro\Figures\GA-DWG\03-25766.dwg [1:15-21, 80, 8-16-2013] September 05, 2013 12:51pm michaelsb

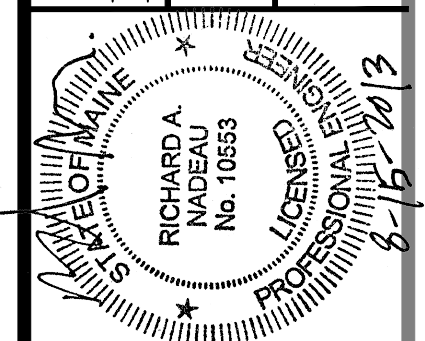
G:\A-1\Geo\09\25766.00_Frenchboro\Frenchboro (Figure) (CZ) (DWG) (FINAL) 25766.00_15-21_80_8-16-2013.dwg [5-15 (11-269) (DL)] September 05, 2013 - 12:49pm michalrubin



POWER TOOL CLEAN (SSPC-SP3) TOWER BASE ANGLES, REMOVING ALL LOOSE PAINT, SCALE, RUST AND ALL FOREIGN MATTER AND LEAVING A NEAR WHITE METAL FINISH. IF CLEANING RESULTS IN A SECTION LOSS OF GREATER THAN 25%, NOTIFY THE RESIDENT BEFORE APPLYING PRIMER. PROCEED AS DIRECTED BY THE RESIDENT. PAINTING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 506, PAINTING STRUCTURAL STEEL.

THE DETAILS ON THIS DRAWING ARE FROM MAINE DOT PROJECT NO. 003002.00, "TRANSFER BRIDGE, FRENCHBORO, LONG ISLAND, HANCOCK COUNTY", 1987. THE ORIGINAL IMAGES HAVE BEEN REDUCED. THEY ARE PROVIDED HERE TO INDICATE VARIOUS REPAIRS AND FOR REFERENCE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND MATERIALS AND SHALL SUBMIT COLLECTED INFORMATION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK INDICATED HEREIN.

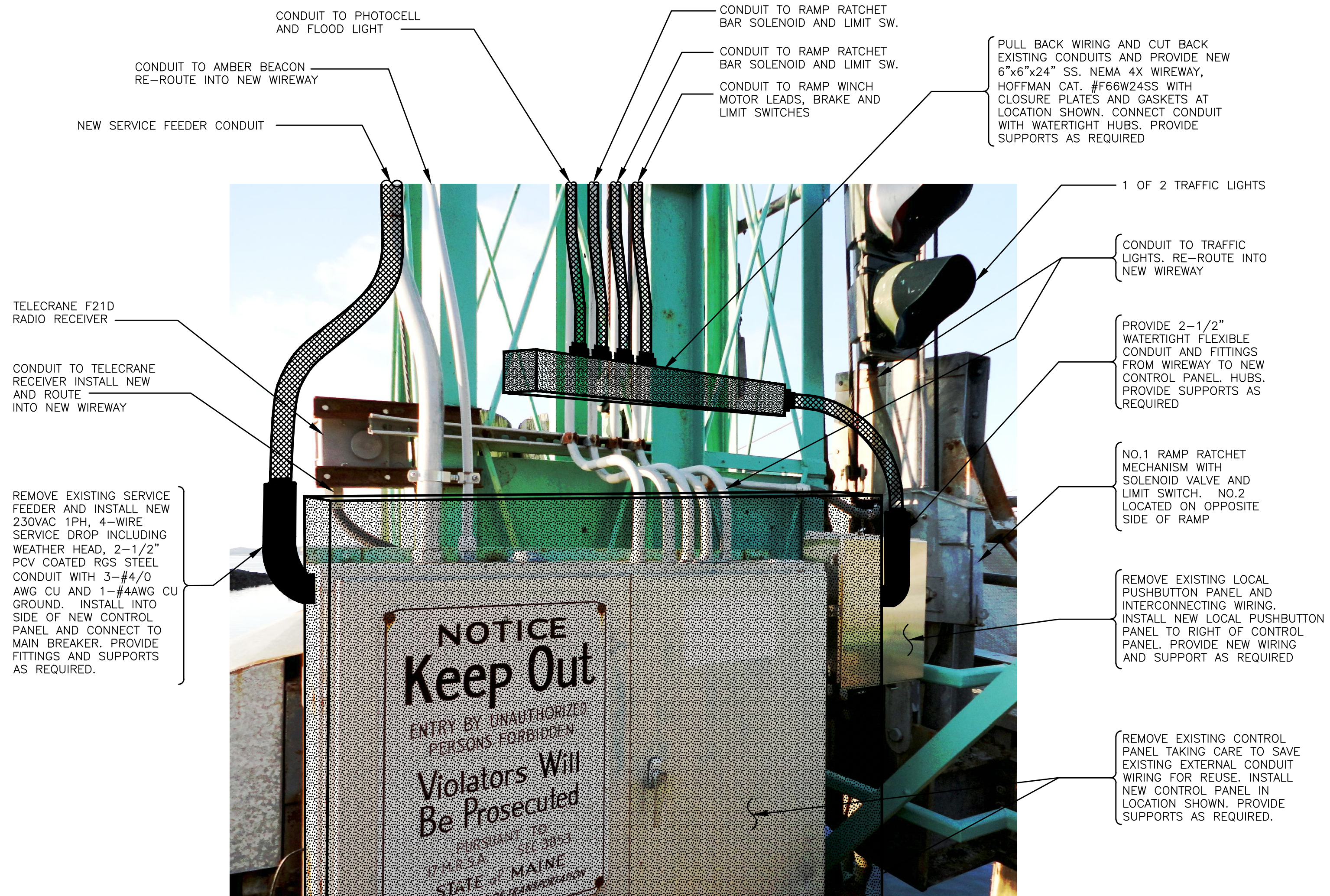
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		WIN 18386.00 HIGHWAY PLANS	
	SIGNATURE	P.E. NUMBER	DATE
FRENCHBORO PIER AND TRANSFER BRIDGE FRENCHBORO, MAINE LONG ISLAND HANCOCK COUNTY TRANSFER BRIDGE REPAIRS - 6	PROJ. MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	BY DATE	DATE
SHEET NUMBER			
S-15			
21 OF 28			



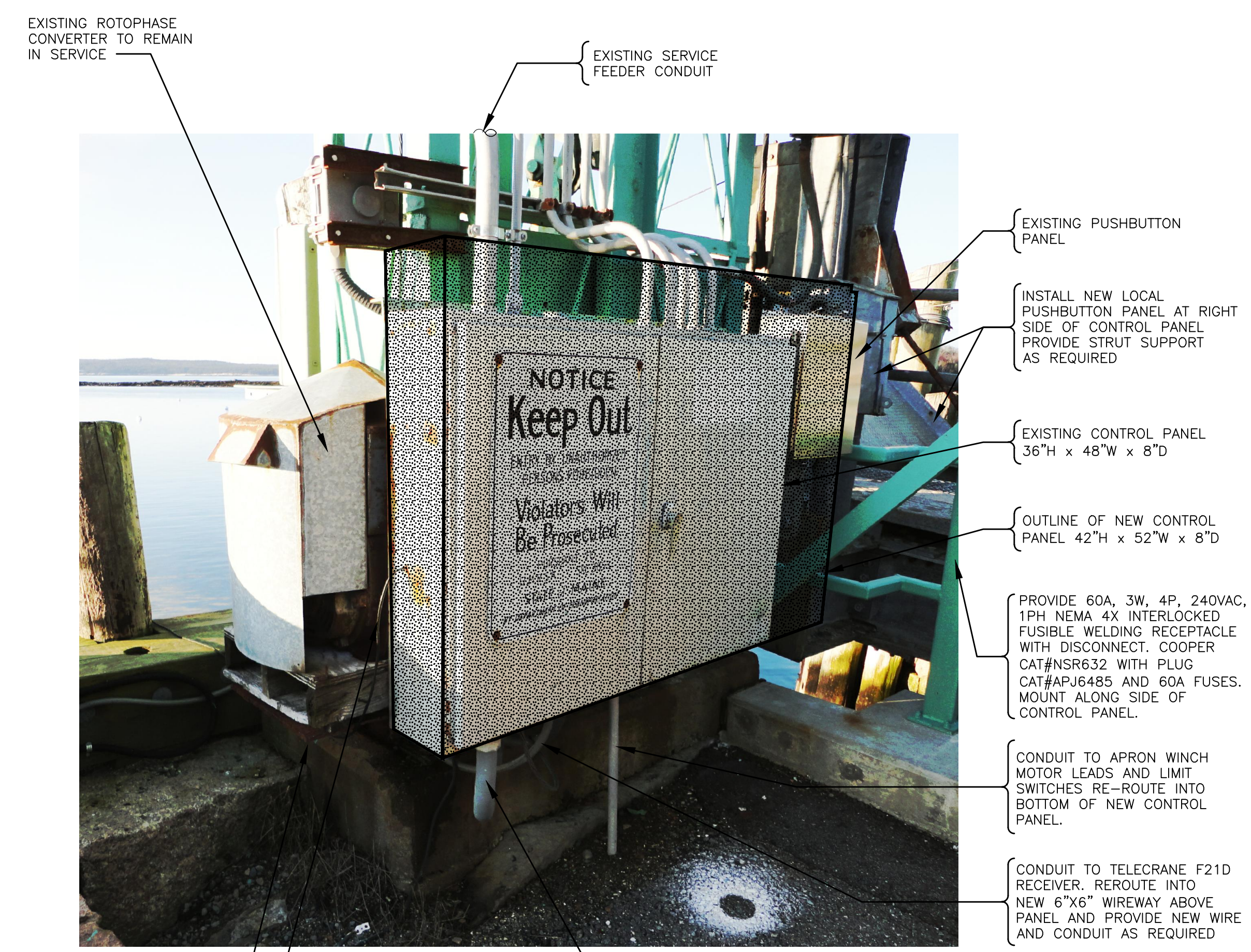
PROJ. MANAGER: [Signature]
DATE: 6/21/13
BY: P.R. 8/15/13
RAN
DESIGN-REVIEWED
DESIGN-DATE/03
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

SIGNATURE: [Signature]
P.E. NUMBER: 10553
DATE: 08/15/2013

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
LONG ISLAND HANCOCK COUNTY
TRANSFER BRIDGE CONTROL PANEL
ELEVATIONS AND DETAILS



BRIDGE CONTROL PANEL ELEVATION "A"
N.T.S.

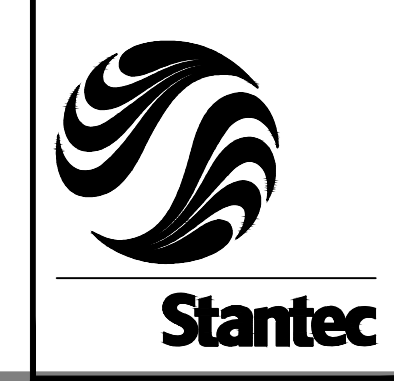


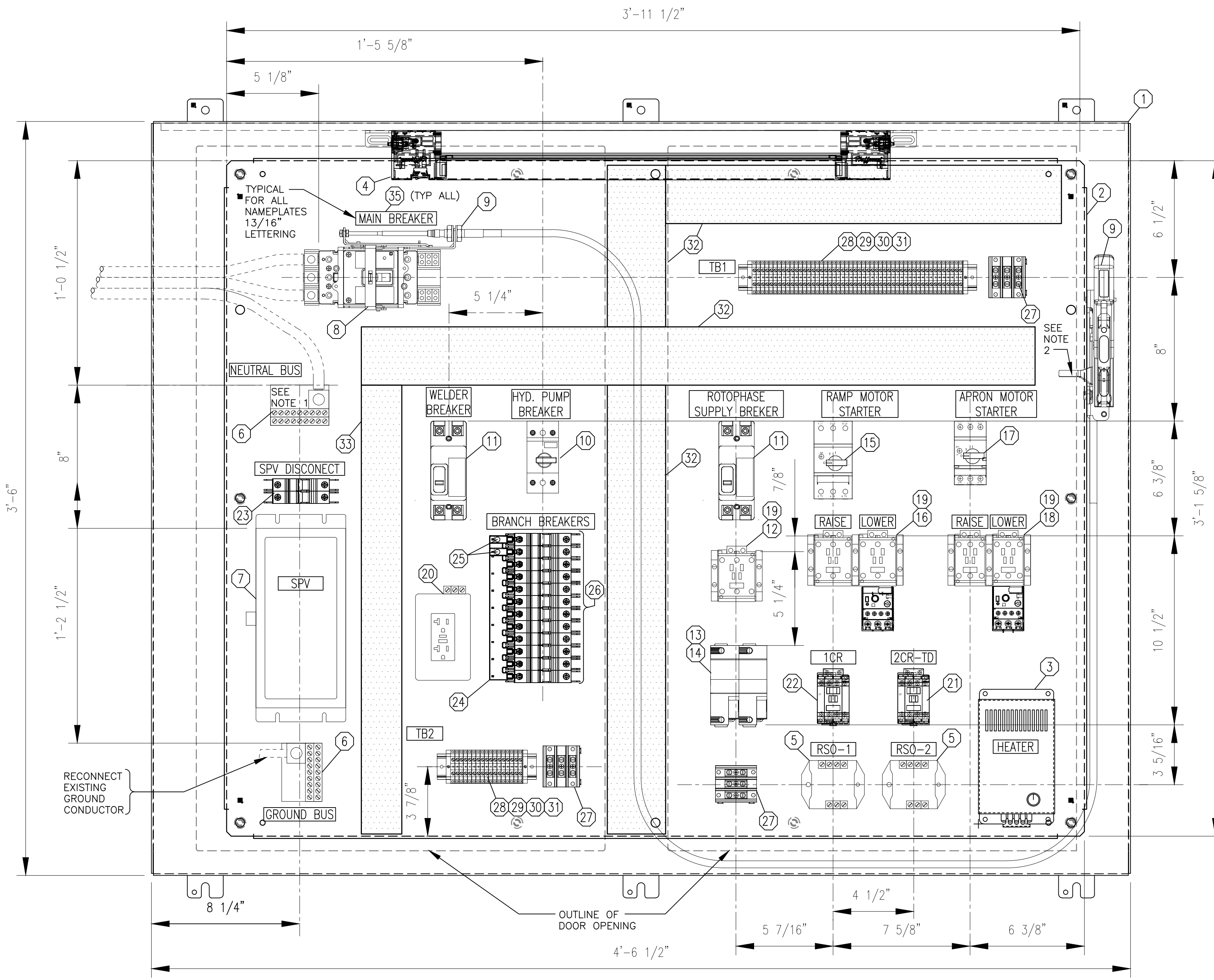
BRIDGE CONTROL PANEL ELEVATION "B"
N.T.S.

- REFERENCE DRAWINGS**
- E-2 CONTROL PANEL LAYOUT & DETAILS
 - E-3 LOCAL PUSHBUTTON PANEL LAYOUT & DETAILS
 - E-4 CONTROL PANEL WIRING DIAGRAM
 - E-5 SCHEMATIC WIRING DIAGRAM SH1
 - E-6 SCHEMATIC WIRING DIAGRAM SH2
 - E-7 ELECTRICAL SITE PLAN

- NOTES**
1. NO CONDUITS ENTRIES SHALL BE MADE THROUGH THE TOP OF THE CONTROL PANEL. ALL ENTRIES SHALL BE MADE WITH WATERTIGHT HUBS.
 2. CONTRACTOR SHALL VERIFY THE FIELD WIRING WITH THAT SHOWN ON THE SCHEMATIC PRIOR TO CONNECTION TO NEW CONTROL PANEL.
 3. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONDUCTORS AS REQUIRED. IF CONDUCTORS ARE SHORT PROVIDE NEW CONDUCTORS TO REPLACE.
 4. ALL WORK SHALL PERFORMED IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES.
 5. ALL NEW CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL

RELEASED FOR
BID
DATE: 8/15/2013





CONTROL PANEL PANEL LAYOUT



MOUNT ON RIGHT SIDE FRONT DOOR OF THE 42" x 54" CONTROL PANEL

DETAIL "A"

NOTES:

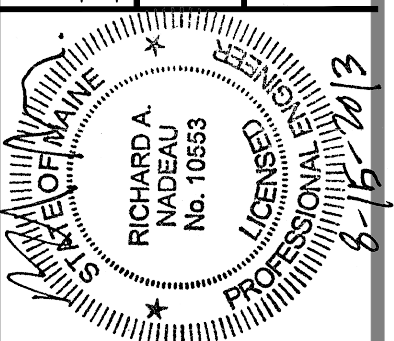
1. NEUTRAL BUS SHALL BE ISOLATED FROM EARTH GROUND.
2. INSTALL DOOR CATCH TO INTERLOCK PROVIDED WITH OPERATOR TO INTERLOCK DOORS WITH HANDLE OPERATOR

REFERENCE DRAWINGS

- E-1 CONTROL PANEL ELEVATIONS & DETAILS
- E-3 LOCAL PUSHBUTTON PANEL LAYOUT & DETAILS
- E-4 CONTROL PANEL WIRING DIAGRAM
- E-5 SCHEMATIC WIRING DIAGRAM SH1
- E-6 SCHEMATIC WIRING DIAGRAM SH2

MATERIAL LIST				
ITEM	PART NO.	QTY.	DESCRIPTION	SUPPLIED BY
1	CUSTOM ENCL	1	HOFFMAN SPECIAL ORDER ENCLOSURE TO BE SAME AS CAT NO. A42X2E5408 WALL MOUNT PREFERRED CUTOUT DISCONNECT ENCLOSURE WITH 2 INTERLOCKING DOORS. FABRICATE TO NEMA 4X RATING FROM 304 STAINLESS STEEL. 42"H X 54"W X 8"D. WITH WELDED SS DRIP SHIELD.	PANEL FAB
2	A37P48G	2	HOFFMAN CONDUCTIVE PANEL 37.88 X 48.00	PANEL FAB
3	DAH4001B	1	HOFFMAN ELECTRIC HEATER, 400 WATT 120VAC WITH THERMOSTAT	PANEL FAB
4	LF120V28	1	HOFFMAN FLUORESCENT PANEL LIGHT, 120V, 28-IN	PANEL FAB
5	S500-A300	2	TROMBETTA SOLENOID ELECTRONIC CONTROL MODULE, 120V.	PANEL FAB
6	1018MB	2	NSI INDUSTRIES NEUTRAL BAR AND NEUTRAL ASSEMBLY, 225A NEUTRAL BAR WITH MOUNTING BASE, (18) 4-14 AWG WIRE RANGE, 600VAC VOLTAGE, 350 MCM - 6 LUG SIZE, 2.250" WIDTH, 2.750" HEIGHT, 3.257" LENGTH	PANEL FAB
7	SPV100240S2K	1	EATON SPV SERIES SURGE PROTECTOR 100KA, 120/240VAC SINGLE SPLIT PHASE (3W+G)	PANEL FAB
8	140U-H2C3-D10	1	AB MOLDED CASE CIRCUIT BREAKER, H-FRAME, 35KA-240V SCCR, T/M - FIXED THERMAL/FIXED MAGNETIC, 100A RATED WITH 4/0 LINE LUGS AND MULTI-TAP LOAD LUGS AS REQUIRED WITH LINE AND LOAD TERMINAL SHIELDS	PANEL FAB
9	140U-H-FCS10	1	AB EXTERNAL BREAKER OPERATOR WITH 10 FT. FLEX CABLE MECHANISM, STAINLESS STEEL	PANEL FAB
10	140U-D6D2-C30	1	AB MOLDED CASE CIRCUIT BREAKER, D-FRAME (UP TO 30A), 20...69 KA, T/M - FIXED THERMAL / FIXED MAGNETIC, RATED CURRENT 630A	PANEL FAB
11	140U-H2C2-C60	2	AB MOLDED CASE CIRCUIT BREAKER, H-FRAME (UP TO 125A), 20...29 KA, T/M - FIXED THERMAL / FIXED MAGNETIC, RATED CURRENT 60A, 2 POLE	PANEL FAB
12	300-COD930	1	300 NEMA CONTACTOR, NEMA SIZE 2, OPEN, 120V 60HZ / 110V 50HZ, THREE POLES AND 3 N.O. AUXILIARY CONTACTS	PANEL FAB
13	1492-FB1J60-L	2	1492-FB FUSE HOLDER WITH 1 POLE, CLASS J TYPE FUSES, 60A AND LED BLOWN FUSE INDICATOR.	PANEL FAB
14	LPJ-35SP	8	BUSS HRC-1 CLASS J, 10 SEC TIME DELAY (AT 500 PERCENT RATED LOAD), DUAL ELEMENT, 600 VAC; 35A (6 SPARE)	PANEL FAB
15	140M-F8N-C45	1	MCP, STANDARD MAGNETIC TRIP (FIXED AT 13 X LE), 45 A, 3PH, HIGH PERFORMANCE, FRAME SIZE F	PANEL FAB
16	305-COD-EEF	1	AB 305 NEMA REVERSING STARTER, NEMA 2, 3PH, 110V 50HZ / 120V 60HZ CONTROL VOLTAGE, CONVENTIONAL COIL, 9 - 45 AMPS E1 PLUS OVERLOAD RELAY	PANEL FAB
17	140M-F8N-C32	1	AB MCP, STANDARD MAGNETIC TRIP (FIXED AT 13 X LE), 32 A, 3PH, HIGH PERFORMANCE, FRAME SIZE F	PANEL FAB
18	305-BOD-EEE	1	B 305 NEMA REVERSING STARTER, NEMA 1, 3PH, 110V 50HZ / 120V 60HZ CONTROL VOLTAGE, CONVENTIONAL COIL, 5.4 - 27 AMPS E1 PLUS OVERLOAD RELAY	PANEL FAB
19	100-SA11	6	AB AUXILIARY CONTACT BLOCK, SIDE MOUNTING, 1 N.O. 1 N.C.	PANEL FAB
20	1492-REC20G	1	AB1492 DIN RAIL RECEPTACLE, 20A, GROUND FAULT CURRENT INTERRUPT	PANEL FAB
21	700-CF220D & 100-ETB30	1	AB MCS-CF CONTROL RELAY, 2-NO, 2-NC, 120V 60HZ WITH ELECTRONIC TIMING MODULE, OFF-DELAY (1 SEC. - 30 SEC.)	PANEL FAB
22	700-CF310D	1	AB MCS-CF CONTROL RELAY, 3-NO, 1-NC, 120V 60HZ	PANEL FAB
23	1489-A2C150	1	AB 1489 MINIATURE CIRCUIT BREAKERS, AC DEVICE, 2 POLE, TYPE C TRIP CURVE (INDUCTIVE), 15 AMP, 277 VAC	PANEL FAB
24	1489-AACT12	1	AB 1489 BUS BAR, 2 POLE, L1/L2 CIRCUIT FOR 12 SP BREAKERS	PANEL FAB
25	1489-AACT135	2	AB 1489 TERMINAL, 1 POLE	PANEL FAB
26	1489-A1C200	12	AB 1489 MINIATURE CIRCUIT BREAKERS, AC DEVICE, 1 POLE, TYPE C TRIP CURVE (INDUCTIVE), 20 AMP, 277 VAC	PANEL FAB
27	1492-PDM3111	3	AB 1492 POWER BLOCK, PDM MINI-STYLE BLOCK, 3-POLE, ALUMINUM, 1 OPENING LINE SIDE, 1 OPENING LOAD SIDE, 115 AMPS	PANEL FAB
28	1492-W4	65	AB IEC TERMINAL BLOCK, SPACE-SAVER FEED-THROUGH BLOCKS, 4 MM (# 22 AWG - # 10 AWG) OR 2.5 MM (# 22 AWG - # 12 AWG), SINGLE-CIRCUIT TERMINAL BLOCK, GRAY	PANEL FAB
29	199-DR1	2	AB ZINC/STEEL DIN RAIL EN 50022 (35MM X 7.5MM X 1 METER)	PANEL FAB
30	1492-EAJ35	4	AB END ANCHOR, DIN RAIL - NORMAL DUTY	PANEL FAB
31	1492-EB3	2	AB END BARRIER FOR 1492-EB3, GRAY (STANDARD)	PANEL FAB
32	HN3X4LG6 & HC2LG6	AS SHOWN	PANDUIT 3X4 TYPE-H NARROW SLOT WIRING DUCT W/COVER	PANEL FAB
33	HN2X3LG6 & HC23LG6	AS SHOWN	PANDUIT 2X3 TYPE-H NARROW SLOT WIRING DUCT W/COVER	PANEL FAB
34		AS SHOWN	WHITE LAMACOID NAMEPLATE WITH BLACK LETTERING SIZE AS NOTED	PANEL FAB
35		AS SHOWN	DANGER HIGH VOLTAGE AUTHORIZED PERSONNEL ONLY (SEE DETAIL "A")	PANEL FAB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SIGNATURE
P.E. NUMBER
DATE

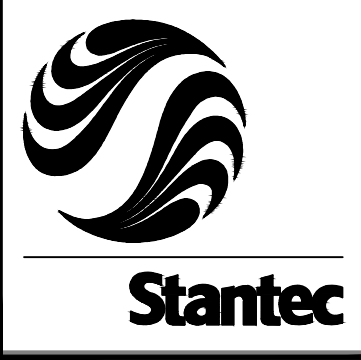
PROJ. MANAGER	BY	DATE
		7/9/13
		8/15/13

FRENCHBORO PIER AND TRANSFER BRIDGE
FRENCHBORO, MAINE
LONG ISLAND HANCOCK COUNTY
TRANSFER BRIDGE CONTROL PANEL
LAYOUT AND DETAILS

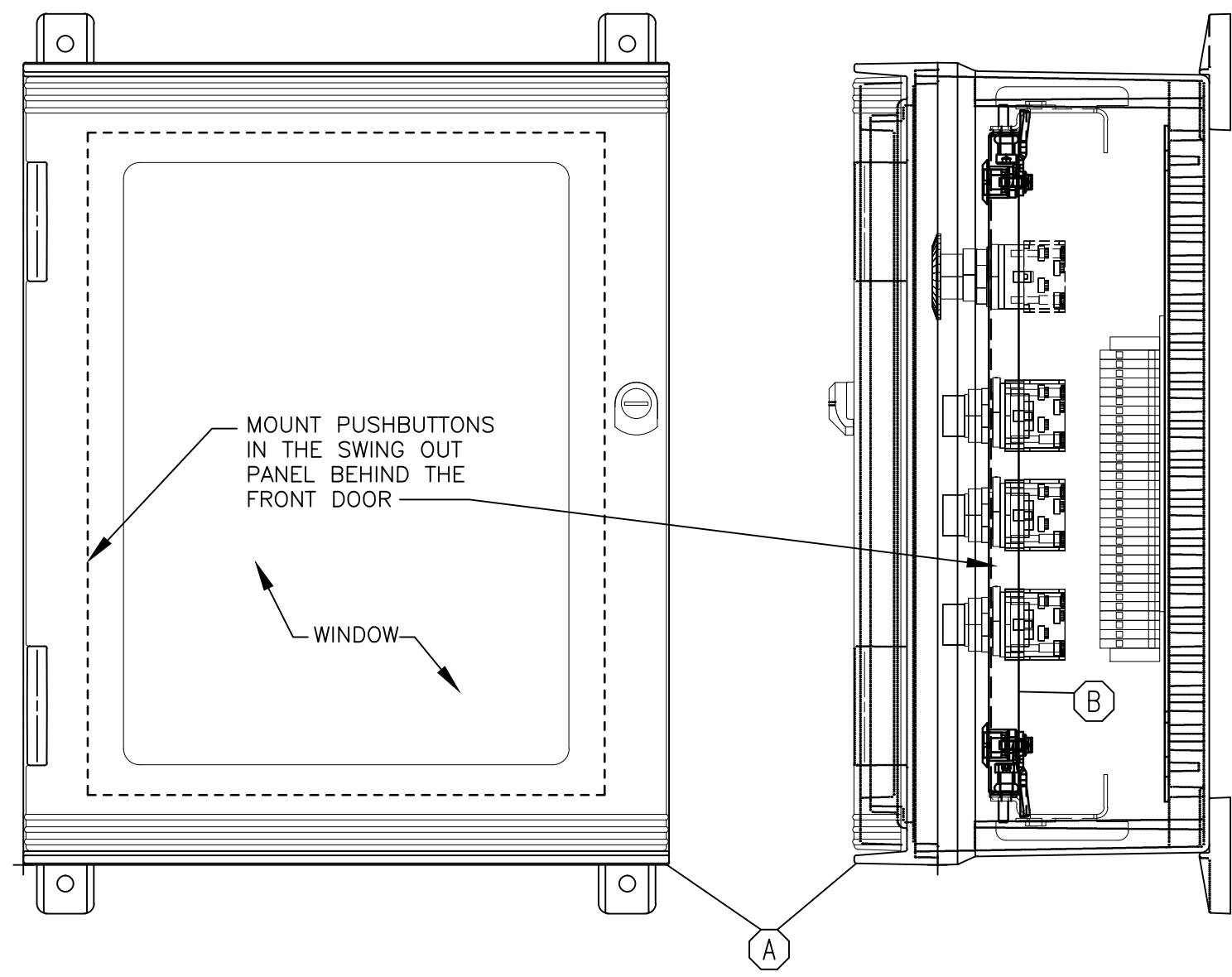
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23 OF 28

RELEASED FOR
BID
DATE: 8/15/2013

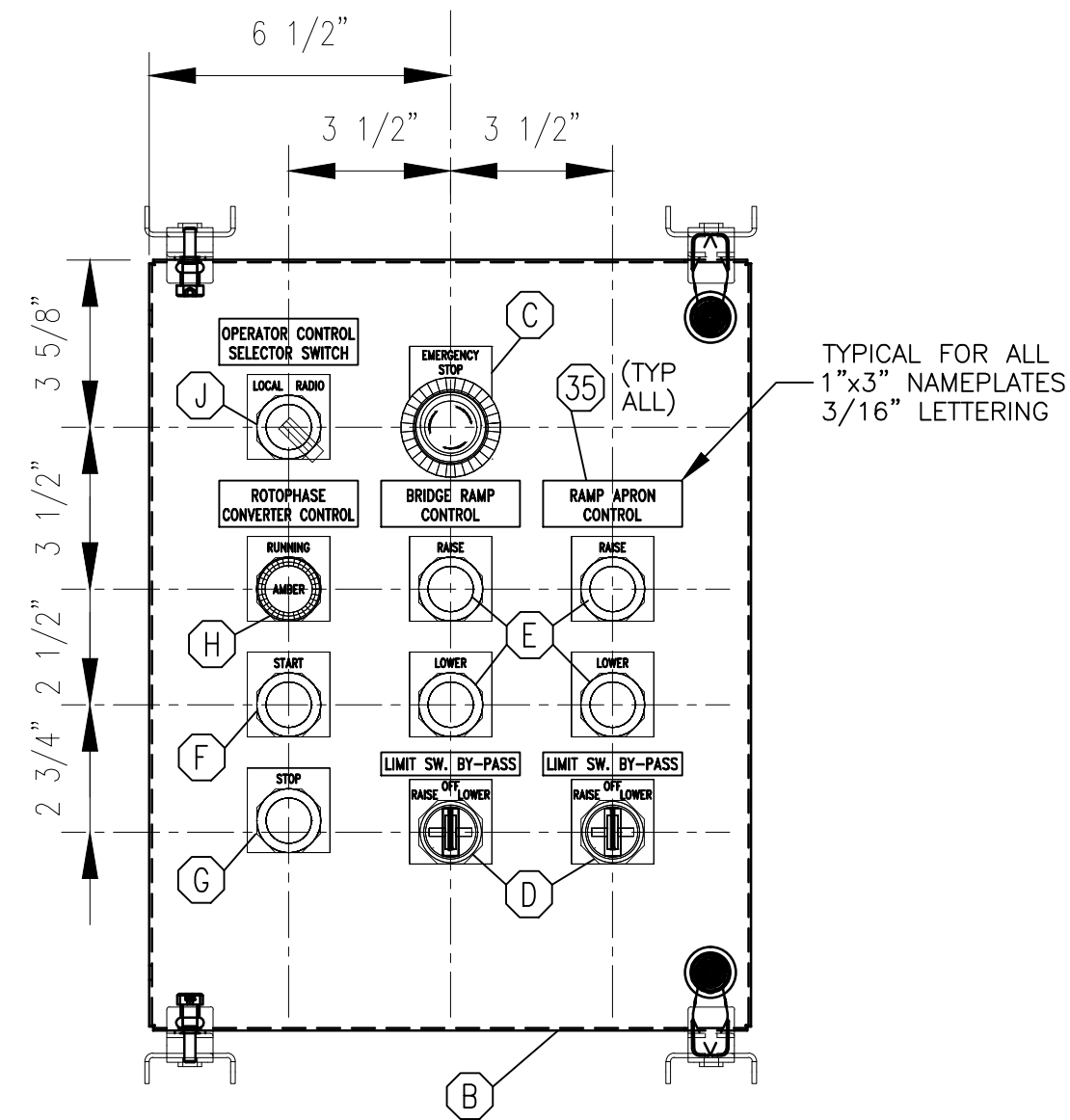


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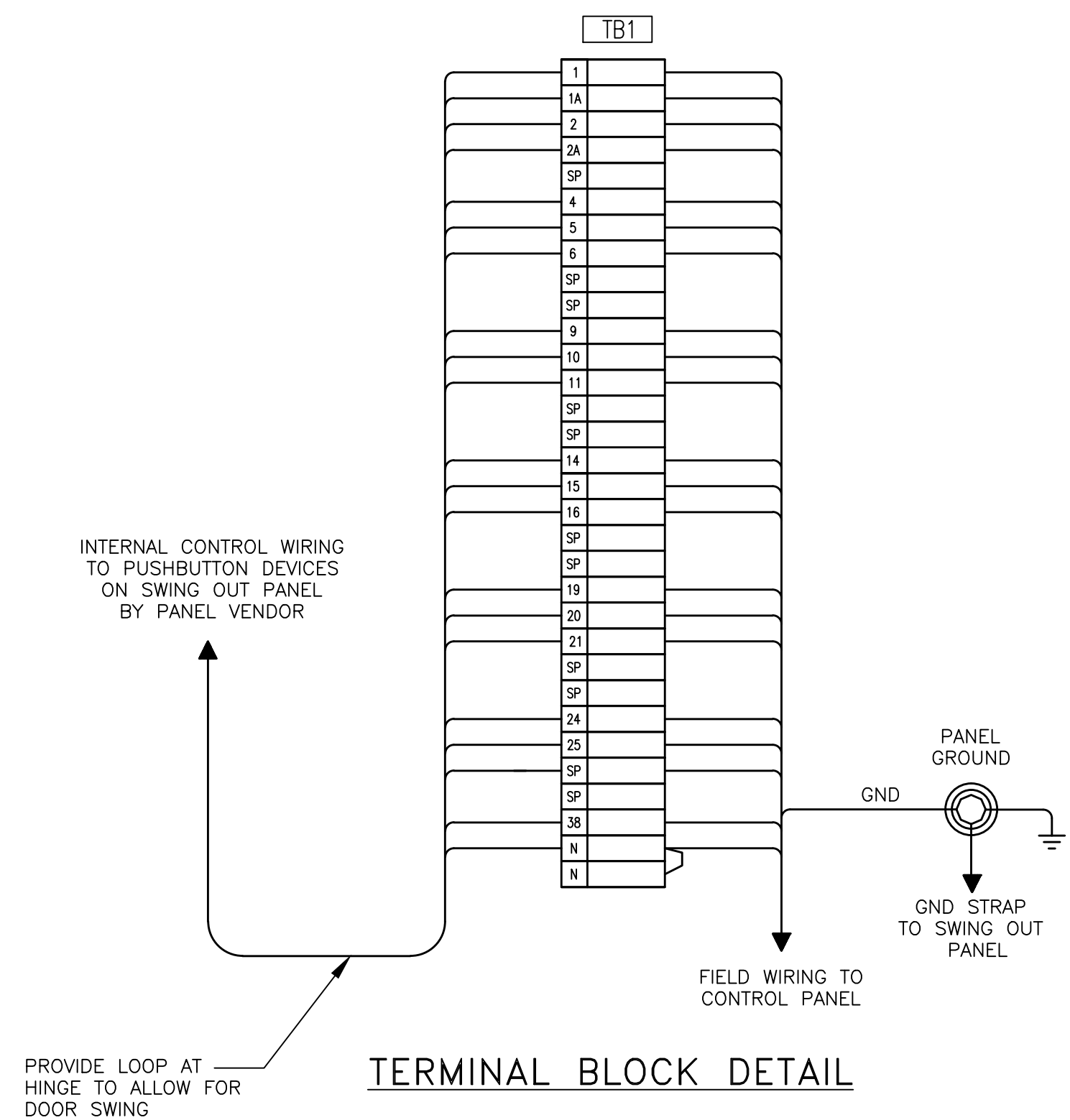


FRONT VIEW

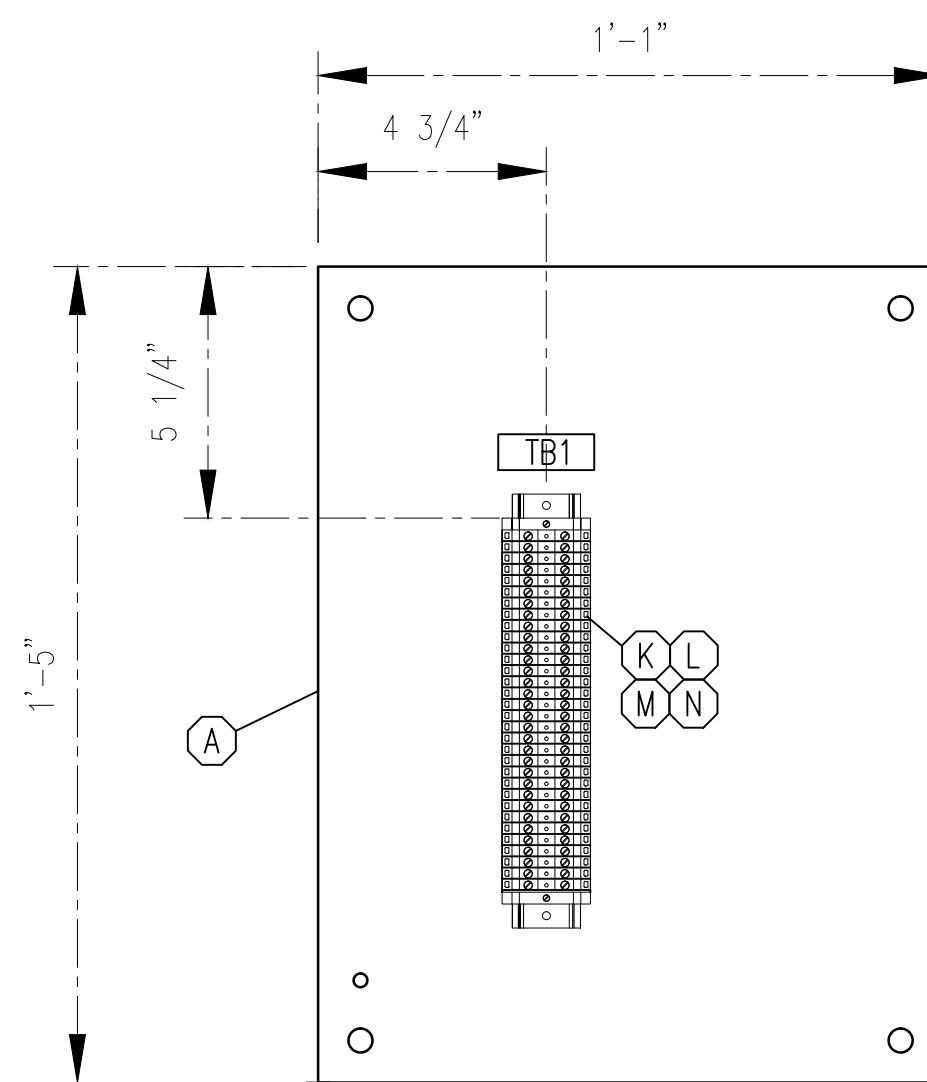
SIDE VIEW



SWING OUT PANEL LAYOUT



TERMINAL BLOCK DETAIL



BACK PANEL LAYOUT

MATERIAL LIST				
ITEM	PART NO.	QTY.	DESCRIPTION	SUPPLIED BY
A	UU504020W, AP20P16, UUMF & UUHPL	1	HOFFMAN ULTRX, TYPE 4X 20.20 X 16.26 NEMA 4X ENCLOSURE WINDOW DOOR WITH MTG BRACKET KIT, PANEL & PADLOCK HANDLE KIT	PANEL FAB
B	UU5040SP	1	HOFFMAN SWING-OUT PANEL, 17"X12.99"	PANEL FAB
C	800H-FRXJT6A5	1	AB 30.5MM TYPE 4/4X/13 2 POS. PB-NON-ILLUM., JUMBO HD PUSH-PULL W/ TWIST TO REL., RED, 2 NCLB	PANEL FAB
	800H-W300JE	1	AB 800H LEGEND PLATE, JUMBO, EMERGENCY STOP", CUSTOM TEXT, RED	PANEL FAB
D	800H-JR91B	2	AB 30.5MM TYPE 4/4X/13 3 POS. SEL. SW, WHITE, STD. KNOB SPRING RETURN FROM BOTH, 2-NO, 2-NC.	PANEL FAB
	800H-W500E	2	AB 800H LEGEND PLATE, STANDARD, CUSTOM TEXT "RAISE-OFF-LOWER", TEXT, WHITE	PANEL FAB
E	800H-R2B	4	AB 30.5MM TYPE 4/4X/13 MOM. CONTACT PB, NON-ILLUM., BLACK, BOOTED HD, 2-NO, 2-NC	PANEL FAB
	800H-W520	2	AB 800H LEGEND PLATE, STANDARD, "RAISE", WHITE	PANEL FAB
	800H-W515	2	AB 800H LEGEND PLATE, STD, "LOWER", WHITE	PANEL FAB
F	800H-R2B	1	AB 30.5MM TYPE 4/4X/13 MOM. CONTACT PB, NON-ILLUM., BLACK, BOOTED HD, 2-NO, 2-NC	PANEL FAB
	800H-W526	1	AB 800H LEGEND PLATE, STANDARD, "START", WHITE	PANEL FAB
G	800H-R6B	1	30.5MM TYPE 4/4X/13 MOM. CONTACT PB, NON-ILLUM., RED, BOOTED HD, 2 NO-2 NC	PANEL FAB
	800H-W371	1	AB 800H LEGEND PLATE, STANDARD, "STOP", RED	PANEL FAB
H	800H-PRH16A	1	30.5MM TYPE 4/4X/13 PILOT LIGHT, XFMR, LED, AMBER, 120V AC 50/60 HZ	PANEL FAB
	800H-W500E	1	AB 800H LEGEND PLATE, STD, CUSTOM TEXT "RUNNING", WHITE	PANEL FAB
J	800H-HR2B	1	AB 30.5MM TYPE 4/4X/13 2 POS SEL. SW, WHITE, STD. KNOB MAINT, 2-NO, 2-NC	PANEL FAB
	800H-W5	1	AB 800H LEGEND PLATE, STD, CUSTOM TEXT "LOCAL-RADIO", WHITE	PANEL FAB
K	1492-W4	32	AB IEC TERMINAL BLOCK, SPACE-SAVER FEED-THROUGH BLOCKS, 4 MM (# 22 AWG - # 10 AWG) OR 2.5 MM (# 22 AWG - # 12 AWG), SINGLE-CIRCUIT TERMINAL BLOCK, GRAY	PANEL FAB
L	199-DR1	1	AB ZINC/STEEL DIN RAIL EN 50022 (35MM X 7.5MM X 1 METER)	PANEL FAB
M	1492-EAJ35	2	AB END ANCHOR, DIN RAIL - NORMAL DUTY	PANEL FAB
N	1492-EB3	1	AB END BARRIER FOR 1492-EB3, GRAY (STANDARD)	PANEL FAB

REFERENCE DRAWINGS

- E-1 CONTROL PANEL ELEVATIONS & DETAILS
- E-2 CONTROL PANEL LAYOUT & DETAILS
- E-3 CONTROL PANEL WIRING DIAGRAM
- E-4 SCHEMATIC WIRING DIAGRAM SH1
- E-5 SCHEMATIC WIRING DIAGRAM SH2
- E-6 ELECTRICAL SITE PLAN

NOTES:

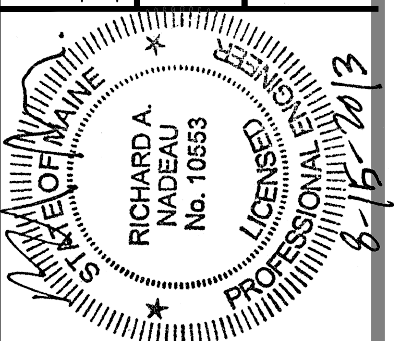
1. SEE DRAWING E-003 FOR CONTROL WIRING
2. SEE DRAWING E-004 FOR NOTES APPLICABLE TO THIS DRAWING.

RELEASED FOR
 BID
 DATE: 8/15/2013

LOCAL PUSHBUTTON STATION

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

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION



PROJ. MANAGER: [Signature]
 DATE: 08/15/2013
 P.E. NUMBER: 10853

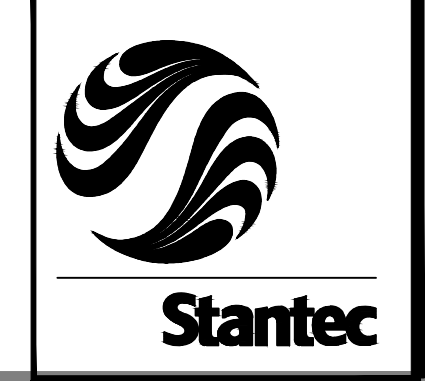
PROJ. MANAGER	DATE	BY	REVISIONS
DESIGN-DETAILED	7/9/13	PJR	1
CHECKED-REVIEWED	8/15/13	LAN	2
DESIGN-DETAILED			3
DESIGN-DETAILED			4
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FRENCHBORO PIER AND TRANSFER BRIDGE
 FRENCHBORO, MAINE
 LONG ISLAND HANCOCK COUNTY
 TRANSFER BRIDGE LOCAL PUSHBUTTON PANEL
 LAYOUT AND DETAILS

SHEET NUMBER

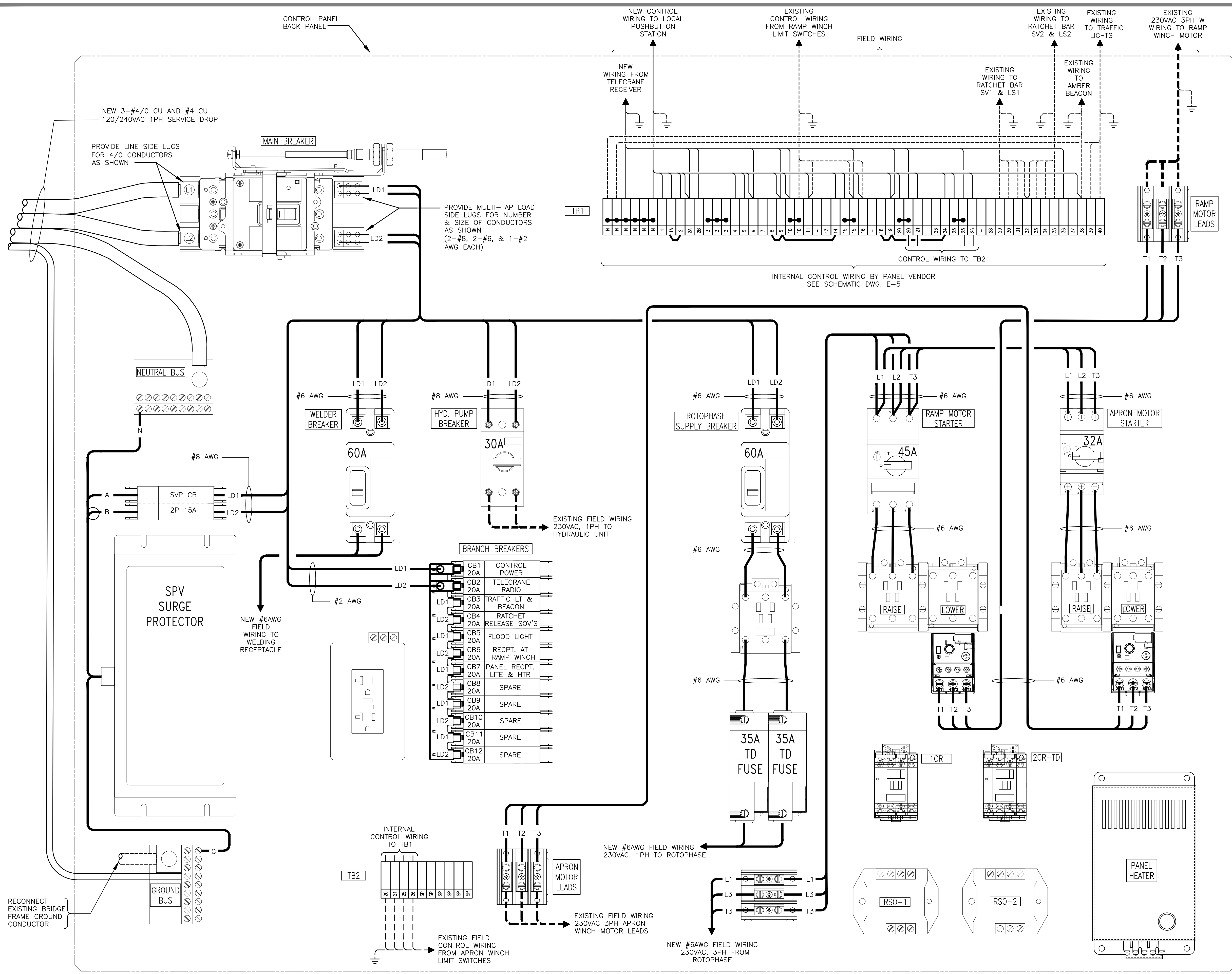
E-3

24 OF 28



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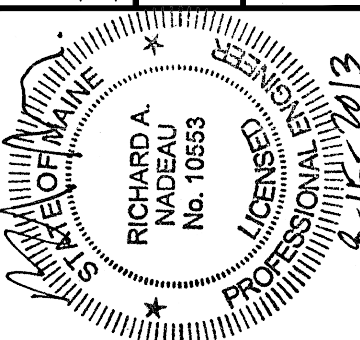
REFERENCE DRAWINGS

- E-1 CONTROL PANEL ELEVATIONS & DETAILS
- E-2 CONTROL PANEL LAYOUT & DETAILS
- E-3 LOCAL PB PANEL LAYOUT & DETAILS
- E-4 CONTROL PANEL WIRING DIAGRAM
- E-5 SCHEMATIC WIRING DIAGRAM SH1
- E-6 SCHEMATIC WIRING DIAGRAM SH2
- E-7 ELECTRICAL SITE PLAN

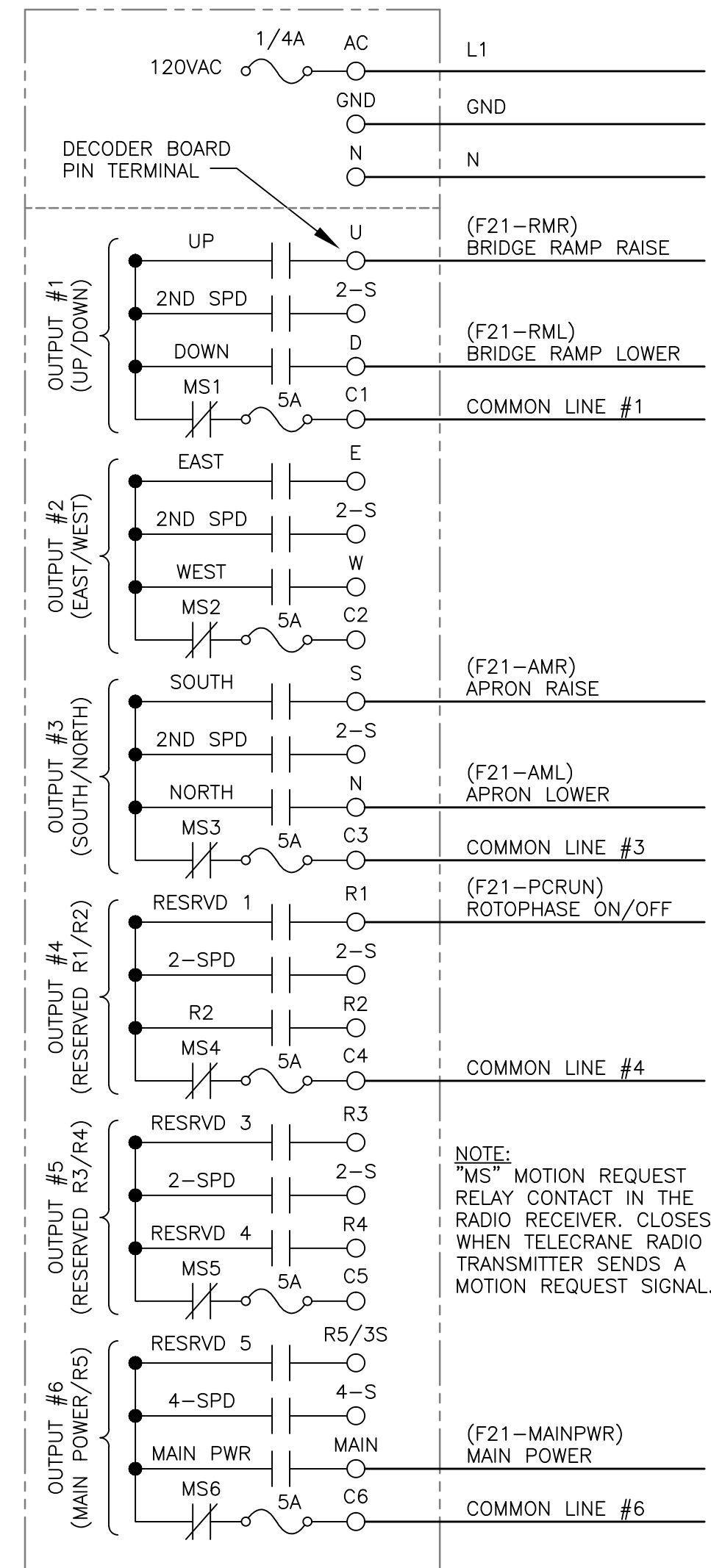
NOTES:

1. SEE DRAWING E-003 FOR CONTROL WIRING.
2. ALL INTERNAL CONTROL WIRING TO BE #12 SIS TYPE OR EQUAL.
3. ALL INTERNAL POWER WIRING TO BE TYPE XHHW STRANDED TYPE, SIZE AS NOTED.
4. NO CONDUITS ENTRIES SHALL BE MADE THROUGH THE TOP OF THE CONTROL PANEL. ALL ENTRIES SHALL BE MADE WITH WATERTIGHT HUBS.
5. CONTRACTOR SHALL VERIFY THE FIELD WIRING WITH THAT SHOWN ON THE SCHEMATIC PRIOR TO CONNECTION TO NEW CONTROL PANEL.
6. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONDUCTORS AS REQUIRED. IF CONDUCTORS ARE SHORT PROVIDE NEW CONDUCTORS TO REPLACE.
7. ALL WORK SHALL PERFORMED IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE.
8. ALL CONDUCTORS TO BE PERMANENTLY IDENTIFIED WITH WIRE NUMBERS USING PRINTED HEAT SHRINK TYPE LABELS.

RELEASED FOR BID
DATE: 8/15/2013

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		WIN 18386.00 HIGHWAY PLANS
		
PROJ. MANAGER	DATE	SIGNATURE
DESIGN-DETAILED	12-4-12	
CHECKED-REVIEWED	8-15-13	
DESIGN-DETAILED		P.E. NUMBER
DESIGN-DETAILED		10553
REVISIONS 1		DATE
REVISIONS 2		08/15/2013
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		
FRENCHBORO PIER AND TRANSFER BRIDGE FRENCHBORO, MAINE LONG ISLAND HANCOCK COUNTY TRANSFER BRIDGE CONTROL PANEL WIRING DIAGRAM		
SHEET NUMBER		E-4
		25 OF 28

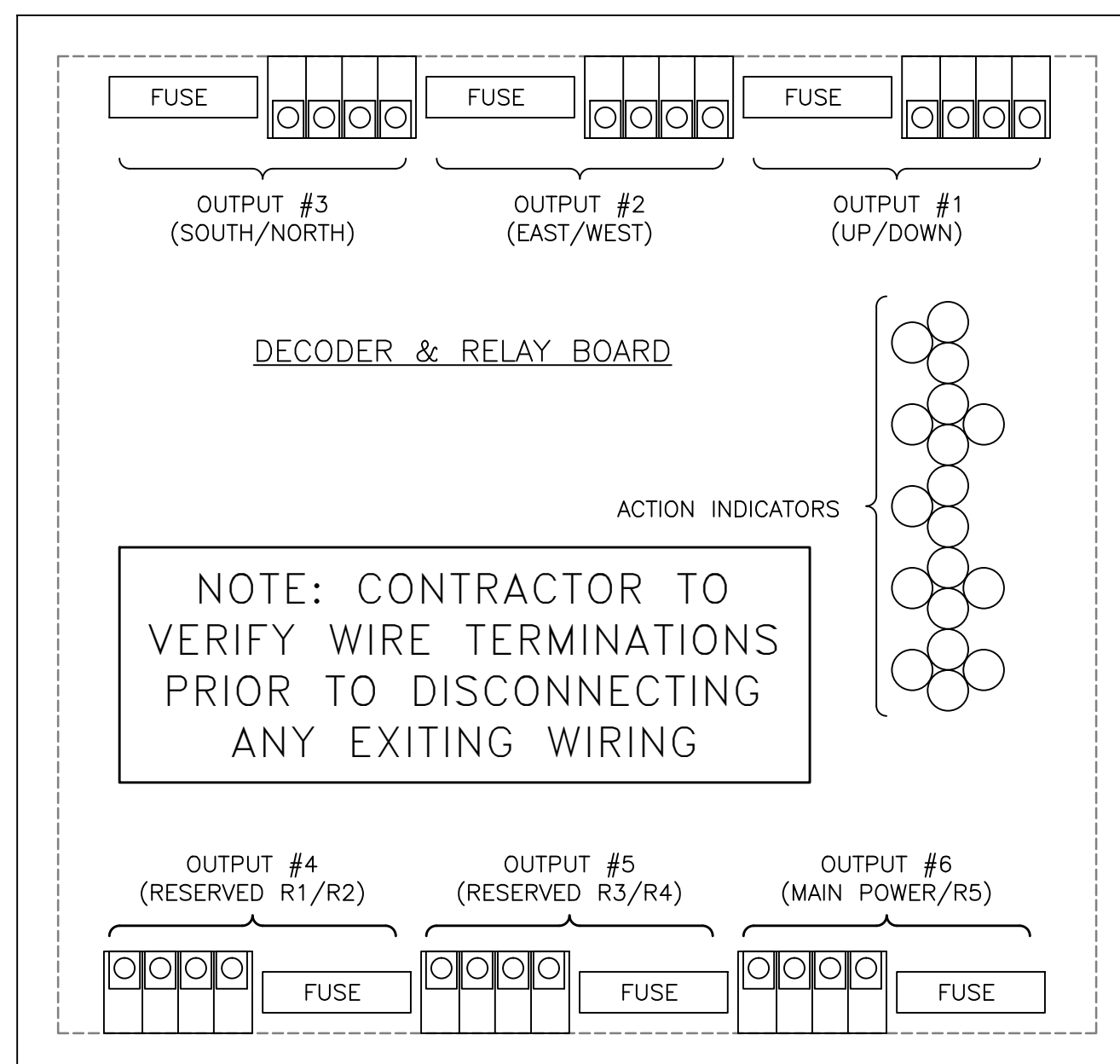




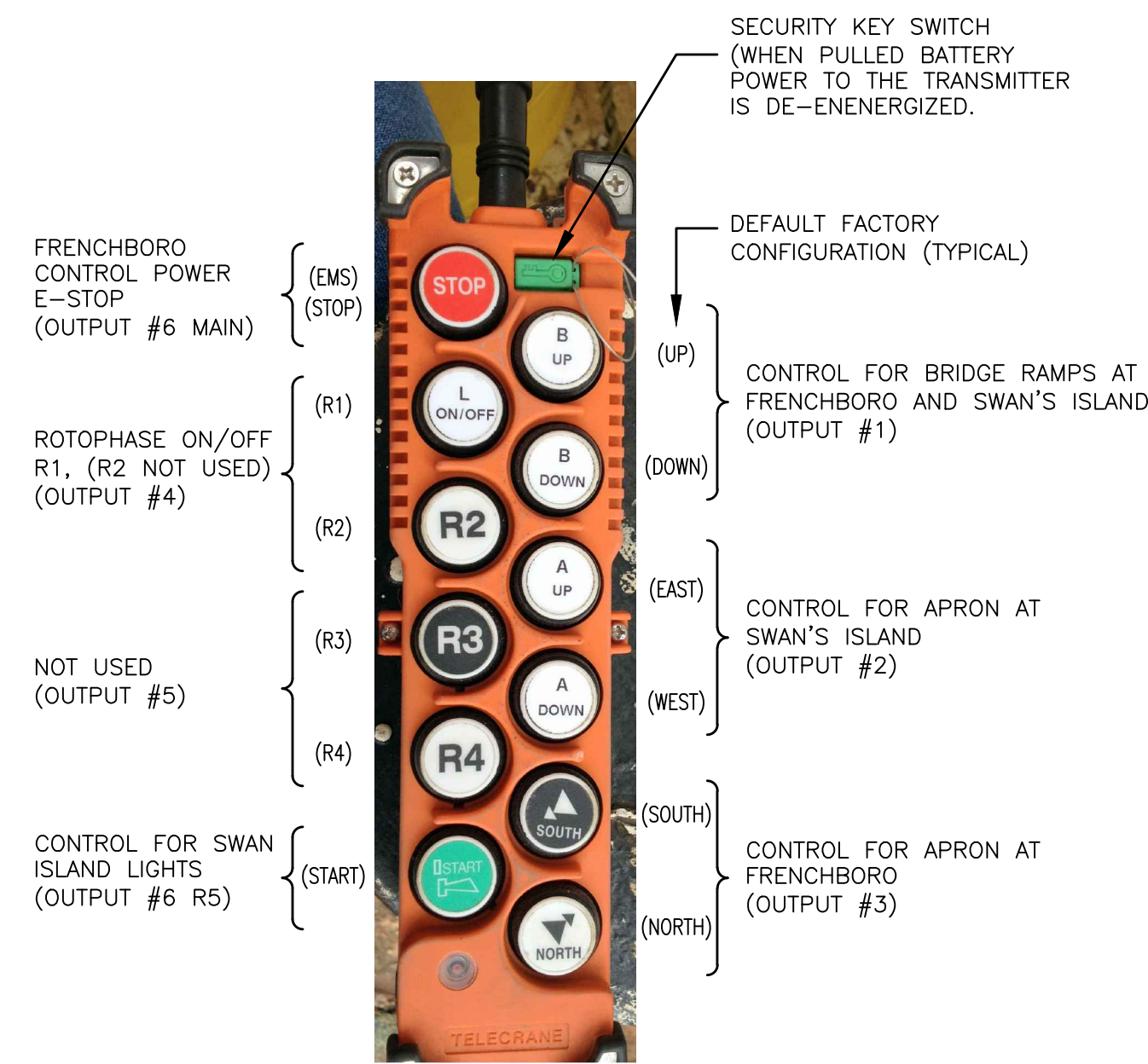
EXISTING TELECRANE F21D RADIO RECEIVER SCHEMATIC DIAGRAM

WIRING TO CONTROL PANEL. CONTRACTOR TO VERIFY EXISTING FIELD CONNECTIONS PRIOR TO INSTALLATION. RE-USED AND INSTALL NEW AS REQUIRED

NOTE: "MS" MOTION REQUEST RELAY CONTACT IN THE RADIO RECEIVER, CLOSES WHEN TELECRANE RADIO TRANSMITTER SENDS A MOTION REQUEST SIGNAL.



EXISTING TELECRANE F21D RADIO RECEIVER TERMINAL LAYOUT



EXISTING FERRY OPERATOR TELECRANE F21DN1-TRX RADIO TRANSMITTER DETAIL

F-21D FUNCTION SWITCH SETTING FOR TELECRANE RADIO RECEIVER AT FRENCHBORO										
FUNCTION NO.			OUTPUT NO.	FACTORY BUTTON NAME	M.D.O.T. BUTTON FUNCTION	SEC KEY	M.D.O.T. BUTTON FUNCTION	FACTORY BUTTON NAME	OUTPUT NO.	FUNCTION
3	2	1								
EMERGENCY STOP AND BATTERY POWER DETECTION			6 MAIN	EMS STOP	STOP E-STOP	STOP	BRIDGE RAMP UP	UP	1 U	UP & DOWN INTERLOCKED TO EACH OTHER
UNCONTROLLED BY STOP SWITCH #4	TOGGLE = SWITCH #3	R1 & R2 INTERLOCKED = SWITCH #2	4 R1	R1	ROTO-PHASE ON/OFF	ON/OFF	BRIDGE RAMP DOWN	DOWN	1 D	
	TOGGLE = SWITCH #5		4 R2	R2	-	R2	A UP	-	EAST	2 E
UNCONTROLLED BY STOP SWITCH #4	TOGGLE = SWITCH #7	R3 & R4 INTERLOCKED = SWITCH #6	5 R3	R3	-	R3	A DOWN	-	WEST	2 W
	TOGGLE = SWITCH #9		5 R4	R4	-	R4	SOUTH	APRON UP	SOUTH	3 S
TOGGLE = SWITCH #12	ACCEL = SWITCH #11	INTERLOCK = SWITCH #10	6 R5	R5	-	STOP	APRON DOWN	NORTH	3 N	

NOTE: CONTRACTOR TO VERIFY SWITCH SETTINGS PRIOR TO DISCONNECTING ANY WIRING

SEQUENCE OF OPERATION

- CONTROL OF THE BRIDGE ROTOPHASE CONVERTER, RAMP AND APRON CAN BE CONTROLLED BY THE FERRY OPERATOR'S REMOTE RADIO CONTROL TRANSMITTER OR BY THE LOCAL CONTROL PB STATION AT THE BRIDGE. THIS IS CONTROLLED BY THE POSITION OF THE OPERATOR CONTROL SELECTOR SWITCH LOCATED IN THE LOCAL PUSHBUTTON PANEL.
- THE E-STOP PUSHBUTTON AT THE LOCAL PB STATION WILL SHUT DOWN THE ROTOPHASE CONVERTER, POWER TO THE MOTORS AND THE CONTROL CIRCUIT POWER FOR THE MOTORS AND RAMP ENGAGEMENT SOLENOIDS. THE STOP PUSHBUTTON ON FERRY OPERATORS REMOTE RADIO TRANSMITTER WILL PERFORM THE SAME FUNCTION.
- OPERATION BY THE FERRY OPERATOR'S REMOTE RADIO CONTROL TRANSMITTER - (CONTROL SEL. SW. IN "RADIO" POSITION)
 - PRESSING THE ROTOPHASE ON/OFF BUTTON ON THE REMOTE TRANSMITTER WILL START THE ROTOPHASE AND TURN ON THE 3PHASE 230VAC POWER. THE AMBER BEACON FACING THE FERRY WILL ILLUMINATE. THE RATCHET BAR WILL BE IN ITS NORMAL DE-ENGAGED STATE AND GREEN TRAFFIC LIGHT WILL ILLUMINATE INDICATING THE BAR IS ENGAGED.
 - PRESSING THE RAMP RAISE OR LOWER BUTTON ON THE REMOTE TRANSMITTER WILL ENERGIZING THE RAMP MOTOR TO RUN IN THE SELECTED DIRECTION AND ENERGIZING RELAY 1CR THUS ENERGIZING THE RATCHET RELEASE SOLENOIDS. (NOTE: WHEN THE RAMP RATCHET BAR RELEASES THE RATCHET LIMITS SWITCHES WILL OPEN AND DE-ENERGIZE THE TIMING RELAY 2CR-TD. THE RED TRAFFIC LIGHT WILL ILLUMINATE DESIGNATING TRAFFIC TO STOP AND NOT TRAVEL ONTO THE RAMP.)
 - WHEN THE OPERATOR RELEASES THE RAMP RAISE AND LOWER BUTTONS THE RAMP MOTOR WILL STOP, 1CT WILL DE-ENERGIZE AND THE RATCHET RELEASE SOLENOIDS WILL DE-ENERGIZE. THE RATCHET BAR WILL ENGAGE, THE LIMITS SWITCHES WILL CLOSE AND ENERGIZE THE TIME DELAY RELAY. THE TRAFFIC LIGHT WILL SWITCH FROM RED TO GREEN AFTER A 5 SECOND DELAY. RAMP OVERTRAVEL LIMIT SWITCHES ON THE WINCH WILL SHUT THE MOTOR DOWN WHEN THE TRAVEL LIMITS HAVE BEEN REACHED.
 - PRESSING THE APRON RAISE OR LOWER BUTTON ON THE REMOTE TRANSMITTER WILL ENERGIZE THE APRON MOTOR TO RUN IN THE SELECTED DIRECTION. OVERTRAVEL LIMIT SWITCHES ON THE WINCH WILL SHUT THE MOTOR DOWN WHEN THE TRAVEL LIMITS HAVE BEEN REACHED.
 - WHEN THE OPERATOR PRESSES THE ROTOPHASE ON/OFF BUTTON ON THE REMOTE TRANSMITTER THE ROTOPHASE WILL STOP AND SHUT THE 3 PHASE 230VAC OFF.
 - PRESSING THE STOP BUTTON ON THE REMOTE TRANSMITTER ACTS AS AN E-STOP DISCONNECTING THE CONTROL POWER CIRCUIT. THIS IS THE SAME FUNCTION AS PRESSING THE LOCAL E-STOP PUSHBUTTON.
- CONTROL FROM THE LOCAL PUSHBUTTON STATION ON SHORE - (CONTROL SE. SW. IN "LOCAL" POSITION)
 - THE ROTOPHASE CAN BE STARTED AND STOPPED VIA THE LOCAL START AND STOP PUSHBUTTONS.
 - THE RAMP AND APRON CAN BE CONTROLLED IN THE SAME MANNER AS THE FERRY OPERATOR VIA MOMENTARY RAISE AND LOWER PUSHBUTTONS.
 - PRESSING THE LOCAL E-STOP PUSHBUTTON WILL DISCONNECT THE POWER TO THE CONTROL CIRCUITS DE-ENERGIZING THE PHASE CONVERTER, RAMP, APRON AND RATCHET CONTROL CIRCUITS.
 - DURING PERIODS OF EXTREME TIDES THE RAMP AND APRON OVERTRAVEL LIMIT SWITCHES CAN BE BYPASSED BY HOLDING THE APPROPRIATE SELECTOR SWITCH IN THE BYPASS POSITION AND PRESSING THE APPROPRIATE RAISE OR LOWER PUSHBUTTON AT THE SAME TIME. RELEASING THE SELECTOR SWITCH WILL RETURN THE CIRCUIT TO THE NORMAL NON-BYPASSED STATE.

REFERENCE DRAWINGS

- E-1 CONTROL PANEL ELEVATIONS & DETAILS
- E-2 CONTROL PANEL LAYOUT & DETAILS
- E-3 LOCAL PUSHBUTTON PANEL LAYOUT & DETAILS
- E-4 CONTROL PANEL WIRING DIAGRAM
- E-5 SCHEMATIC WIRING DIAGRAM SH1
- E-7 ELECTRICAL SITE PLAN

DEPARTMENT OF TRANSPORTATION

WIN 18386.00 HIGHWAY PLANS

RICHARD A. NADEAU No. 10853 PROFESSIONAL ENGINEER LICENSED 8-15-12

SIGNATURE: [Signature] P.E. NUMBER: 10853 DATE: 08/15/2013

DESIGN-DETAILED: 7/9/13 P.R. RAN 8/15/13

CHECKED-REVIEWED: [Signature]

DESIGN-DETAILED: [Signature]

REVISIONS 1: [Signature]

REVISIONS 2: [Signature]

REVISIONS 3: [Signature]

REVISIONS 4: [Signature]

FIELD CHANGES: [Signature]

FRENCHBORO, MAINE HANCOCK COUNTY

LONG ISLAND

TRANSFER BRIDGE CONTROL PANEL LAYOUT AND DETAILS

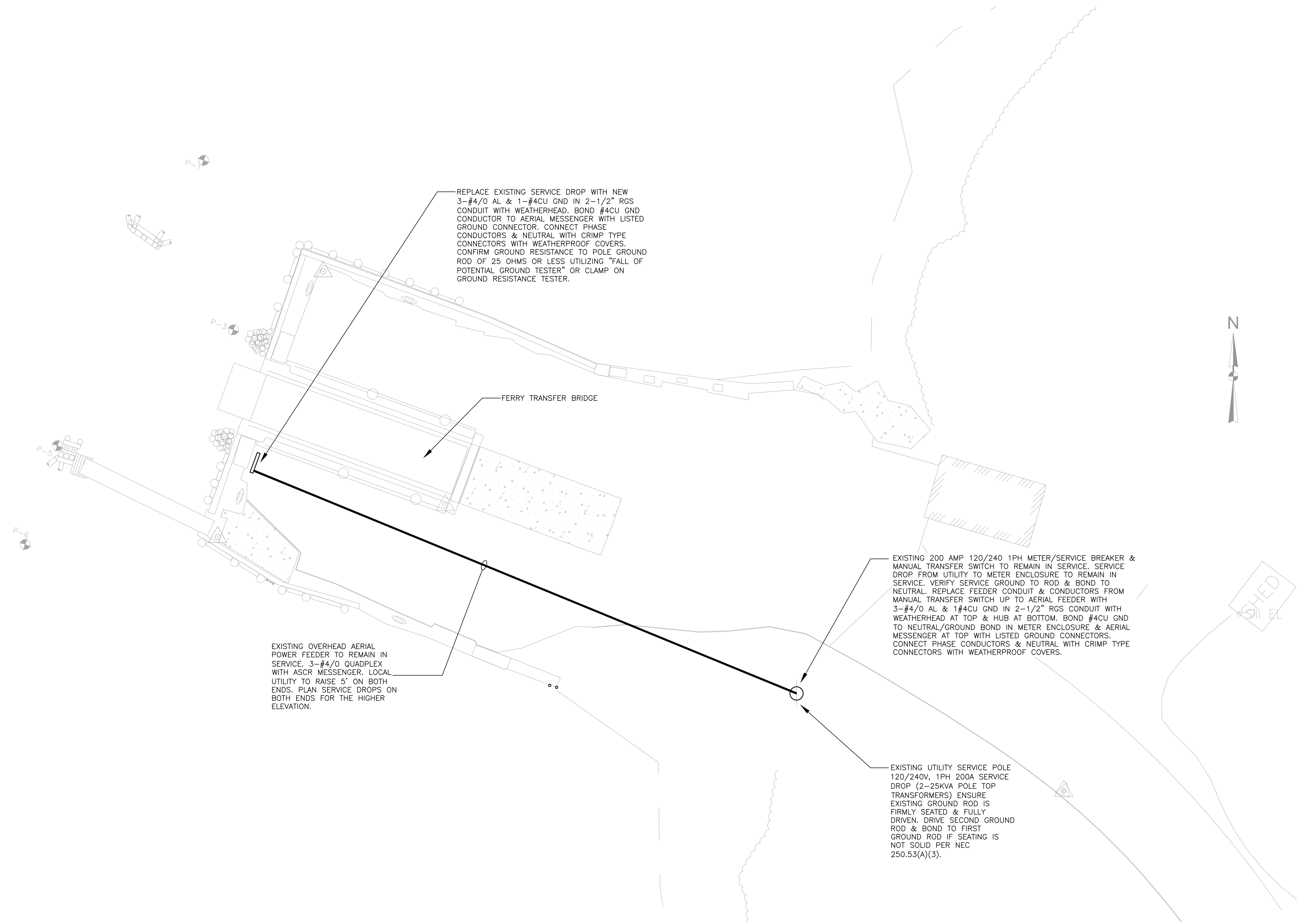
SHEET NUMBER

E-6

27 OF 28

RELEASED FOR BID
DATE: 8/15/2013





FRENCHBORO TRANSFER BRIDGE POWER PLAN
1"=10'

RELEASED FOR
BID
DATE: 8/15/2013



SHEET NUMBER

E-7
28 OF 28

FRENCHBORO, MAINE
LONG ISLAND HANCOCK COUNTY
TRANSFER BRIDGE
ELECTRICAL SITE PLAN

DESIGN-DETAILED	-	PJR	7/9/13
CHECKED-REVIEWED	-	RAN	8/15/13
DESIGN-DETAILED2	-		
DESIGN-DETAILED3	-		
REVISIONS 1	-		
REVISIONS 2	-		
REVISIONS 3	-		
REVISIONS 4	-		
FIELD CHANGES	-		

SIGNATURE
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DATE

