

PUBLIC NOTICE

Comment Period Begins: August 20, 2024 Comment Period Ends: September 20, 2024 File Number: NAE-2022-01537 In Reply Refer to: Charles Farris, Regulatory Division Phone: (978) 318-8336 Email: Charles.n.farris@usace.army.mil

The District Engineer, U.S. Army Corps of Engineers, New England District (USACE, NAE), has received a permit application, file number NAE-2022-01537, to conduct work in waters of the United States from: Prysmian Cables and Systems USA, LLC, One Brayton Point Road, Somerset, MA 02775. This work is proposed in Mount Hope Bay at One Brayton Point Road Somerset, MA 02775. The site coordinates are: Latitude 41.712316° N., Longitude -71.190055° W.

The proposed work would involve mechanically dredging approximately 160,000 cubic yards (cy) of material from shoaled areas totaling 337,000 SF. These areas would be dredged to the proposed depth of -33 feet (ft) at mean lower low water (MLLW) plus two feet of allowable overdredge. The applicant proposes to dispose of the dredged material at one of two open water disposal sites: the Rhode Island Sound Disposal Site (RISDS) or the Cape Cod Bay Disposal Site (CCBDS), as well as beneficial reuse (daily cover at a permitted and licensed landfill) for material not suitable for open ocean disposal. The area of new dredging would support construction of a new berth at the southeast side of the exiting turning basin. Additional materials will be dredged from both the existing turning basin and a portion of the existing private navigational channel in an effort to reach the target depth required of -33 feet MLLW. The applicant would mechanically dredge the sediments using a clamshell bucket from a work barge to transfer the dredged material to scows. This dredged material would be mostly fine gained sediments, like clays and silts.

The applicant also proposes to construct a docking facility which would consist of a 1,500-foot-long by 13-foot-wide pier. The pier would include a conveyor-type system of pullies to transport manufactured cable along the pier from landside spools onto an offshore cable-laying vessel moored offshore from the pier. Pile couples supporting the pier would be spaced about 60 feet on center, and the bottom of the deck would be set approximately 16 feet above the mean higher high water (MHHW) level, allowing recreational vessels like kayaks or other small crafts to pass underneath. The pier would have affixed lighting for safety. Outward of the pier, seven fixed dolphin structures would be constructed to provide access for mooring and berthing operations. Access to the mooring and berthing system would be provided by aluminum gangways. These aluminum gangways between the dolphins will be supported by a total of five intermediate in-water monopiles Each fixed dolphin structure would be supported by a ten foot diameter steel pipe monopile. Both the inshore and outshore platforms would contain an approximate 640-square foot relay building and transformer.

The total number of permanent piles for the project is as follows:

- Seventy-six 30-inch diameter piles (including 12 at the inshore platform, 12 at the outshore platform, and 52 for the cable pier);
- Seven 120-inch diameter mooring & berthing monopiles;
- Five 54-inch diameter intermediate walkway monopiles;
- All piles will be driven to a pre determined design depth.

The applicant is also proposing the installation of a navigational aid light within the waters of the Taunton River in Fall River, Massachusetts. The navigation light would be a proposed private aid to navigation (PATON) that has been requested by the local Pilots Association and would provide illumination, wayfinding, and additional safety measures for the marine pilots of vessels utilizing the private Brayton Point navigation channel. This channel traverses the Taunton River east-west to Brayton Point in Somerset, Massachusetts. The private Brayton Point navigation channel intersects the Federal Navigation Project (FNP) channel running north south along the shores of Fall River. The PATON would be installed approximately 300 feet offshore from Fall River near the intersection of the private navigation channel and the federal navigation channel to assist with pilot navigation to the private channel. The PATON would be installed through the mudline on a single 30-inch diameter x 5/8-inch steel pipe monopile and anchored into bedrock.

The purpose of the project is to construct a new submarine cable manufacturing facility and associated required marine infrastructure. The new facility will allow the Applicant to design, manufacture, and deliver submarine cable to support offshore wind projects throughout North and South America. The finished cable will be transported via a newly installed pier and new vessel berth to specially designed cable transport/cable laying vessels to offshore wind project sites.

The proposed work is shown on the enclosed plans titled "Prysmian-Brayton Point, Pier and Dredged Design" on 41 sheets, and dated "14 August 2023."

AUTHORITY

Permits are required pursuant to:

- x Section 10 of the Rivers and Harbors Act of 1899
- <u>x</u> Section 404 of the Clean Water Act
- <u>x</u> Section 103 of the Marine Protection, Research and Sanctuaries Act.
- x Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408)

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its

reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; as well as federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The USACE will consider all comments received to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an environmental assessment and/or an environmental impact statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

Adjacency and Impact to Federal Navigation Projects

The activities proposed herein may also require permission from the USACE pursuant to 33 U.S.C. 408 if it would alter or temporarily or permanently occupy or use the USACE federally authorized Civil Works project known as Fall River Harbor FNP. The proposed alteration involves dredging in or near the FNP to increase access. The proposed alteration is located adjacent to the FNP near the project shipping channel. A permit pursuant to Sections 10/404/103 shall not be granted until the Section 408 permission is issued. Through this public notice, we are soliciting information necessary to inform the USACE evaluation and review.

ESSENTIAL FISH HABITAT

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The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

The dredging portion of this project would impact approximately 337,000 SF of EFH. Habitat at this site can be described as subtidal fine-grained habitat. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

The dredged material disposal is proposed for disposal at either, Rhode Island Sound Disposal Site or Cape Cod Bay Disposal Site. This is an open water site, which provides EFH. Habitat at this site can be described as fine-grained subtidal habitat. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the sitespecific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

Dredged Material Disposal Mitigation Discussion

The alternatives considered in the dredged material disposal analysis fall into four general categories: beneficial use, upland disposal, confined disposal, and open-water disposal. The feasibility of disposal alternatives was analyzed relative to the physical and chemical quality of the dredged material, the volume of material to be dredged, the availability of suitable disposal and beneficial use sites, and the cost of disposal. When applicable, the biological quality of the disposal of the material at the disposal site was also used to evaluate the feasibility of the open-water disposal alternative.

Based on the characteristics of the dredged material, the lack of suitable alternate disposal or beneficial use sites and costs, the most feasible, practical, cost-effective and environmentally acceptable alternative for the disposal of dredged materials from the proposed dredging is disposal at one of the two requested disposal sites.

Evaluation of Sediments for Dredging

The Dredged Material Managing Team (DMMT) of the USACE Planning Department provided the applicants with a sampling plan on October 23, 2022. Physical and chemical data were provided to the DMMT on February 10, 2023. Biological data was

provided to the DMMT by the applicant on November 28, 2023. The DMMT provided the final suitability determination to NAE Regulatory on April 23, 2024.

Conclusions of the Evaluation

This determination addressed the suitability of dredged material from the proposed maintenance and new dredging of the Brayton Point project in Somerset, MA for unconfined open water disposal at the (RISDS) or the (CCBDS). The USACE NAE finds that sufficient data has been provided to satisfy the evaluation and testing requirements of Section 103 of the Marine Protection Research and Sanctuaries Act (MPRSA) and Section 404 of the Clean Water Act (CWA). Based on an evaluation of the project site and the material proposed to be dredged, USACE NAE finds the sediment material represented by composite samples 4 and 5, approximately 133,500 cy, is considered suitable for unconfined open water disposal at Rhode Island Sound Disposal Site (RISDS) and/or Cape Cod Bay Disposal Site (CCBDS). However, some material, that which is associated with composite sample locations 1,2, and 3 or approximately 26,500 cy, is considered unsuitable for unconfined open water disposal at RISDS and/or CCBDS. The applicant considered several options for the disposal of the material demonstrated to be unsuitable for open water disposal. They decided on Beneficial Reuse Offsite. This would consist of beneficial reuse as daily cover at a permitted and licensed landfill in the State of Massachusetts.

For Section 103 Permits:

The dredged material has undergone physical, chemical, and biological testing and has satisfied the criteria for unconfined open water disposal of dredged material as specified in Part 227 of the Ocean Dumping Act regulations. It is our preliminary determination that the sediment material represented by composite samples 4 and 5, is considered suitable for unconfined open water disposal at RISDS and/or CCBDS.

For Section 404 Permits: (LIS disposing $\leq 25,000$ CY, Cape Cod Bay, Rockland) The dredged material has undergone physical, chemical, and biological analysis. It is our preliminary determination that the material is acceptable for disposal at RISDS and/or CCBDS.

Any permit issued for this project would include special conditions requiring scows to come to a complete stop when disposing of the material at the selected offshore disposal site. There would also be a time of year restriction included as a special condition prohibiting dredging during ecologically sensitive times of year (specifically January 15 through July 15 of any calendar year).

Cape Cod Bay Disposal Site

The Cape Cod Bay Disposal Site was first used in 1971 for the disposal of sediments dredged from Wellfleet Harbor. It has been infrequently used since then for disposal of

dredged material from the coasts of Cape Cod Bay. This disposal site is monitored and managed by the Massachusetts Department of Environmental Management. Studies show that the site is a low energy environment such that sediment deposited at this location will remain within the site's boundaries. Levels of metals in the sediments within the disposal site are slightly above background levels, indicative of the influence of the earlier dredge disposal at the site.

Previous research has shown that areas outside the disposal site have not been found to be affected by sediment deposited within the site. The disposal site is located within the identified limits of the Right Whale Critical Habitat Area.

Rhode Island Sound Disposal Site

The Rhode Island Sound Disposal Site was designated by the Environmental Protection Agency to be usable for disposal of dredged sediments in December 2004. Prior to its site designation, it was selected for temporary use and was employed during 2003-2004 for placement of over 5 million cubic yards of sediment from the Providence River (primarily from the Federal Navigation Project). All sediments disposed at this site have been determined suitable with a project-specific evaluation with an established interagency review process. The site is monitored through the USACE Disposal Area Monitoring System (DAMOS) program. The DAMOS studies show that the site is a low energy environment such that sediments deposited at this location will remain within the site's boundaries. The DAMOS monitoring has also shown that distinct dredged material mounds have been formed at the site. Sediment deposited at the disposal site has not been found to affect areas outside the disposal site.

NATIONAL HISTORIC PRESERVATION ACT

Based on our initial review of the proposed project and coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer(s), no historic properties were identified within the permit area and the area of potential effects. Additional review and consultation to fulfill requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

ENDANGERED SPECIES CONSULTATION

The USACE has reviewed the application for the potential impact on federally listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act (ESA) as amended. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated, or will be operated/used in such a manner that it is not likely to

adversely affect a listed species or their critical habitat. We are coordinating with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service on listed species under their jurisdiction and the ESA consultation will be concluded prior to the final decision.

OTHER GOVERNMENT AUTHORIZATIONS

The states of Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this public notice, we are requesting the state concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

(x) Permit, license or assent from State.

(x) Permit from local wetland agency or conservation commission.

(x) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

COMMENTS

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Individuals submitting comments are advised that all comments received will be available for public review in their entirety and will be considered a matter of public record.

Comments should be submitted in writing by the above date. If you have any questions, please contact Charles Farris, Regulatory Division, at <u>charles.n.farris@usace.army.mil</u>, (978) 318-8336, (800) 343-4789 or (800) 362-4367.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The USACE holds

public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly to reach an understanding.

THIS NOTICE IS <u>NOT</u> AN AUTHORIZATION TO DO ANY WORK.

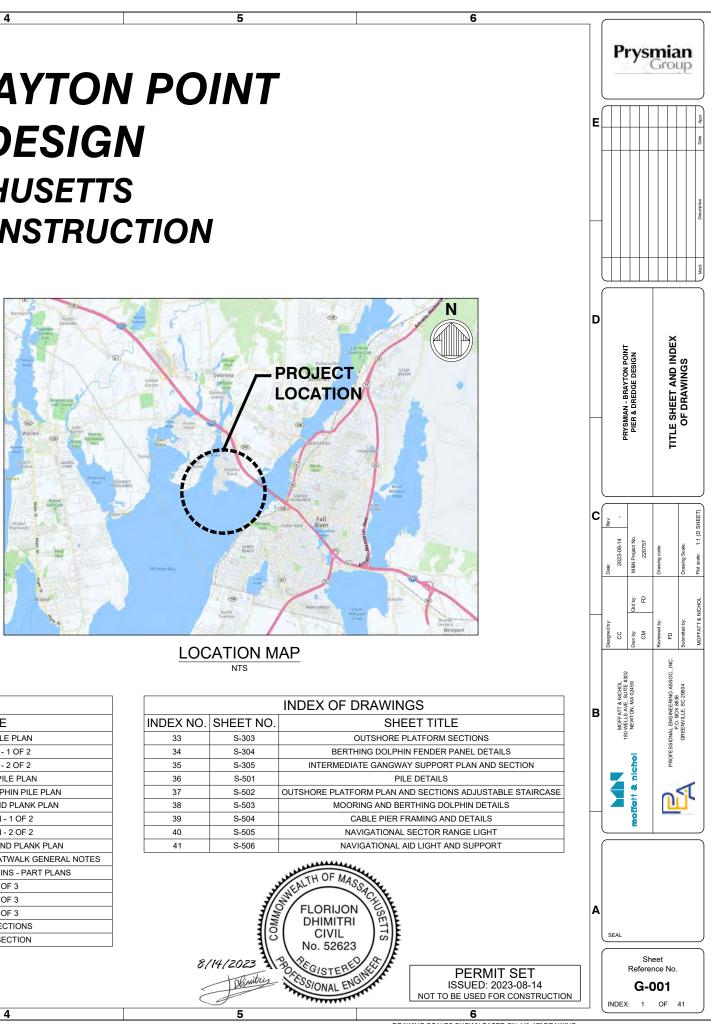
Paul Maniccia

Paul Maniccia Chief, Massachusetts Section Regulatory Division

Please contact Ms. Tina Chaisson at <u>bettina.m.chaisson@usace.army.mil</u> or (978) 318-8058 if you would like to be removed from our public notice mailing list.

PRYSMIAN GROUP - BRAYTON POINT PIER & DREDGE DESIGN SOMERSET, MASSACHUSETTS **PERMIT SET - NOT FOR CONSTRUCTION**



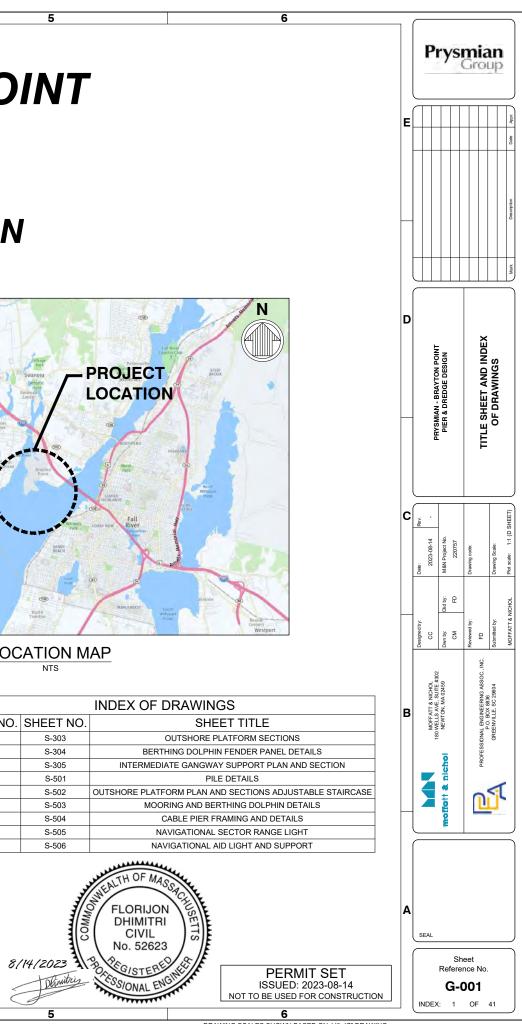




		INDEX OF DRAWINGS
INDEX NO.	SHEET NO.	SHEET TITLE
17	S-101	INSHORE PLATFORM PILE PLAN
18	S-102	CABLE PIER PILE PLAN - 1 OF 2
19	S-103	CABLE PIER PILE PLAN - 2 OF 2
20	S-104	OUTSHORE PLATFORM PILE PLAN
21	S-105	MOORING AND BERTHING DOLPHIN PILE PLAN
22	S-111	INSHORE PLATFORM DECK AND PLANK PLAN
23	S-112	CABLE PIER DECK PLAN - 1 OF 2
24	S-113	CABLE PIER DECK PLAN - 2 OF 2
25	S-114	OUTSHORE PLATFORM DECK AND PLANK PLAN
26	S-115	MOORING DOLPHINS DECK PLAN AND CATWALK GENERAL NOTES
27	S-116	MOORING AND BERTHING DOLPHINS - PART PLANS
28	S-201	PIER ELEVATION - 1 OF 3
29	S-202	PIER ELEVATION - 2 OF 3
30	S-203	PIER ELEVATION - 3 OF 3
31	S-301	INSHORE PLATFORM SECTIONS
32	S-302	PIER TYPICAL CROSS SECTION

		INDEX OF DRAWINGS
INDEX NO.	SHEET NO.	SHEET TITLE
1	G-001	TITLE SHEET AND INDEX OF DRAWINGS
2	G-002	GENERAL NOTES
3	G-003	GENERAL NOTES AND ABBREVIATION
4	G-101	EXISTING TOPOGRAPHIC CONDITIONS
5	G-102	OVERALL SITE PLAN
6	G-103	KEY PLAN
7	G-104	MOORING ARRANGEMENT PLAN - 1 OF 2
8	G-105	MOORING ARRANGEMENT PLAN - 2 OF 2
9	G-106	OPERATIONAL LAYOUT - 1 OF 3
10	G-107	OPERATIONAL LAYOUT - 2 OF 3
11	G-108	OPERATIONAL LAYOUT - 3 OF 3
12	B-101	BORING LOCATION PLAN
13	B-301	BORING PROFILES
14	D-101	DREDGE PLAN
15	D-301	DREDGE PROFILE AND SECTIONS
16	S-001	STRUCTURAL NOTES

	IND
SHEET NO.	
S-303	
S-304	
S-305	
S-501	
S-502	OUTSH
S-503	
S-504	
S-505	
S-506	
	S-303 S-304 S-305 S-501 S-502 S-503 S-504 S-505



DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING

1	2	3	4	5

GENERAL NOTES

- 1. NOTES BELOW ARE NOT INTENDED TO REPLACE SPECIFICATIONS.
- 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES
- EXISTING CONDITIONS ARE BASED ON RECORD DRAWINGS, ACTUAL CONDITIONS MAY VARY. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONFIRMATION AND VERIFICATION 3. OF EXISTING CONDITIONS. THESE DRAWINGS INDICATE GENERAL CONDITIONS AS PRESENTED IN THE RECORD DRAWINGS PROVIDED BY OWNER AND MAY DIFFER FROM FIELD CONDITIONS
- 4. CONSTRUCTION LOADS FOR ANY NEW PORTION OF THE STRUCTURE SHALL NOT BE IMPOSED UNTIL THE CONCRETE CYLINDER STRENGTH FOR THOSE MEMBERS AND CONNECTING POURS HAS REACHED 80% OF THE 28 DAY CONCRETE STRENGTH.
- 5. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS.
- 6. ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF CONSTRUCTION AND INSTALLATION OF MATERIAL IS THE CONTRACTORS RESPONSIBILITY
- 7. ELEVATIONS SHOWN ARE BASED ON NAVD88, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL 8. ENVIRONMENTAL PROTECTION STANDARDS, LAWS AND REGULATIONS.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE CONSTRUCTION SITE AND THE AREAS OF WORK WHILE PERFORMING THE WORK OF THIS CONTRACT CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION SITE ON A DAILY BASIS. NO BURNING OF DEBRIS SHALL BE PERMITTED.
- 10. VERTICAL DATUM NOTES
- A. THE TIDAL DATA SHOWN WAS TAKEN FROM THE U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) VERTICAL ONLINE DATUM TRANSFORMATION PROGRAM, NOAA GAGE AT FALL RIVER (STATION ID 8447386) LOCATED ACROSS THE PROJECT SITE.

TIDAL DATA	ABBREV.	ELEVATION (FT)
MEAN HIGHER HIGH WATER	MHHW	2.34
MEAN HIGH WATER	MHW	2.10
NORTH AMERICAN VERTICAL DATUM OF 1988	NAVD88	0.00
MEAN SEA LEVEL	MSL	-0.23
MEAN LOW WATER	MLW	-2.26
MEAN LOWER LOW WATER	MLLW	-2.43

- B. TIDAL DATA IS PER NOAA AVERAGES BASED ON 1983-2001 TIDAL EPOCH AND NOT GUARANTEED TO REPRESENT CONDITIONS WHICH MAY OCCUR DURING CONSTRUCTION, ACTUAL TIDES WILL VARY FROM LEVELS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN ESTIMATES OF TIDES WHICH MAY OCCUR DURING CONSTRUCTION. VARIATION OF TIDAL LEVELS FROM THOSE INDICATED OR CONTRACTOR'S ESTIMATION OF TIDAL LEVELS SHALL NOT BE CONSIDERED AS A CLAIM FOR ADDITIONAL COMPENSATION OR DELAY OF THE WORK.
- 11. A GEOTECHNICAL INVESTIGATION OF THE SITE WAS PERFORMED BY RAMBOLL. THEIR REPORTS, BORING LOGS, LABORATORY TEST RESULTS AND RECOMMENDATIONS ARE AVAILABLE AS AN ATTACHMENT IN THE CONTRACT DOCUMENTS.

TURBIDITY CURTAIN

1. A FLOATING TURBIDITY BARRIER SHALL BE DEPLOYED AROUND AND/OR IMMEDIATELY ADJACENT TO THE WORK AREA DURING EACH CONSTRUCTION PHASE THAT IS EXPECTED TO PRODUCE DEBRIS AND/OR SEDIMENT IN 600 FOOT (MAX) LENGTHS. TURBIDITY CURTAINS ARE NOT EXPECTED TO BE REQUIRED DURING PILE DRIVING

DESIGN CRITERIA

- 1. VERTICAL LOADS
- A. TYPICAL
 - 125 PSE ON PIER b. 3 MT FORKLIFT ON PIER
 - H20 TRUCK (INSHORE PLATFORM ONLY)

NOTE: AN IMPACT FACTOR OF 15% WAS APPLIED TO TRUCK AND FORKLIFT VERTICAL LOADS.

2. WIND CRITERIA

A. DESIGN WIND FOR STRUCTURES = 112 MPH (3 SECOND GUST). **RISK CATEGORY II.**

- B. DESIGN WIND FOR MOORING = 50 KNOT = 58 MPH (30 SEC SUSTAINED WIND).
- CURRENT CRITERIA ON VESSELS
- A. FLOOD CURRENT VELOCITY = 1.7 FT/SEC = 1.0 KNOTS B. EBB CURRENT VELOCITY = 0.75 FT/SEC = 0.65 KNOTS
- 4. WAVE CRITERIA (50 YEAR RETURN)
 - A DESIGN WAVE HEIGHT = 9.9 FEET B. SIGNIFICANT WAVE HEIGHT = 5.2 FEET
 - C. PERIOD = 4.6 SEC

BERTHING LOAD 5. 0.5 FT/SEC WITH 10° APPROACH ANGLE 2.5M DIA. x 4M LONG SHIBATA FENDER TEAM OCEAN GUARD HIGH CAPACITY FOAM FENDER WITH RATED REACTION CAPACITY = 1,557 KN, 1,042 KN-M 6. MOORING LOAD A. 100 METRIC TON BOLLARDS AT BREASTING DOLPHINS B. 200 METRIC TON BOLLARDS AT MOORING DOLPHINS 7. SOIL SEISMIC CRITERIA (ASCE7-10/IBC2015) SITE CLASS C Ss = 0.176g S1 = 0.06g RESPONSE MODIFICATION FACTOR = 2.0 AT INSHORE AND OUTSHORE PLATFORMS RESPONSE MODIFICATION FACTOR = 1.0 AT CABLE PIER

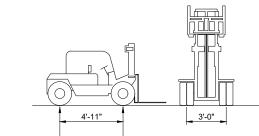
8. DESIGN VESSELS

VESSEL NAME	CABLE ENTERPRISE GIULIO VERNE		LEONARD	D DA VINCI	ULISSE			
DISPLACEMENT, mt	168	16879 10674		674	36400		10490	
LENGTH OVERALL	124.3 m	407.9 FT	133.18 m	436.94 FT	171.1 m	561.4 FT	122.2 m	400.92 FT
OVERALL BREADTH	32.6 m	107.0 FT	30.5 m	100.07 FT	34.0 m	111.5 FT	33.5 m	109.91 FT
DRAFT	4.9 m	16.2 FT	7.62 m	25.0 FT	8.5 m	27.9 FT	5.35 m	17.55 FT

REFERENCE

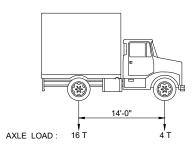
- 1. MASSACHUSETTS STATE BUILDING CODE, 9TH EDITION (IBC 2015 WITH AMENDMENTS)
- ACI 318/318R AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR 2. REINFORCED CONCRETE AND COMMENTARY", 2014.
- ACI 301 AMERICAN CONCRETE INSTITUTE "SPECIFICATION FOR STRUCTURAL CONCRETE 3. FOR BUILDINGS", 2010.
- 4. IBC INTERNATIONAL CODE COUNCIL "INTERNATIONAL BUILDING CODE, 2015 EDITION"
- ASCE 7 AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS FOR BUILDINGS 5. AND OTHER STRUCTURES", 2010.
- 6. AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION "STEEL CONSTRUCTION MANUAL", 14TH EDITION (2010).
- 7. PCI PRECAST / PRESTRESSED CONCRETE INSTITUTE "DESIGN HANDBOOK 7TH EDITION", 2010
- 8. AASHTO LRFD AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, "BRIDGE DESIGN SPECIFICATION", 7TH EDITION.
- 9. UFC 4-152-01 "DESIGN: PIERS AND WHARVES", 2017.
- 10. AWS D1.1 AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE-STEEL", 2011 11. ASCE 61-14 - AMERICAN SOCIETY OF CIVIL ENGINEERS "SEISMIC DESIGN OF PIER AND
 - WHARVES".

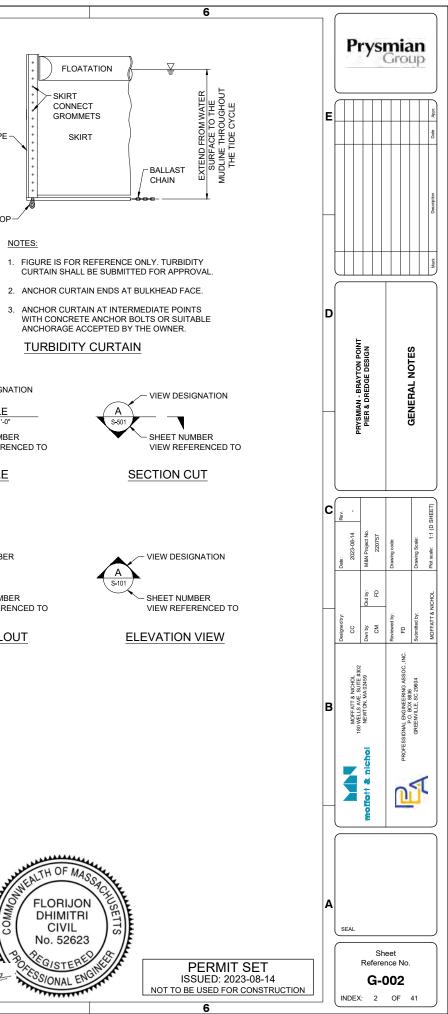
22,615 LB FORK LIFT LOADING DIAGRAM:

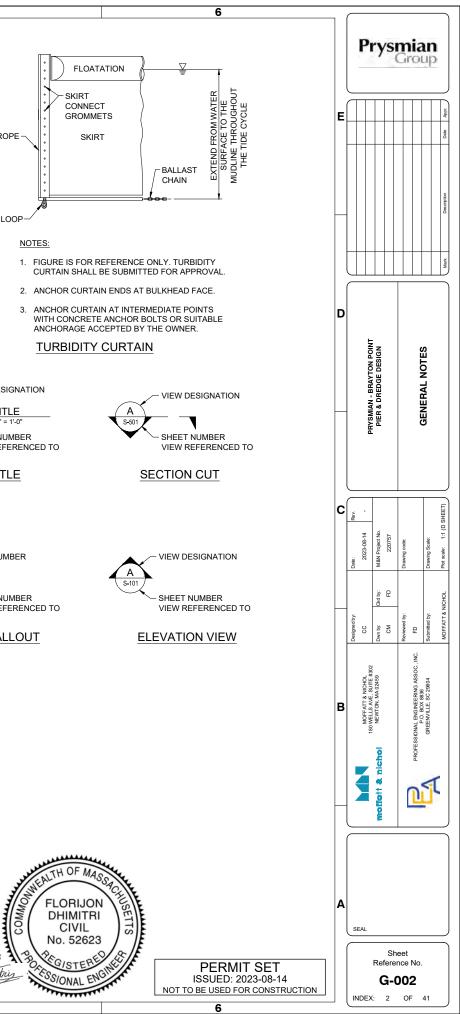


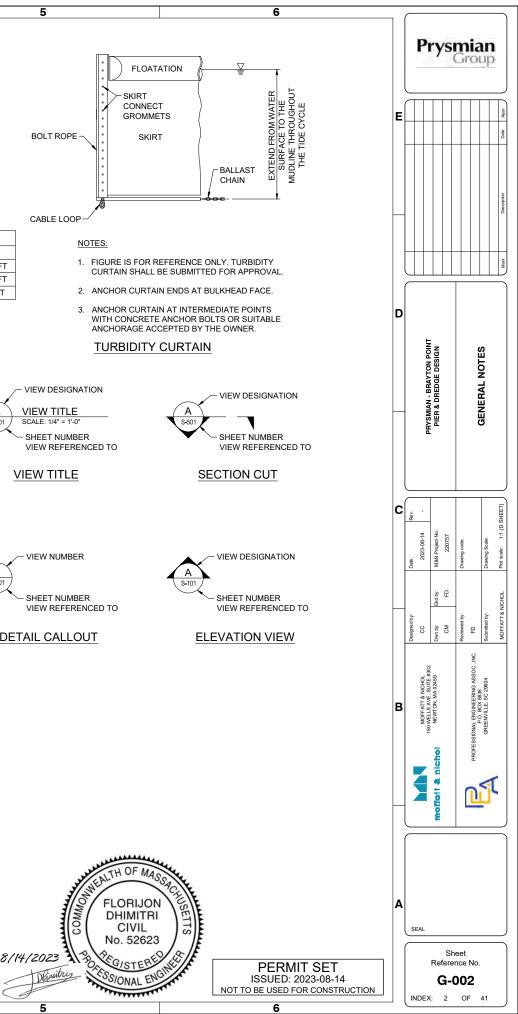
AXLE LOAD : 7,250 LB 15,365 LB

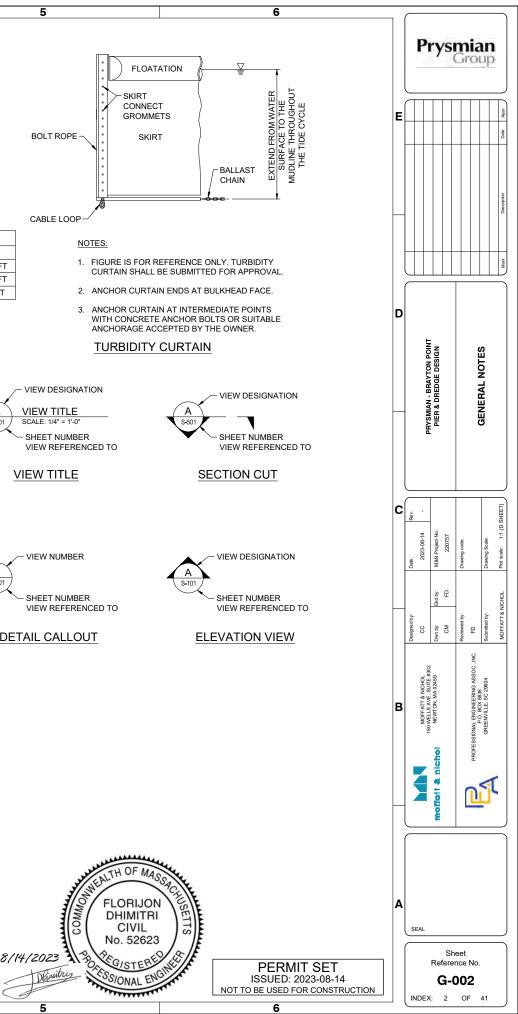
STANDARD H20 VEHICLE DIAGRAM:

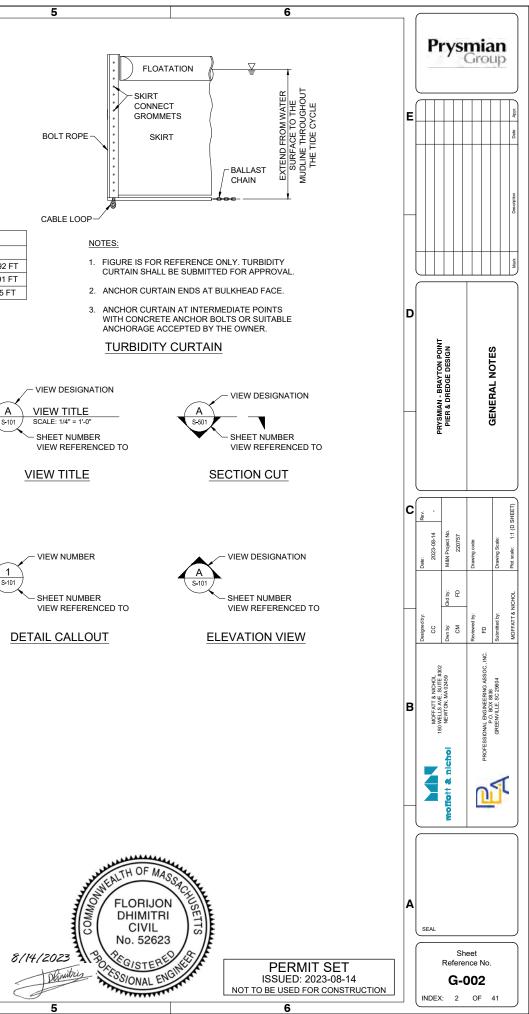


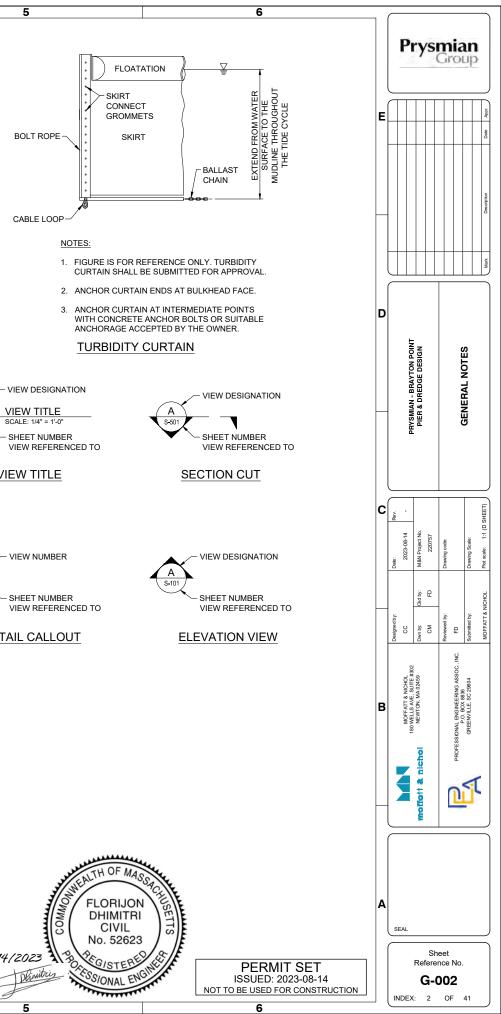


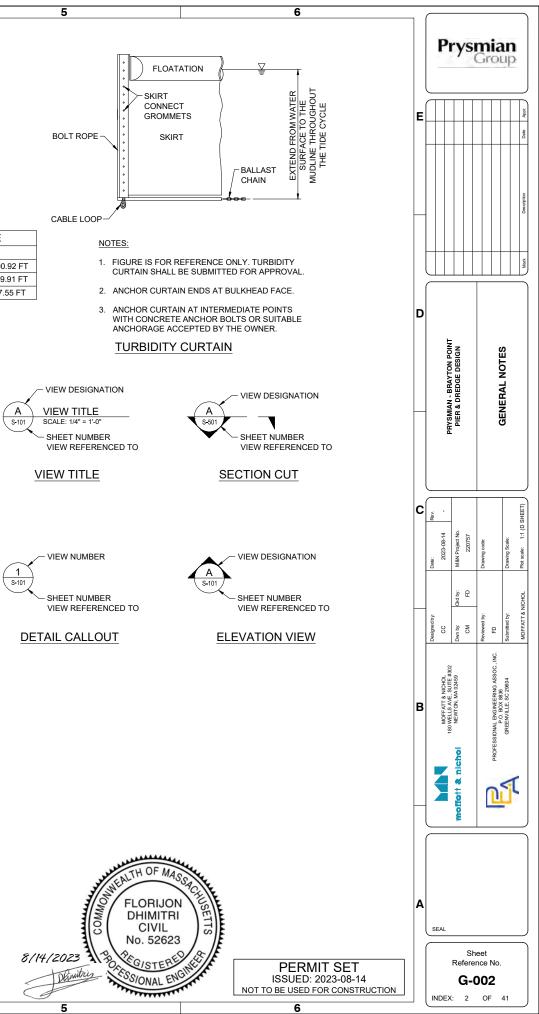




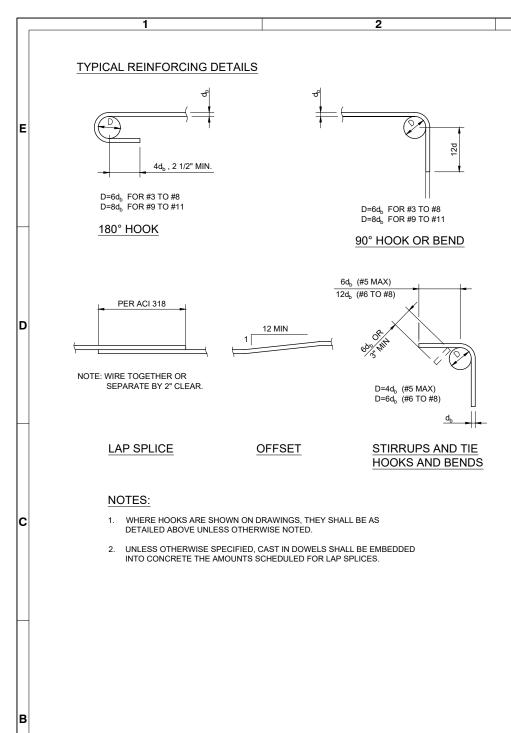








DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING

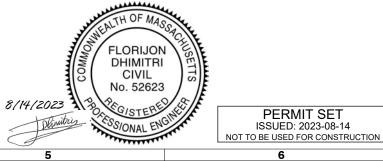


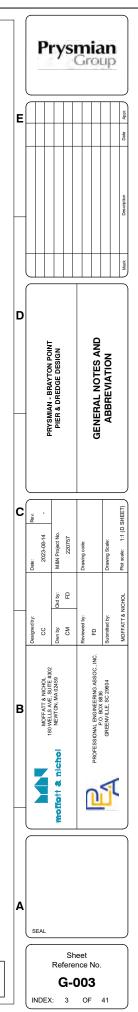
ABBRE	VIATIONS
AASHTO	AMERICAN ASSOCIATION OF
	STATE HIGHWAY AND
	TRANSPORTATION OFFICIALS
ACI ADD	AMERICAN CONCRETE INSTITUTE
	AMERICAN INSTITUTE OF STEEL
AISC	CONSTRUCTION
APPROX	APPROXIMATE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
	AMERICAN SOCIETY FOR TESTING
ASTM	AND MATERIALS
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
BOTT B/P	BOTTOM BETWEEN PERPENDICULARS
3/W	BETWEEN
CF	CUBIC FEET
CI	CAST IRON
CIP	CAST-IN-PLACE
Cl	CONSTRUCTION JOINT
CLR	CLEAR
CONC	CONCRETE
CONST	CONSTRUCTION
	CONTINUED
CONT'D	
<u>. т</u> С	CUBIC YARDS DIAMETER
д _ь	REINFORCING BAR DIAMETER
DET	DETAIL
	DIAMETER
DISCONT	DISCONTINUOUS
Ξ	EAST
EA	EACH
EF	EACH FACE
EJ 	EXPANSION JOINT
	ELEVATION
ELEC EMBED	ELECTRICAL
	ETCETERA
EQ	EQUAL
EW	EACH WAY
EXIST.	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
-	FAHRENHEIT
=OC	FACE OF CONCRETE
T	
GALV HDPE	GALVANIZED HIGH DENSITY POLYETHYLENE
HK	HOOK
HORIZ	HORIZONTAL
N	INCHES
NCL	INCLUDING
NFO	INFORMATION
NV	INVERT ELEVATION
JT	JOINT
< 4 F	
	KIPS PER LINEAR FOOT
KSI	KIPS PER SQUARE INCH ANGLE OR PILE LENGTH
B	POUND
BS	POUNDS
_F	LINEAR FEET
G	LONG
OA	LENGTH OVERALL
ONG.	LONGITUDINAL
S	LANDSIDE
T	LEFT OR LONG TON
MAX	MAXIMUM
MFR	MANUFACTURER
MHW MHHW	MEAN HIGH WATER MEAN HIGHER HIGH WATER
	MEAN HIGHER HIGH WATER
MIN	MIDDLE
MISC	MISCELLANEOUS

ABBKE	VIATIONS CONT'D
MLW	MEAN LOW WATER
MLLW	MEAN LOW WATER
MPH	MILES PER HOUR
MSL	MELLS FERTIOOR
N	NORTH
NA	NOT APPLICABLE
NAD	NORTH AMERICAN DATUM
	NORTH AMERICAN VERTICAL
NAVD	DATUM
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
	OWNER FURNISHED
OFCI	CONTRACTOR INSTALLED
P/C	PRECAST
PCF	POUNDS PER CUBIC FOOT
PSI	POUND PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PVC	POLYVINYL CHLORIDE
QDC	QUONSET DEVELOPMENT
	CORPORATION
QTY	QUANTITY
QVD	QUONSET VERTICAL DATUM
R/C	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
REINF	REINFORCEMENT
R/F	REINFORCEMENT
RIDOT	RHODE ISLAND DEPARTMENT OF
_	TRANSPORTATION
RO/RO	ROLL ON/ ROLL OFF
RT	RIGHT
S	SOUTH
SCH	SCHEDULE
SEC	SECOND
SF	SQUARE FOOT
SHT	SHEET
SPA	SPACES
SPT N	STANDARD PENETRATION TEST
SQ	NUMBER SQUARE
SS	STAINLESS STEEL
SSP STA	STEEL SHEET PILE STATION STD
STA	STATION STD
T	
	TON
T&B	TOP & BOTTOM
TOC	
TEMP	
UFC	UNIFIED FACILITIES CRITERIA
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
U.S.	UNITED STATES
VERT	VERTICAL
VERT VLF	VERTICAL VERTICAL LINEAR FEET
VERT VLF W	VERTICAL VERTICAL LINEAR FEET WEST OR WATER
VERT VLF W W/	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH
VERT VLF W W/ W/O	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT
VERT VLF W W/	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT
VERT VLF W W/ W/O WP WS	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE
VERT VLF W W/ W/O WP	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS
VERT VLF W W/O W/O WP WS WT YD	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD
VERT VLF W W/O WP WS WT YD "	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH
VERT VLF W W/O WP WS WT YD "	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD
VERT VLF W W/O WP WS WT YD "	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH
VERT VLF W W/O WP WS WT YD "	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME
VERT VLF W W/ W/ WP WS WT YD " ' *	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK
VERT VLF W W/ W/O WP WS WT YD " ' * #	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK NUMBER OR POUNDS
VERT VLF W W/O W/O WP WS VT YD " * * # &	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK NUMBER OR POUNDS AND
VERT VLF W W/O W/O WP WS WT YD " ' * # & & @	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK NUMBER OR POUNDS AND AT
VERT VLF W W/O WP WS WT YD " ' * # & & @ & &	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK NUMBER OR POUNDS AND AT CENTERLINE
VERT VLF W W/O WP WS WT YD " * * # && @ @ & & Ø	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK NUMBER OR POUNDS AND AT CENTERLINE DIAMETER OR PHASE
VERT VLF W W/O WP WS WT YD " * * # & & @ @ @ @ @ @ @ @ @ @ @ @ @ @ @ @ @	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK NUMBER OR POUNDS AND AT CENTERLINE DIAMETER OR PHASE DEGREES
VERT VLF W W/O WP WS WT YD " * * # & @ @ & & @ & & @ & & @ & & & & & & &	VERTICAL VERTICAL LINEAR FEET WEST OR WATER WITH WITHOUT WORK POINT WATERSIDE WALL THICKNESS YARD SECONDS OR INCH MINUTES, FEET OR PRIME ASTERISK NUMBER OR POUNDS AND AT CENTERLINE DIAMETER OR PHASE DEGREES PLATE

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4



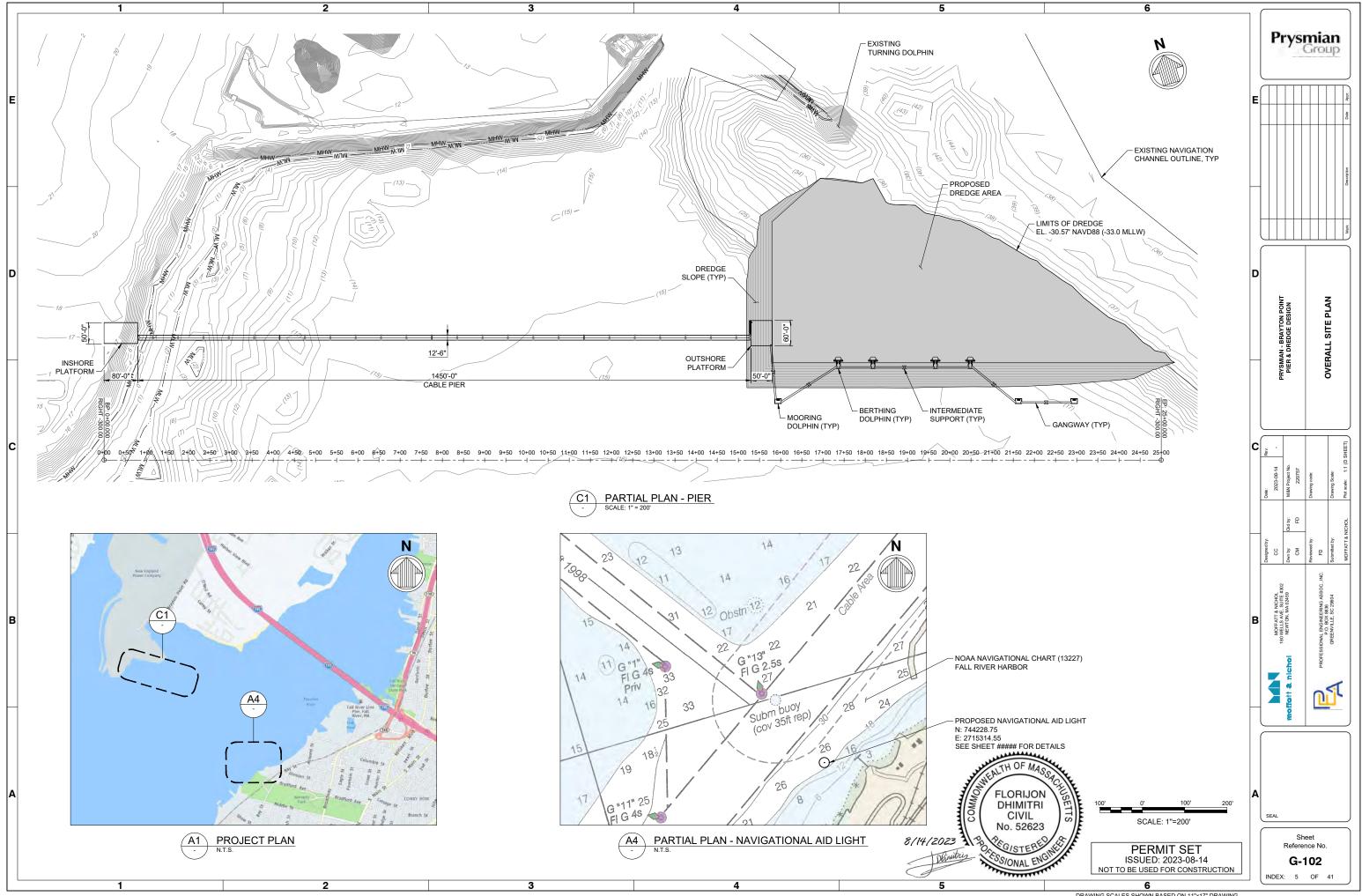


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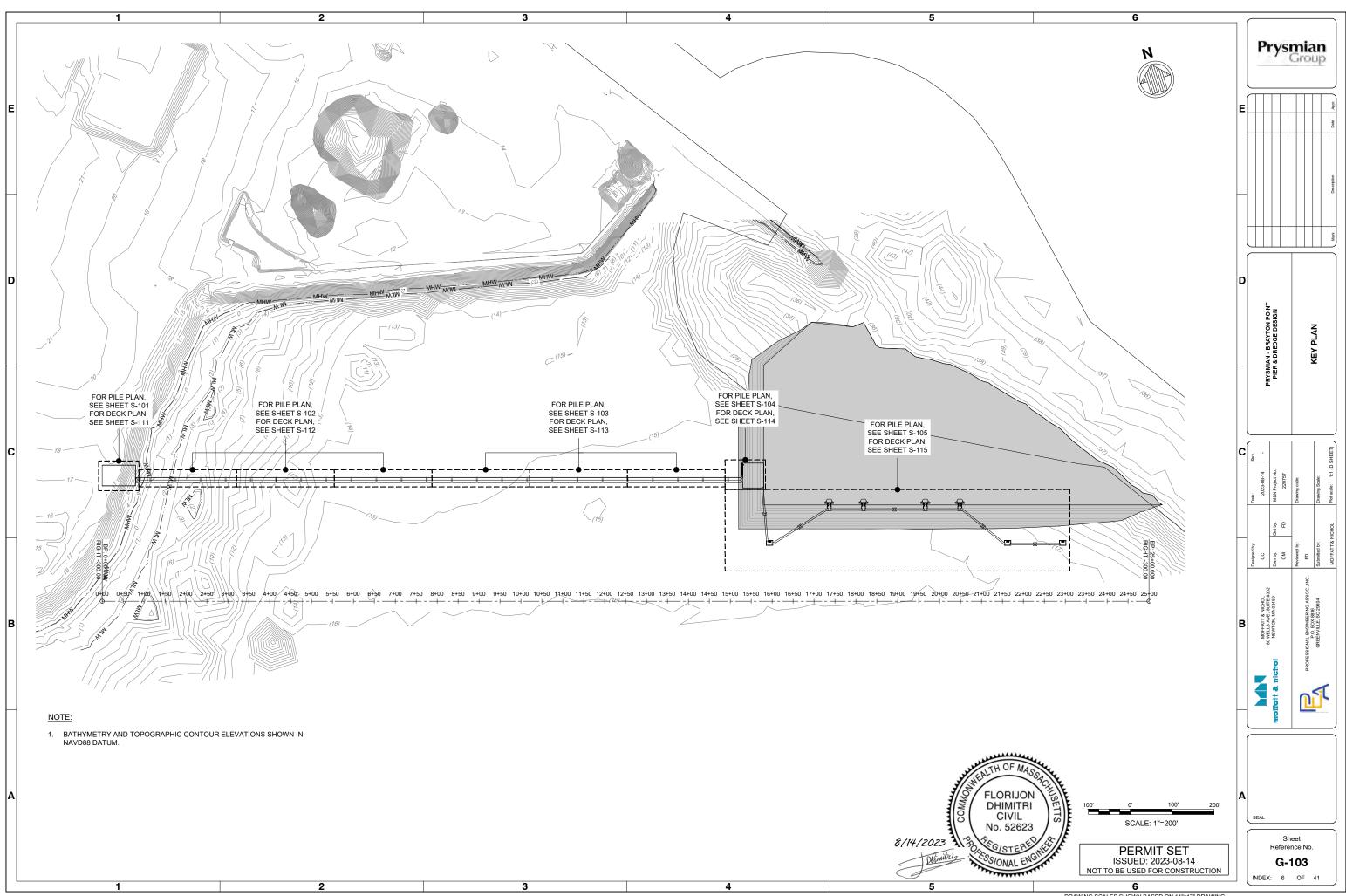
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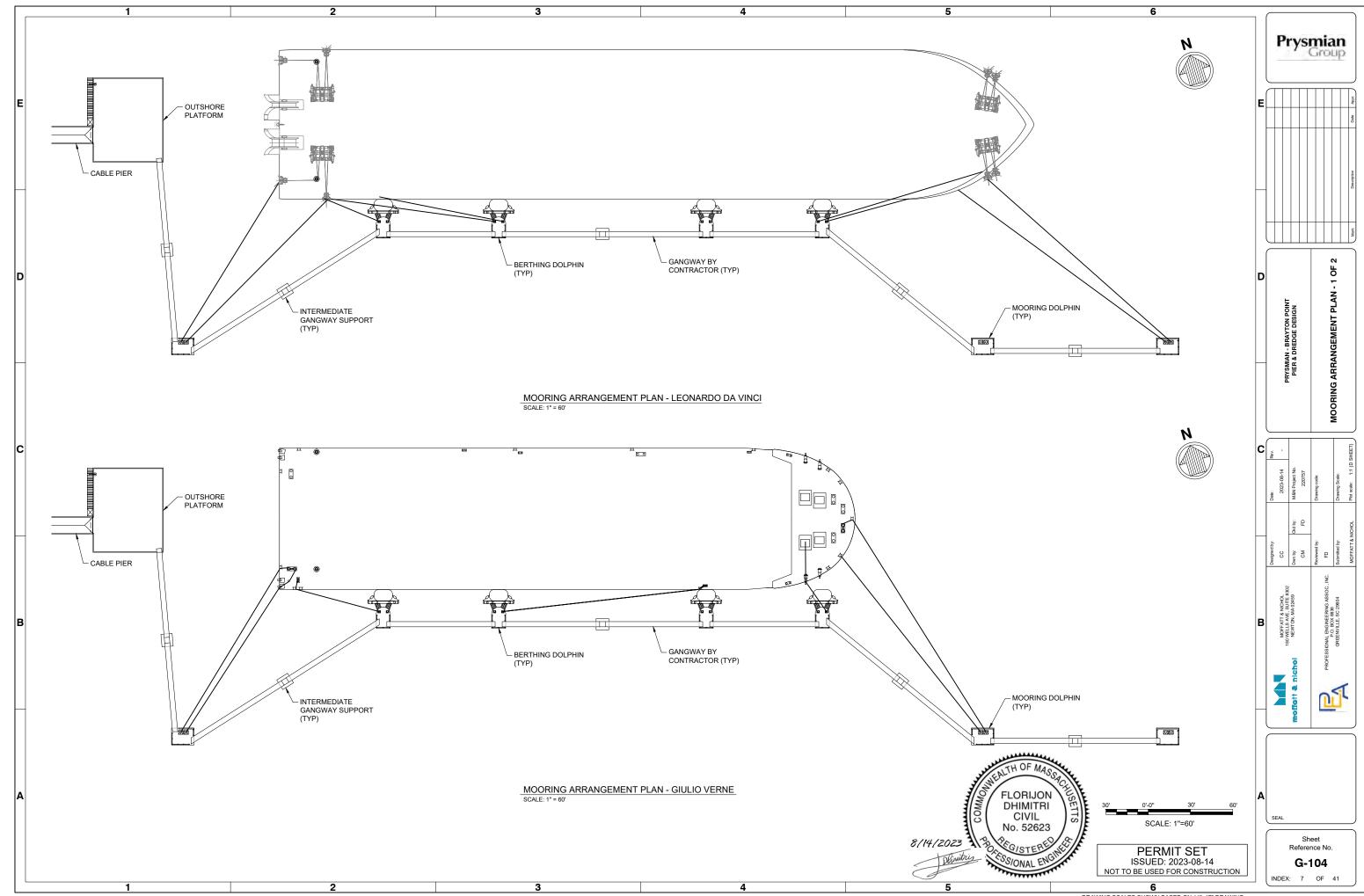
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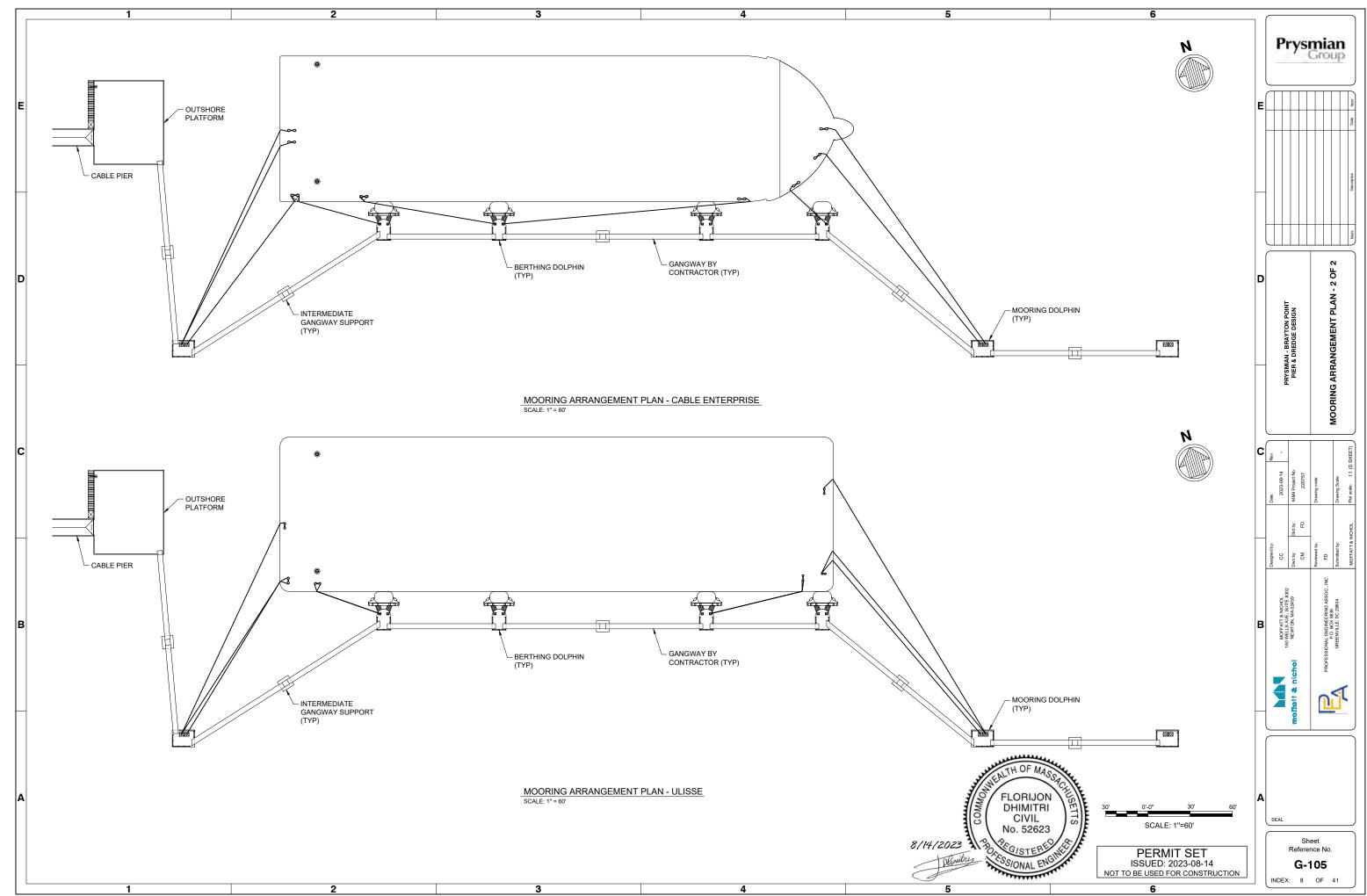
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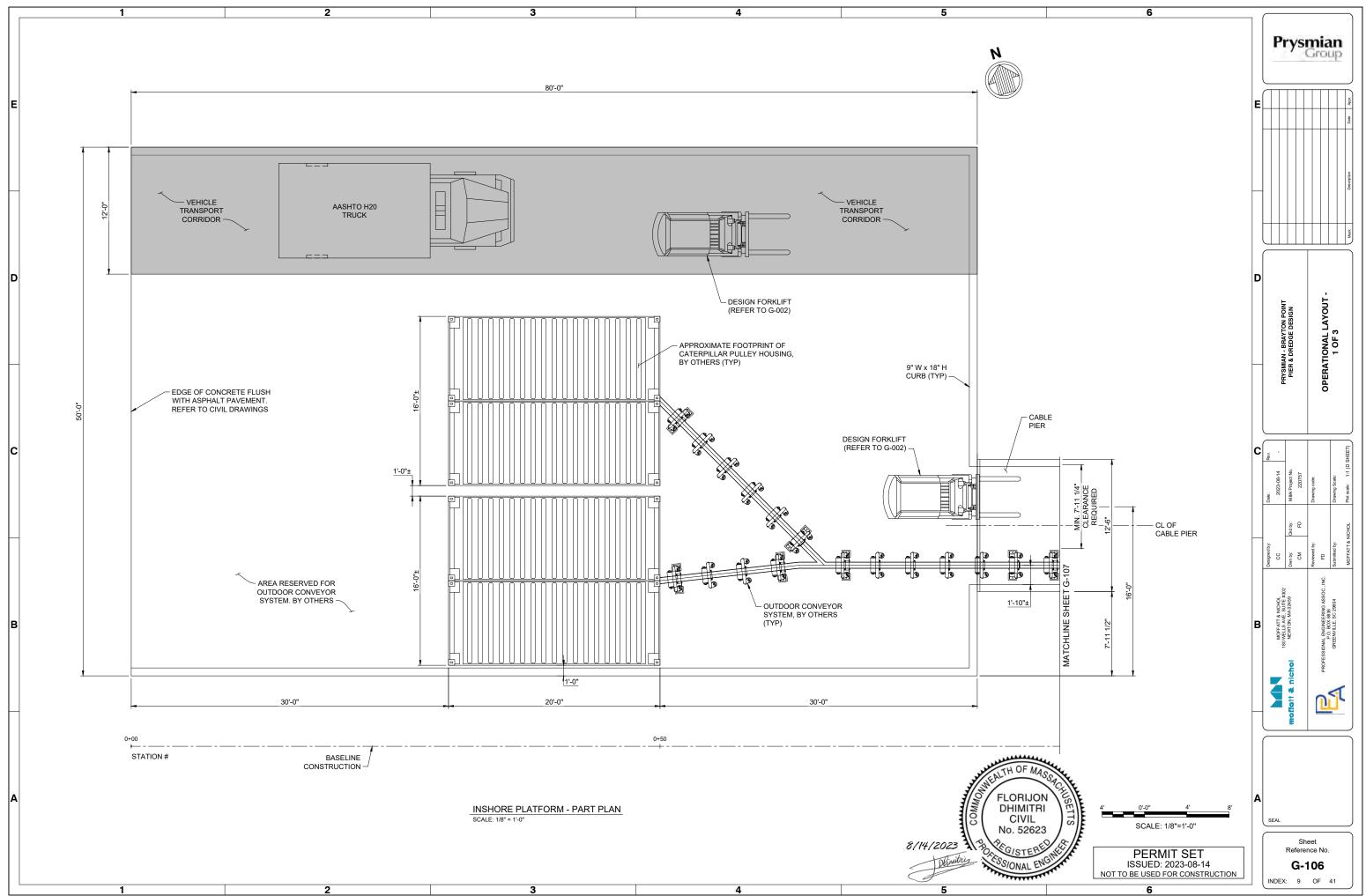
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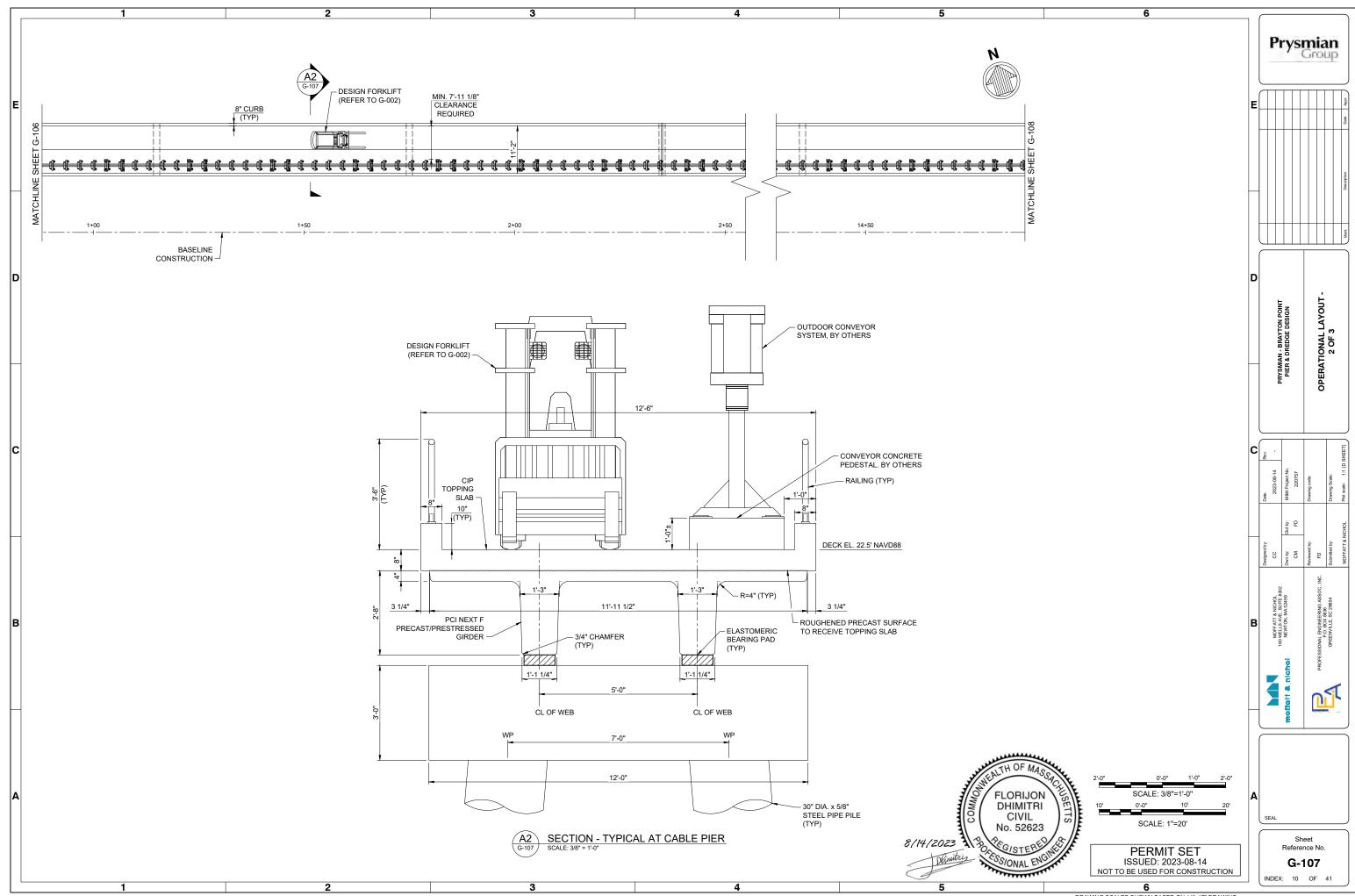
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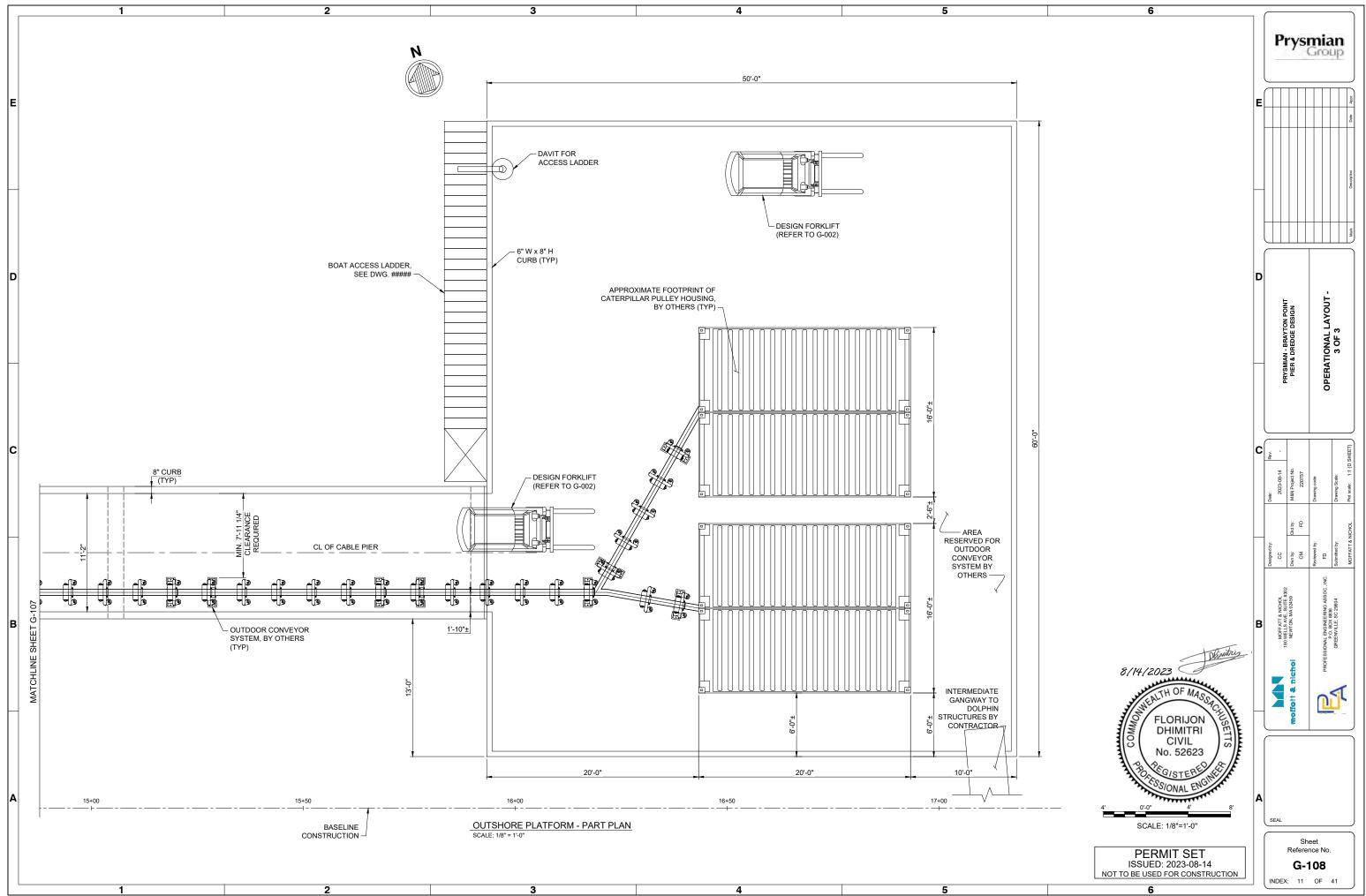
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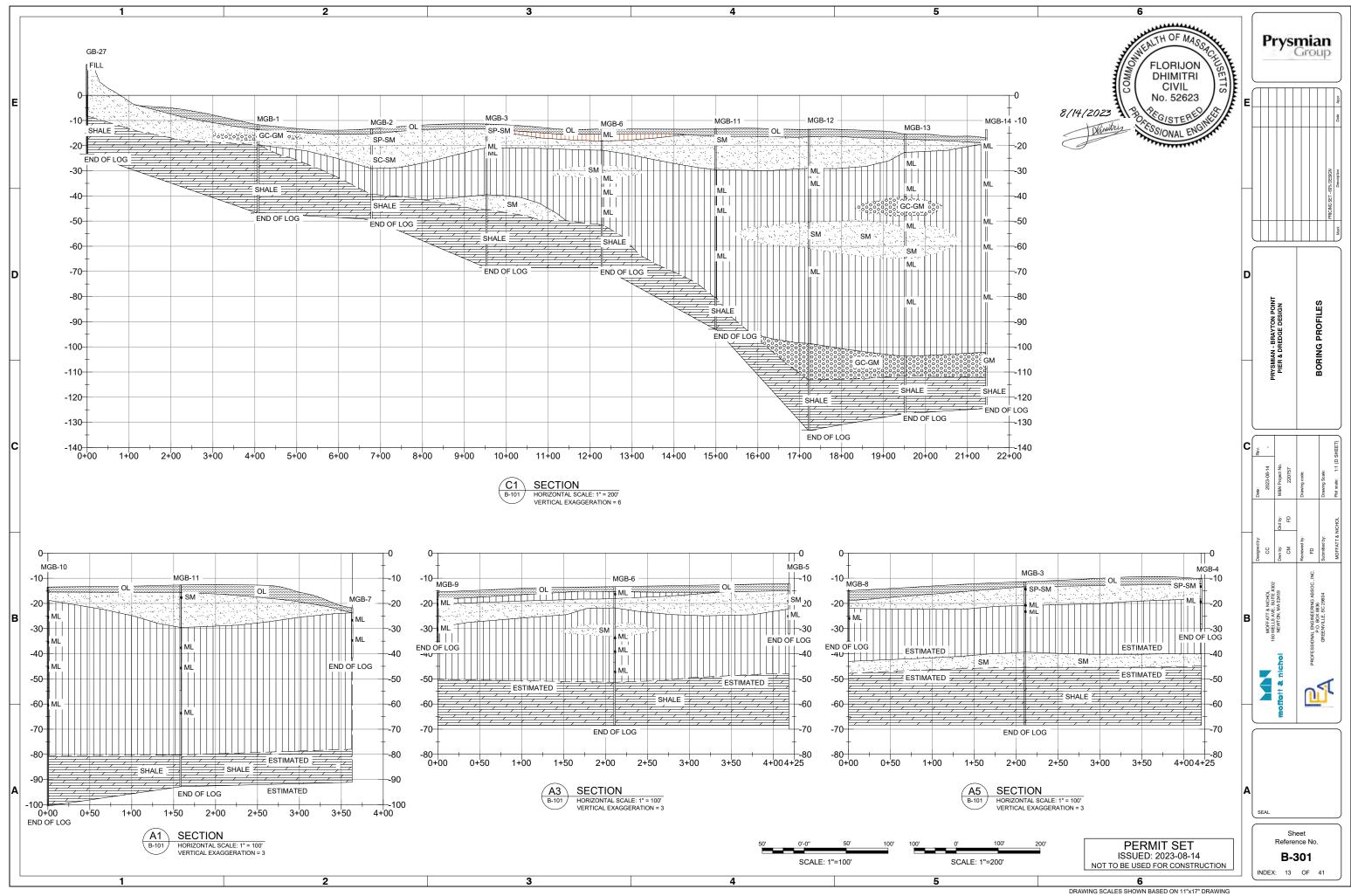
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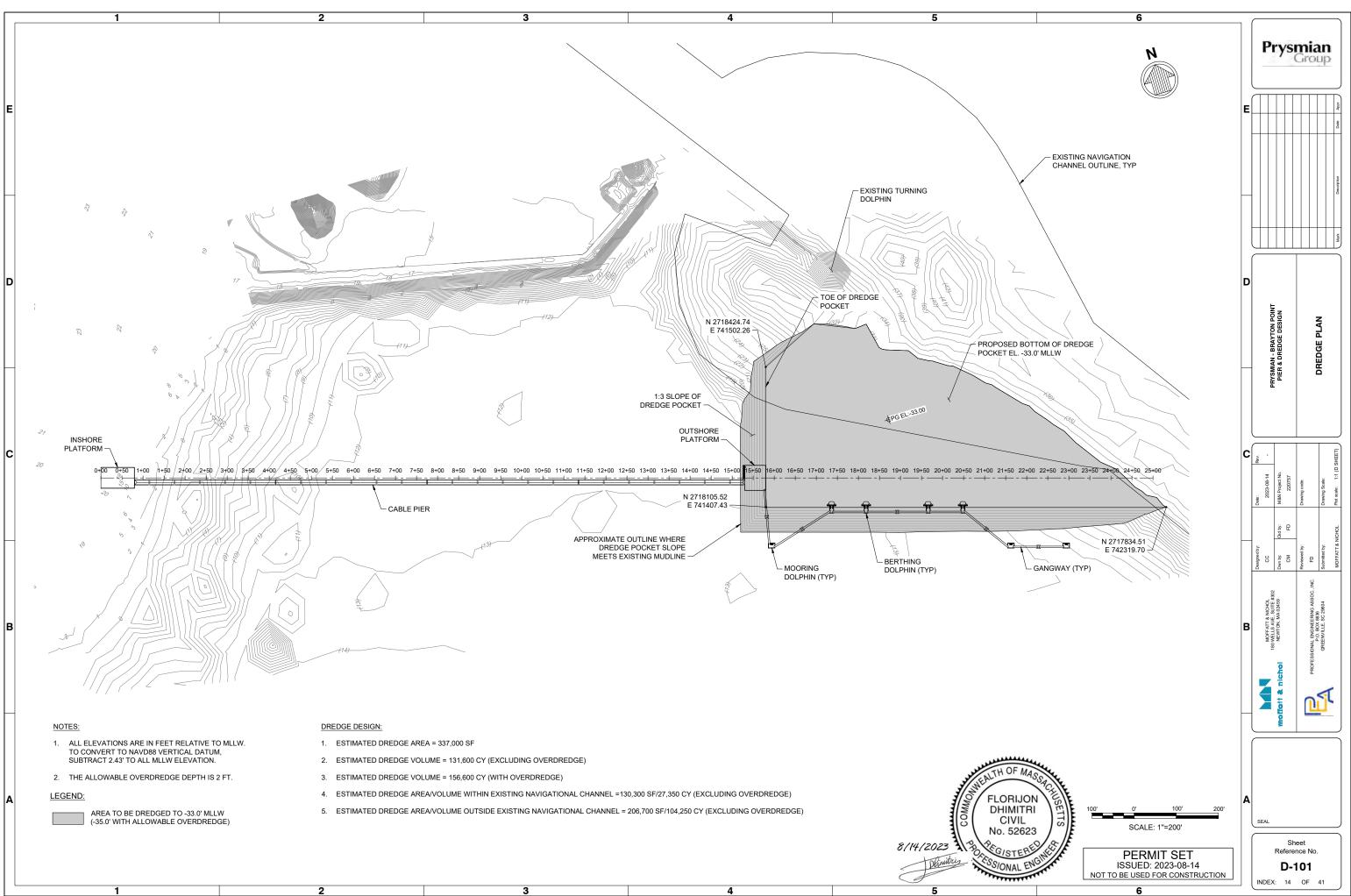


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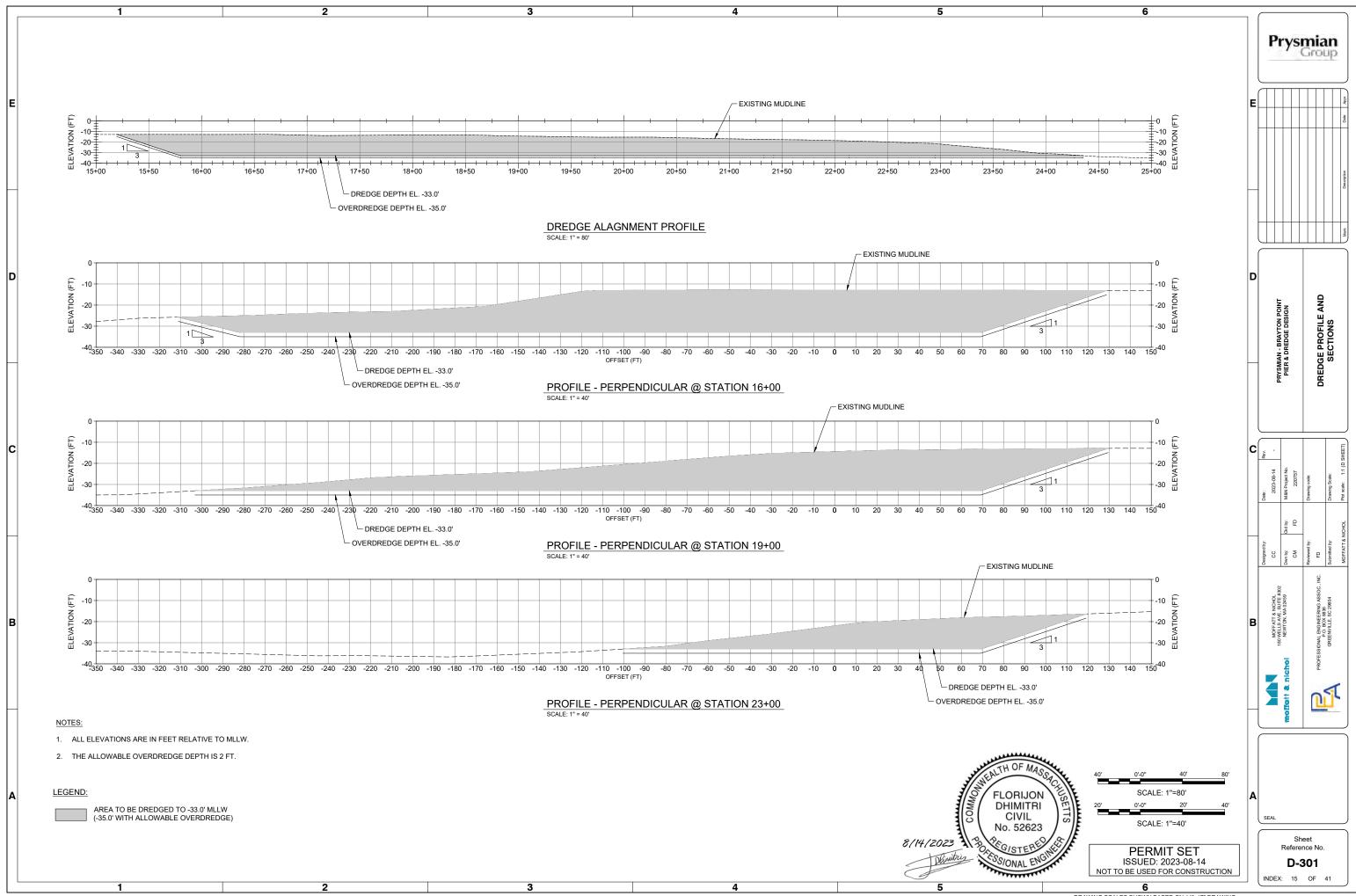


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DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING



DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING

	CONCRETE AND REINFORCING STEEL							STRUCTURAL AND MISCELLANEOUS STEEL:				
	C	 ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 301, UNLESS OTHERWISE NOTED. ALL CONCRETE SHALL BE NORMAL WEIGHT. EXPOSURE CLASSES C2 AND F3. 						 THE DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," AND AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES." 				
E	3. A C	LL DE	TAILING, FABRICATION, AND ERECTION O RM TO THE ACI MANUAL OF STANDARD P RCED CONCRETE STRUCTURES, ACI 315.	F REINFO RACTICE	RCING STEEL SHALL		2.	PLUS 5 TEMPC	% OVERAGE. FABRICATOR SHALL BE	ITS, BOLTS, WASHERS, ETC. NECESSARY FOR ERECTIO RESPONSIBLE FOR PROVIDING LIFTING LUGS AND ON, LIFTING AND STORAGE. FABRICATOR TO PROVIDE		
			IALS SHALL CONFORM TO THE FOLLOWIN CRETE STRENGTH	IG, UNLES	S OTHERWISE NOTED	D:	3.	STEEL	MATERIALS SHALL CONFORM TO THE	FOLLOWING, UNLESS OTHERWISE NOTED:		
			CAST-IN-PLACE CONCRETE:					A	STRUCTURAL STEEL PIPE PILES	ASTM A252, GRADE 3 MODIFIED, COATED (FY= 50 KSI		
		1	- AT TYPICAL LOCATIONS		5000 PSI (MIN AT 28 I			В	STRUCTURAL STEEL PIPE	ASTM A252, GRADE 3 MODIFIED, GALV (FY= 50 KSI)		
			- AT CABLE PIER CIP SLAB		6000 PSI (MIN AT 28 I	DAYS)		С	STRUCTURAL CARBON STEEL	ASTM A572 & A992, GALV UON		
\vdash			CAST-IN-PLACE NON-SHRINK GROUT		5,000 PSI (MIN AT 28	DAVO		D	STEEL PLATES	ASTM A572, GRADE 50, GALV		
		2	(PILE PLUG, PILE BLOCK-OUT, & BENT CA CLOSURES)	4P	5,000 PSI (WIIN AT 26	DATS)		E	STAINLESS STEEL SHAPES	ASTM A276, TYPE 316L		
		3	PRECAST CONCRETE AT CABLE PIER NE	XT BEAM	6,000 PSI (MIN AT 28	DAYS)		F	STAINLESS STEEL PLATES	ASTM A240, TYPE 316L		
		4	NON-METALLIC AND NON-SHRINK GROU		8,000 PSI (MIN AT 28			G	STAINLESS STEEL PIPE SLEEVES	ASTM A269 TYPE 316L		
		L				,		н	ANCHOR RODS	F1554, GRADE 55, GALV UON		
	В.		NFORCING STEEL - REINFORCING STEEL					I	BOLLARD ANCHOR RODS	PER MANUFACTURER'S RECOMMENDATION		
			M A 615, UNLESS OTHERWISE NOTED. R LOWING CHARACTERISTICS:	EINFORCI	ING SHALL HAVE THE			J	STRUCTURAL BOLTS	ASTM F3125, GRADE A325, GALV		
D		FUL		ASTMA	615, GRADE 60,	1		к	STAINLESS STEEL BOLTS	ASTM F593, ALLOY GROUP 2 TYPE 316L		
		1	REINFORCING STEEL AND DOWELS		COATED			L	NUTS	ASTM A563, GALV		
		2	REINFORCING STEEL AND DOWELS		615, GRADE 80,			М	STAINLESS STEEL NUTS	ASTM F594 TYPE 316L		
		<u> </u>	(PILE PLUGS ONLY)		COATED			Ν	WASHER	ASTM F436, GALV		
		3	SPIRALS, TIES	ASTM A	. 1064, EPOXY			0	HEADED WELDED STUDS	ASTM A29, AWS D1.1 CLAUSE 7		
				COATEL	ر ا			D	EENIDED SYSTEM BOI TS	ASTM E3125 GRADE A325 GALV		

- C. AIR ENTRAINMENT SHALL BE PROVIDED IN ACCORDANCE WITH ACI 301, EXPOSURE CLASS F3
- D. ALL CONCRETE SHALL INCLUDE CALCIUM NITRITE CORROSION INHIBITOR PER THE SPECIFICATION
- E. TOPPING SLAB CONCRETE MIX SHALL INCLUDE A SHRINKAGE REDUCING ADMIXTURE PER THE SPECIFICATIONS.

ASTM A416, GRADE 270

- 5. CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 3/4", 45° CHAMFERS UNLESS OTHERWISE NOTED.
- MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE 3" UNLESS OTHERWISE NOTED.
- ALL REINFORCING BAR SPLICES SHALL BE IN ACCORDANCE WITH THE SPLICE SCHEDULE AND IN ACCORDANCE WITH ACI 318, UNLESS OTHERWISE NOTED. SPLICES SHALL BE STAGGERED AND LOCATED AWAY FROM POINTS OF MAXIMUM TENSILE STRESS.

SPLICE SCHEDULE

RESTRESSING STEEL

7-WIRE LOW RELAXATION STRANDS)

____

BAR	LAP SPLICE LENGTHS (EPOXY COATED)							
SIZE	VERTICAL BARS & BEAM BOTTOM BARS	ALL OTHER BARS						
#3	17"	22"						
#4	22"	29"						
#5	28"	36"						
#6	33"	43"						
#7	49"	63"						
#8	55"	72"						
#9	63"	81"						
#10	70"	91"						
#11	78"	101"						

- 8. ALL JOINTS BETWEEN CAST-IN-PLACE CONCRETE AND HARDENED CONCRETE SHALL BE CLEAN WITH A ROUGHENED SURFACE OF 1/4" AMPLITUDE AND COATED WITH AN APPROVED BONDING COMPOUND. PRECAST PANELS SHALL COME WITH THE ROUGHENED SURFACE AT THE PLANNED JOINTS.
- 9. EXPOSED FINISHED CONCRETE SURFACES (HORIZONTAL) SHALL BE ROUGH BROOM FINISH.
- 10. EPOXY COATED REINFORCING STEEL SHALL COMPLY WITH ASTM A775.
- 11. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE REVIEW, CONFIRMATION, AND FABRICATION, SHIPPING, SAFE HANDLING OF THE PRECAST MEMBERS DURING INSTALLATION, CONTRACTOR TO SUBMIT A WORK PLAN TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION OUTLINING SHIPPING AND HANDLING OPERATIONS, INCLUDING PICK POINTS OF THE PRECAST MEMBERS ENSURING THAT NO CRACKING OCCURS THROUGHOUT THE HANDLING AND INSTALLATION PHASE

STRUCTURAL AND MISCELLANEOUS STEEL

3

A	STRUCTURAL STEEL PIPE PILES	ASTM A252, GRADE 3 MODIFIED, COATED (FY= 50 KSI)
В	STRUCTURAL STEEL PIPE	ASTM A252, GRADE 3 MODIFIED, GALV (FY= 50 KSI)
С	STRUCTURAL CARBON STEEL	ASTM A572 & A992, GALV UON
D	STEEL PLATES	ASTM A572, GRADE 50, GALV
E	STAINLESS STEEL SHAPES	ASTM A276, TYPE 316L
F	STAINLESS STEEL PLATES	ASTM A240, TYPE 316L
G	STAINLESS STEEL PIPE SLEEVES	ASTM A269 TYPE 316L
н	ANCHOR RODS	F1554, GRADE 55, GALV UON
I	BOLLARD ANCHOR RODS	PER MANUFACTURER'S RECOMMENDATION
J	STRUCTURAL BOLTS	ASTM F3125, GRADE A325, GALV
К	STAINLESS STEEL BOLTS	ASTM F593, ALLOY GROUP 2 TYPE 316L
L	NUTS	ASTM A563, GALV
М	STAINLESS STEEL NUTS	ASTM F594 TYPE 316L
N	WASHER	ASTM F436, GALV
0	HEADED WELDED STUDS	ASTM A29, AWS D1.1 CLAUSE 7
Р	FENDER SYSTEM BOLTS	ASTM F3125, GRADE A325, GALV
Q	FENDER SYSTEM NUTS	ASTM A563, GALV
R	MOORING HARDWARE	ASTM A27, GRADE 65-35
S	HSS MEMBERS	ASTM A500, GRADE B, COATED
Т	PIPES (NON-STRUCTURAL)	ASTM A53, GRADE B, GALV
U	STAINLESS STEEL LEVELING BOLTS	ASTM F593, ALLOY GROUP 2 TYPE 316L

- 4. ALL EXPOSED CARBON STRUCTURAL STEEL (EXCEPT AS INDICATED) SHALL BE HOT-DIP GALVANIZING. SEE SPECIFICATIONS.
- 5. SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
- ALL BOLTS SHALL BE NEW, HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM F2329, UON. ALL BOLTS 6. SHALL INCLUDE COMPATIBLE WASHERS.
- ALL DAMAGED GALVANIZED FINISH SHALL BE FIELD TREATED WITH TWO COATS OF HIGH ZINC OXIDE PAINT, COLD GALVANIZING COMPOUNDS, OR APPROVED EQUAL CONFORMING TO ASTM A780, ALL EXPOSED THREADED SURFACES SHALL BE PAINTED WITH TWO COATS OF HIGH ZINC DUST OXIDE PAINT AFTER INSTALLATION
- 6. WELDING SHALL CONFORM TO THE CURRENT AWS D1.1 "STRUCTURAL WELDING CODE-STEEL".
- WELDS SHALL BE MADE BY CERTIFIED WELDERS AND WELDING OPERATORS WHO HAVE BEEN 7. PREVIOUSLY QUALIFIED BY TESTS AS PRESCRIBED IN THE CURRENT AWS D1.1 "STRUCTURAL WELDING CODE-STEEL." PROOF OF CERTIFICATION SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL BEFORE ANY WELDING IS PERMITTED TO BEGIN.
- 8. ALL WELDING OF CARBON STEEL SHALL USED E70 SERIES LOW HYDROGEN ELECTRODES.
- ALL WELDING OF STAINLESS STEEL TO STAINLESS STEEL SHALL USE E308 OR E316 ELECTRODES 9. DEPENDING ON BASE MATERIAL.
- 10. ALL WELDING OF STAINLESS STEEL TO CARBON STEEL SHALL USE E309 ELECTRODES.
- 11. EACH PIECE TO BE CLEARLY MARKED WITH MARK NUMBER AS PER DETAIL DRAWING.

COMPONENTS TO HOT-DIP GALVANIZED:

- A ALL BOLTS NUTS WASHERS COUPLERS AND MISCELLANEOUS HARDWARE
- B. MISCELLANEOUS STEEL.

COMPONENTS TO BE COATED:

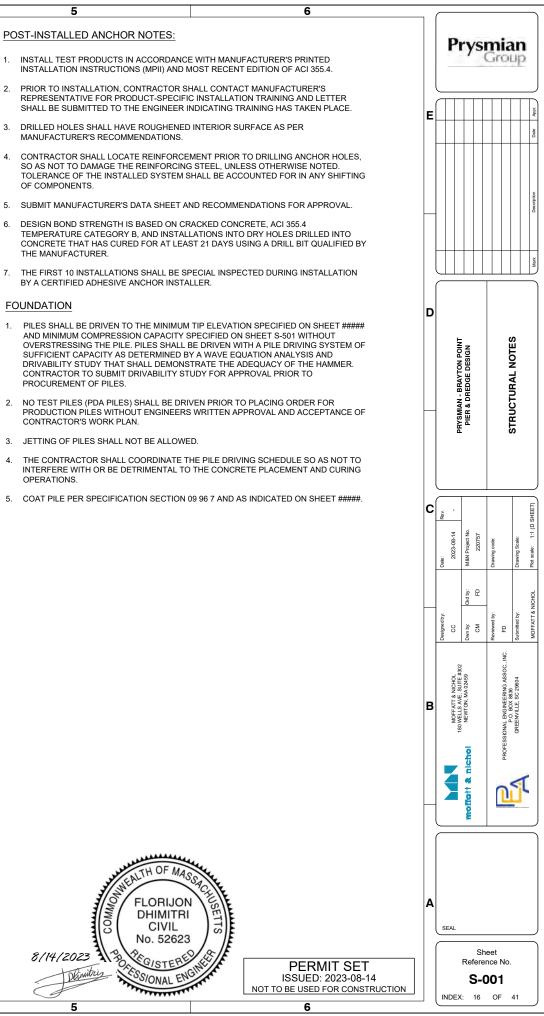
- A. STEEL PIPE PILES
- B. FIELD WELDS
- C. BOLLARDS

POST-INSTALLED ANCHOR NOTES:

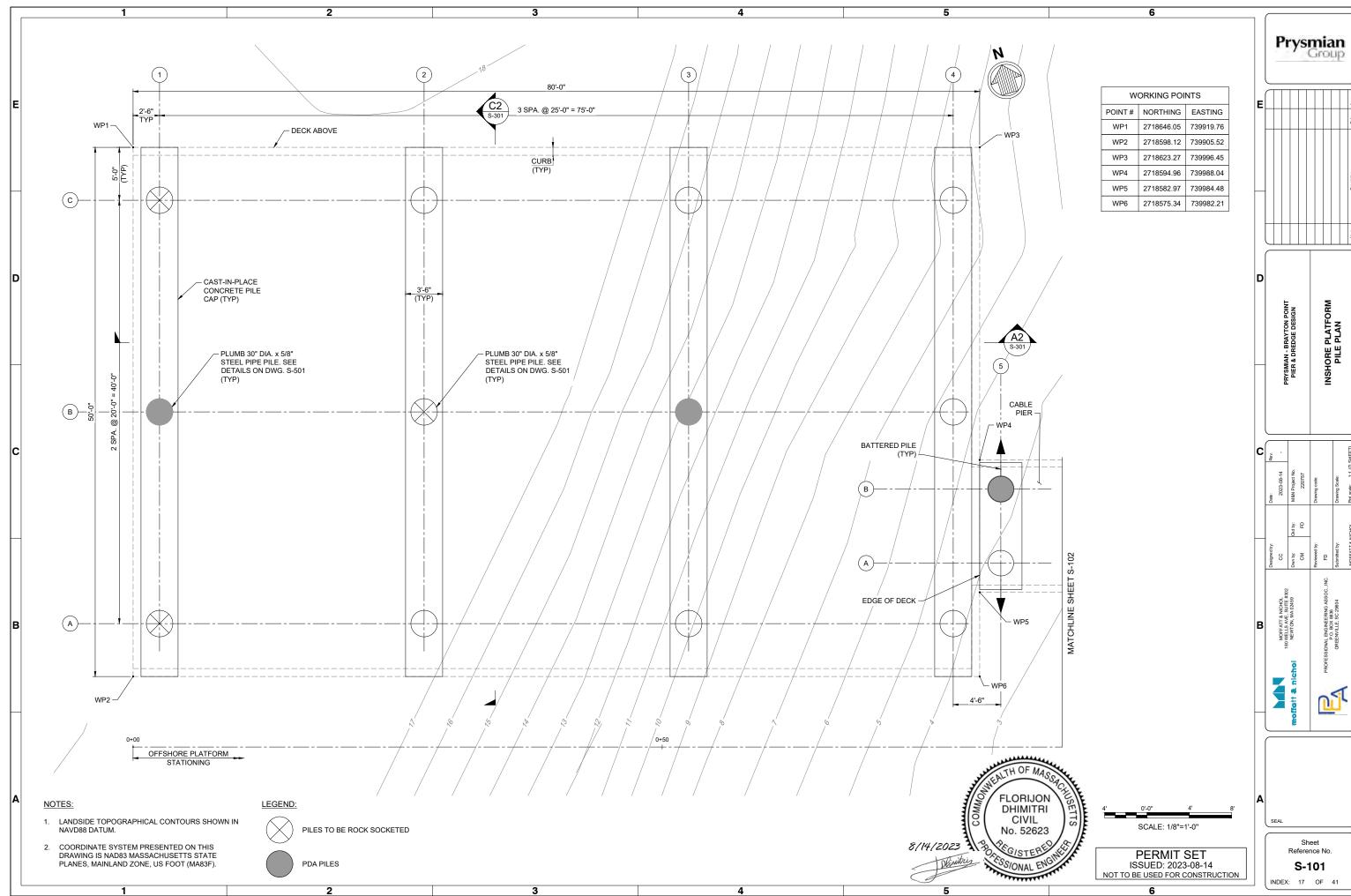
- 2.
- OF COMPONENTS
- THE MANUFACTURER.

FOUNDATION

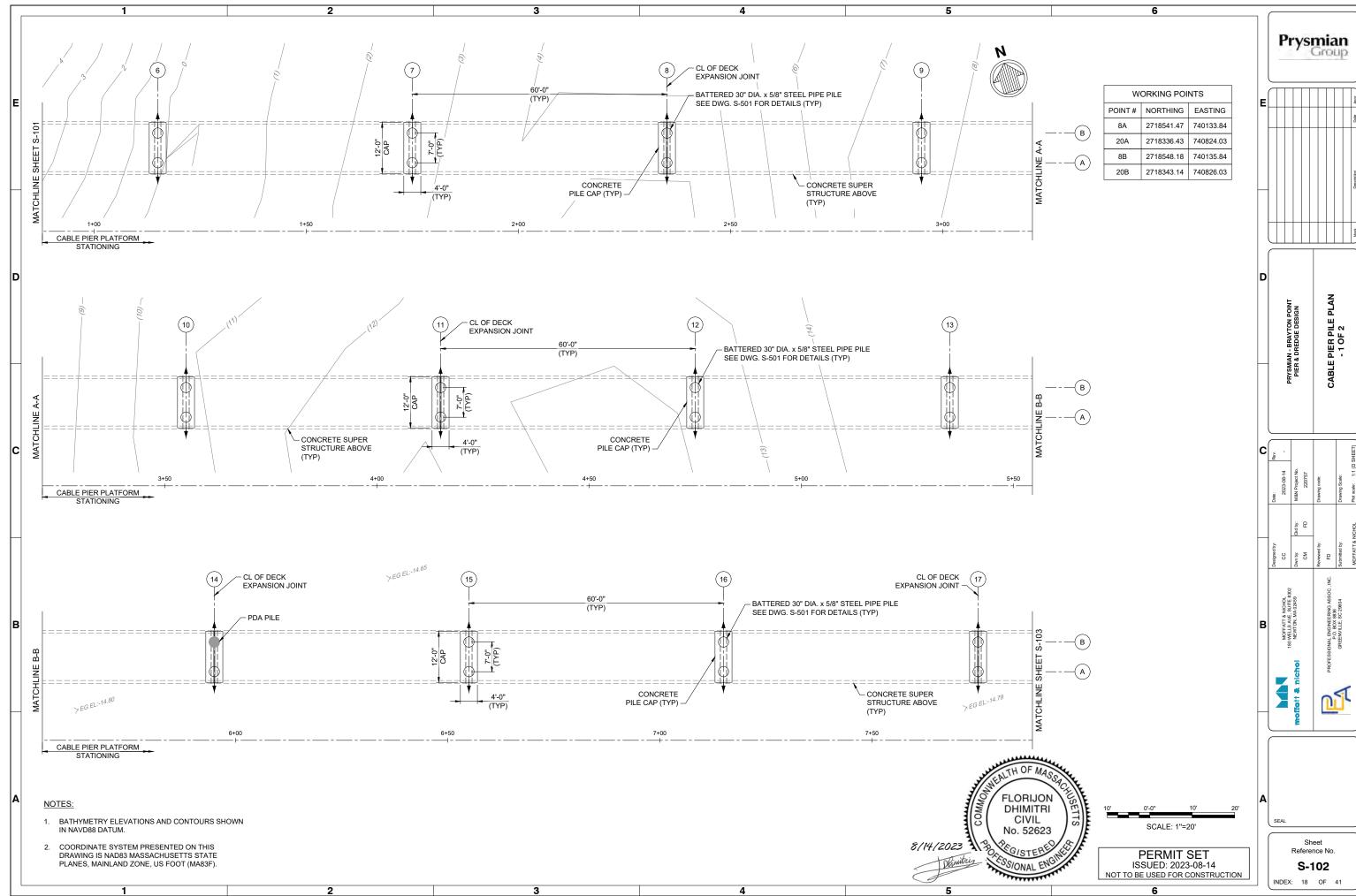
- PROCUREMENT OF PILES.
- CONTRACTOR'S WORK PLAN
- OPERATIONS



DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING

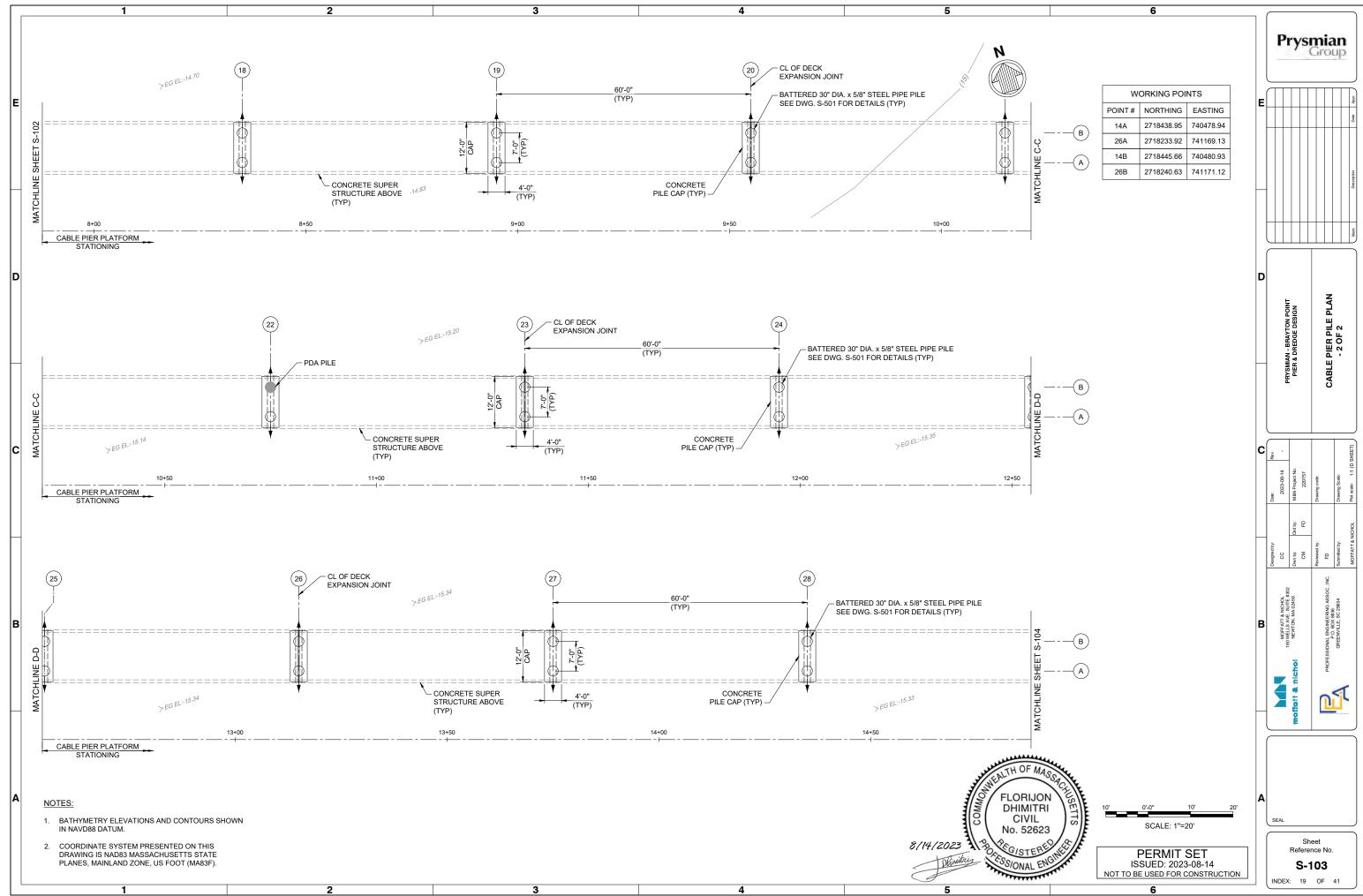


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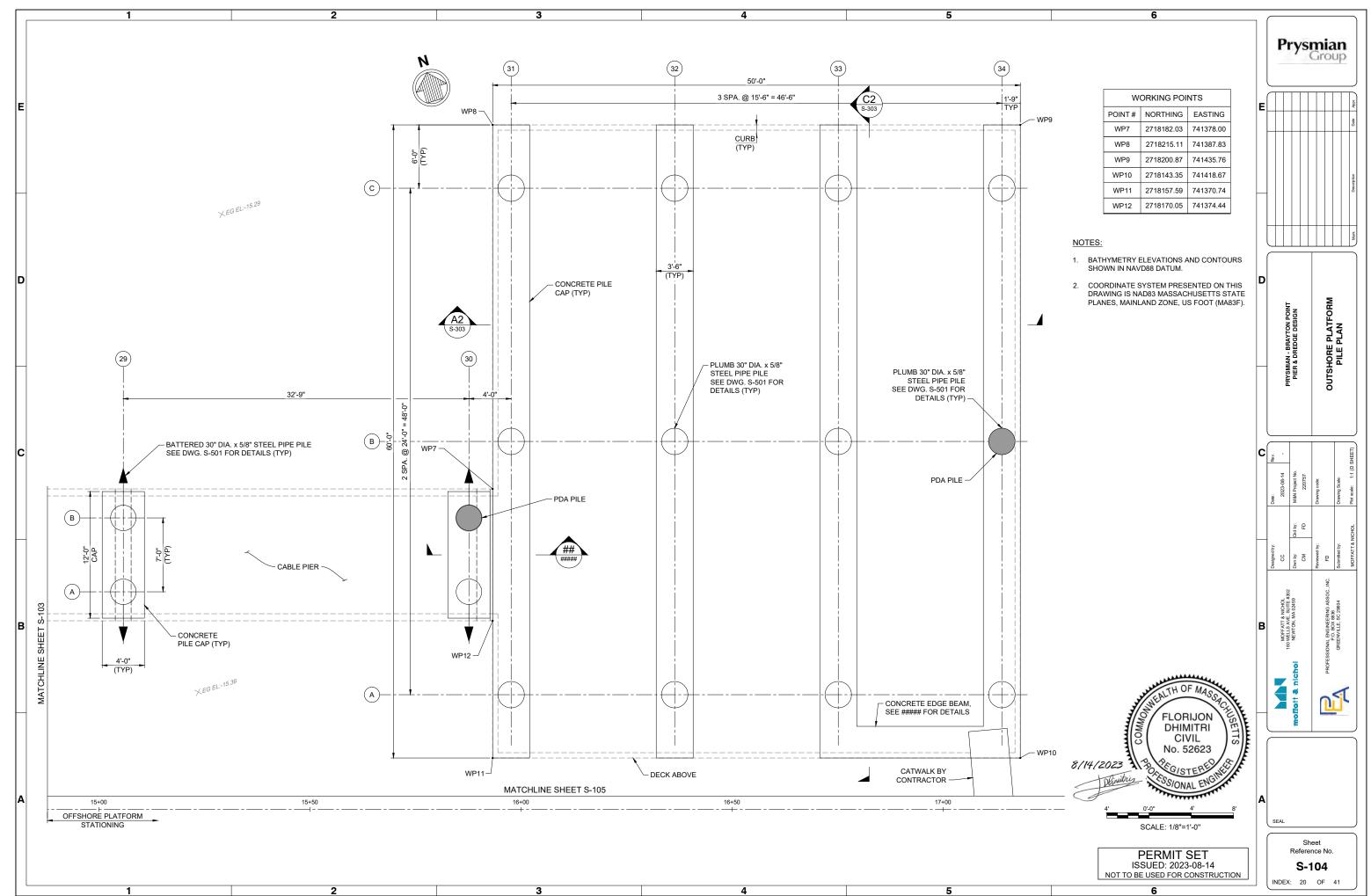
WORKING POINTS			
POINT #	NORTHING	EASTING	
8A	2718541.47	740133.84	
20A	2718336.43	740824.03	
8B	2718548.18	740135.84	
20B	2718343.14	740826.03	

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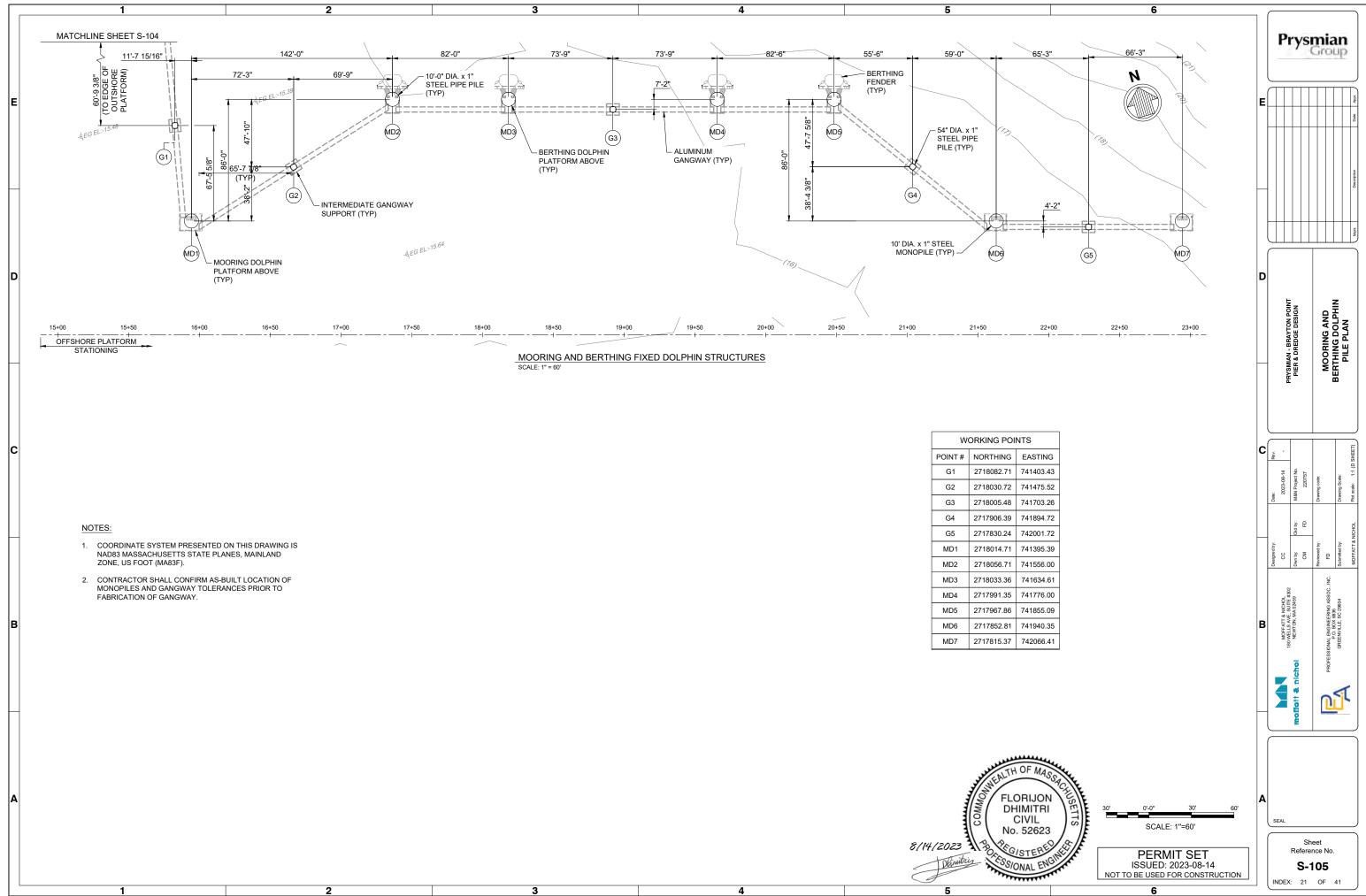


WORKING POINTS			
POINT #	NORTHING	EASTING	
14A	2718438.95	740478.94	
26A	2718233.92	741169.13	
14B	2718445.66	740480.93	
26B	2718240.63	741171.12	

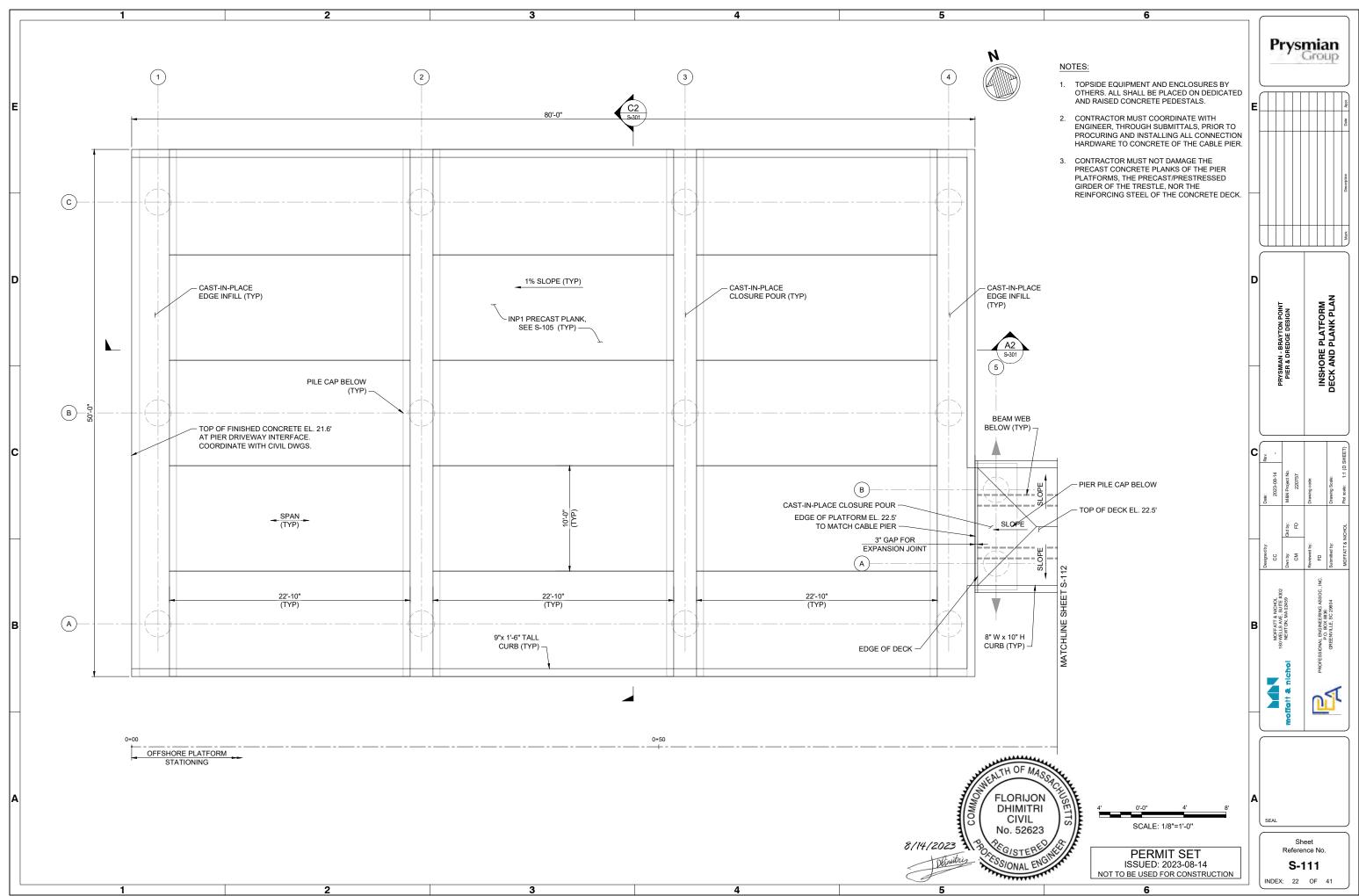




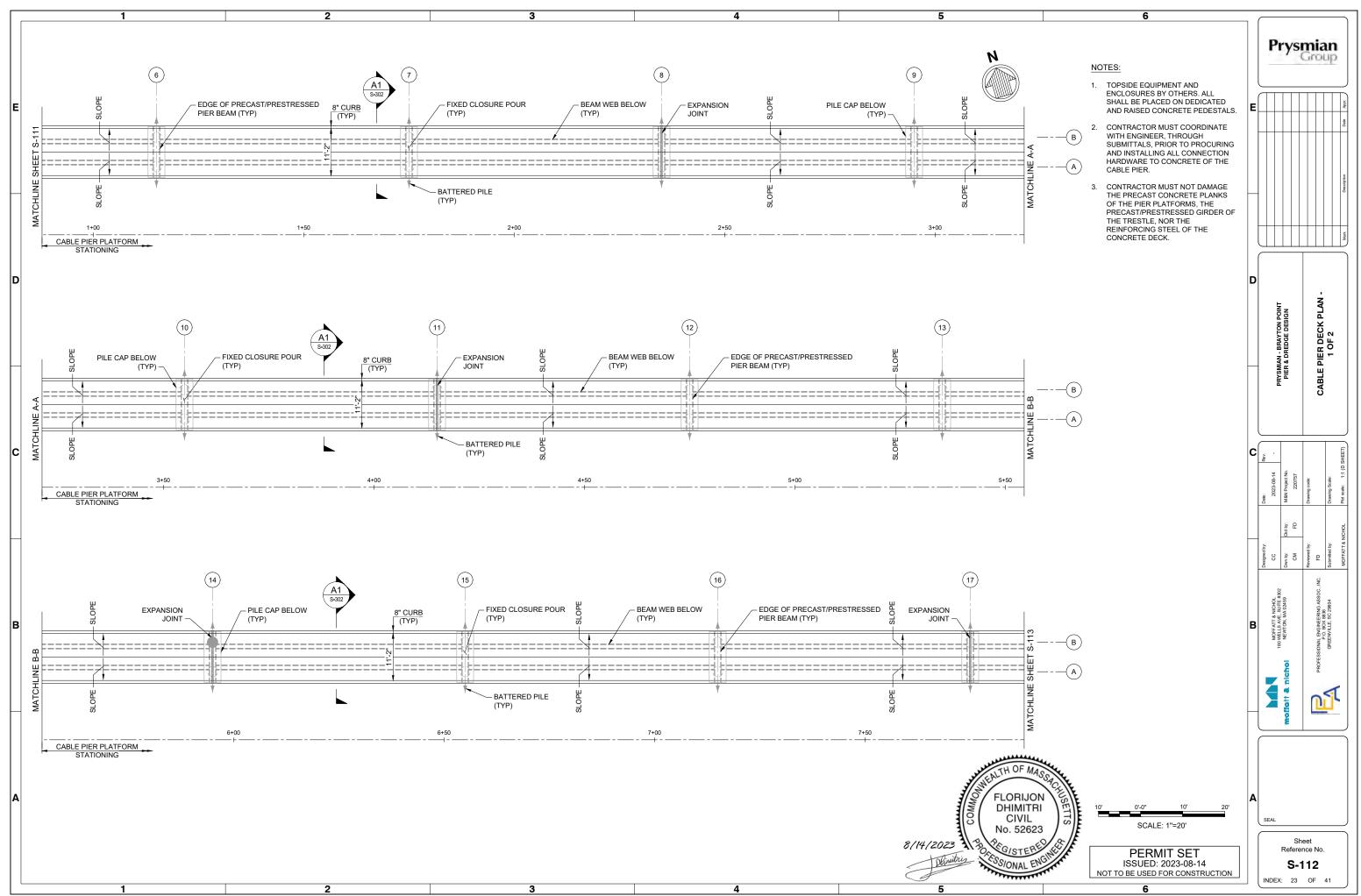
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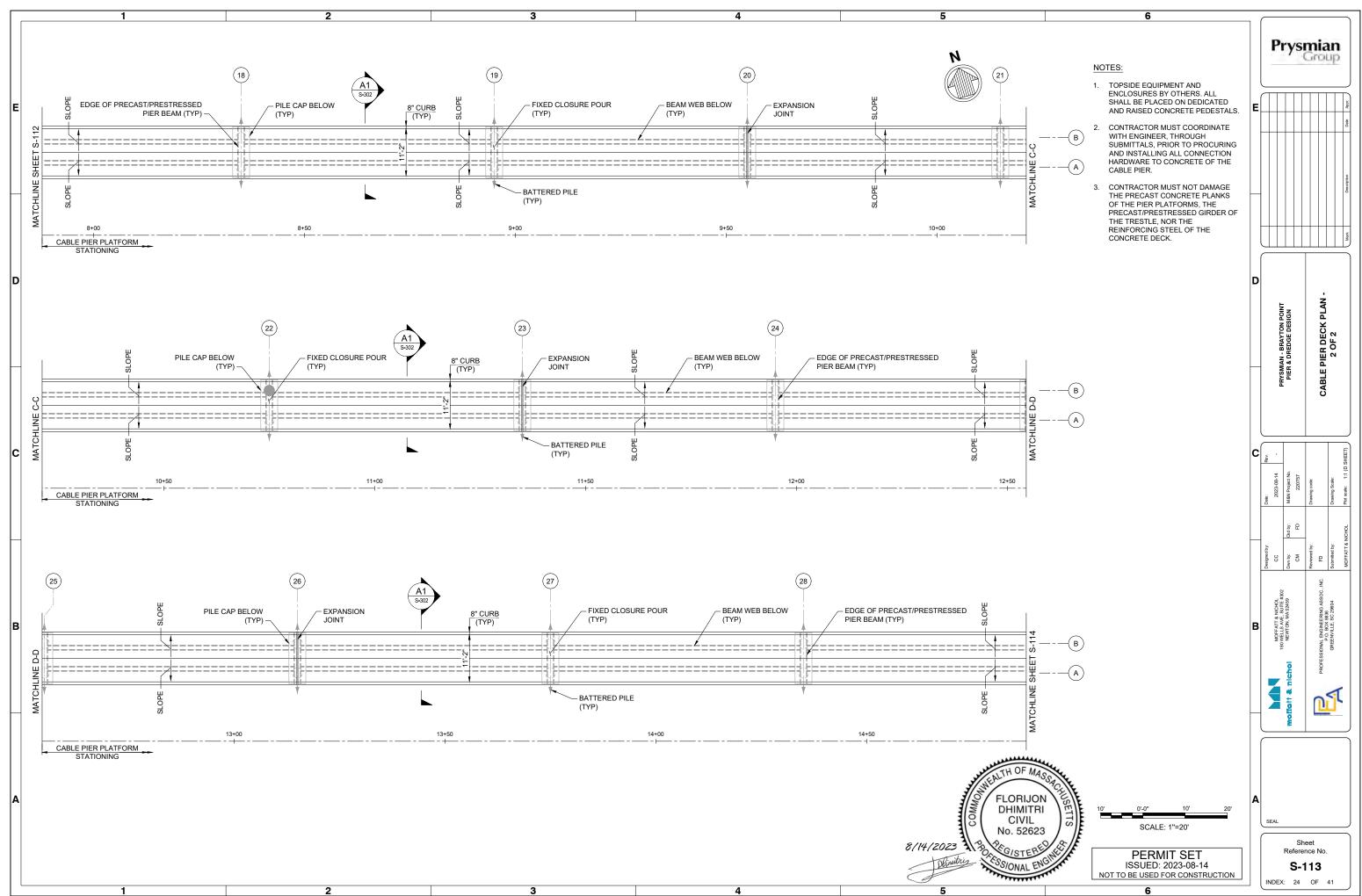


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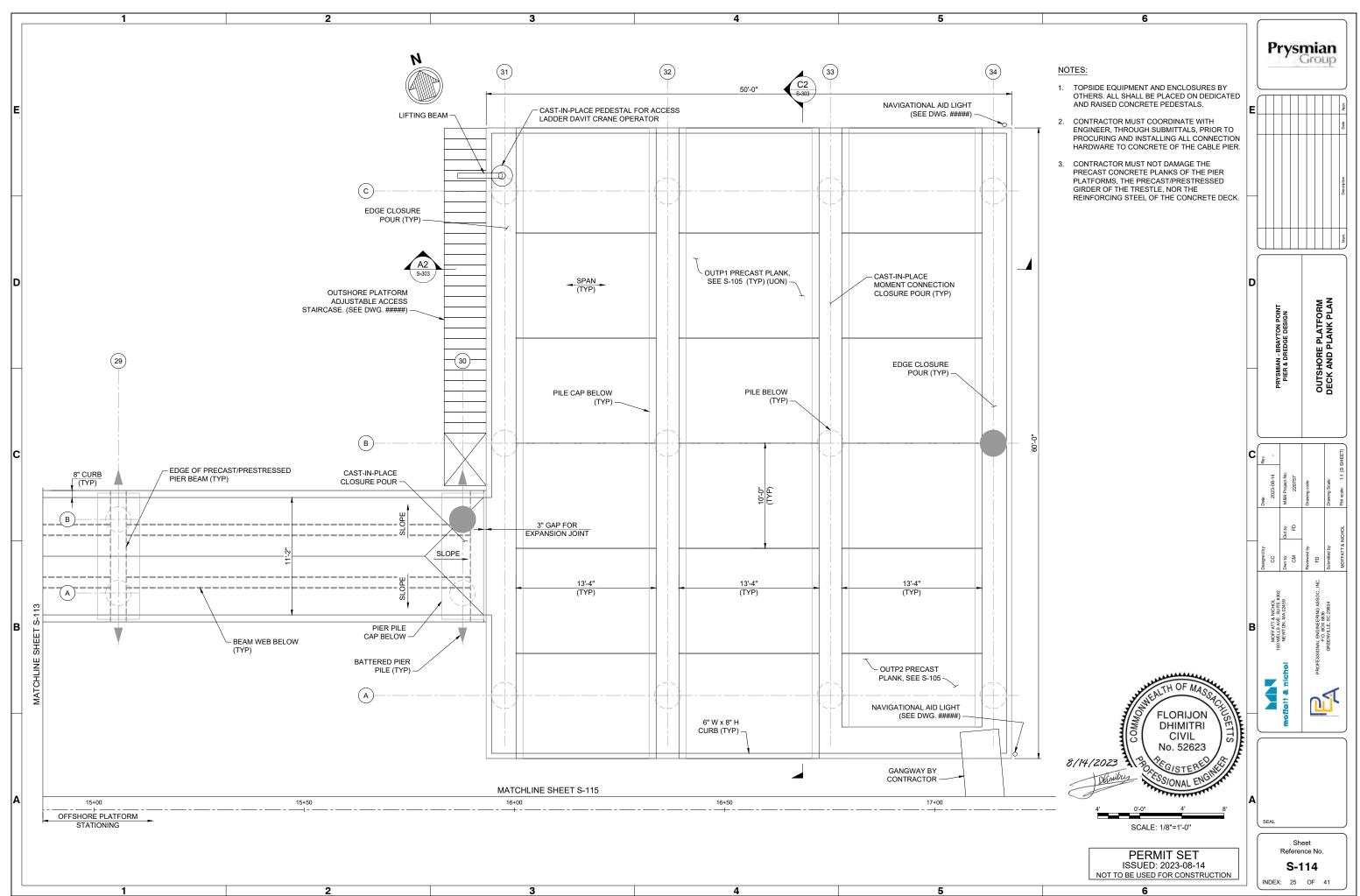


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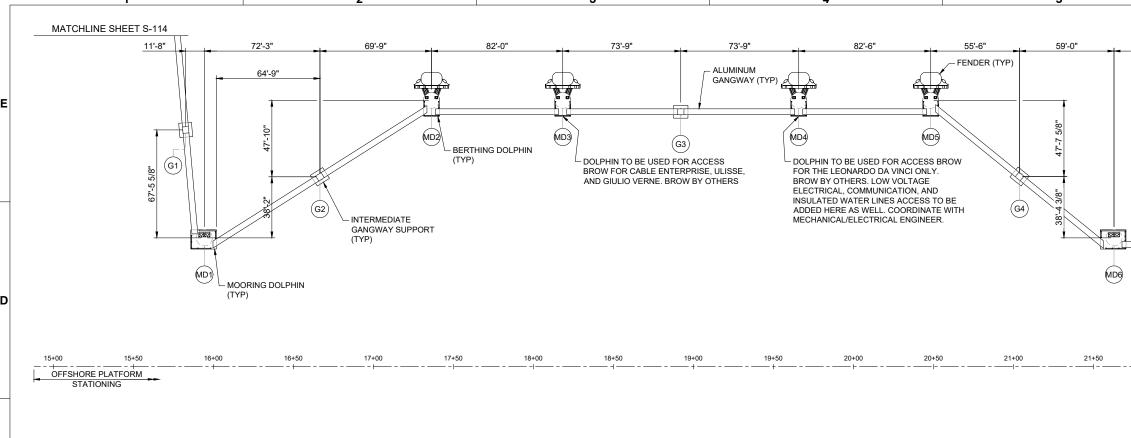
SCALES SHOWN BASED ON 11"x17" DRAWIN



DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING



DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING



NOTES:

- CONTRACTOR TO PROCURE AND INSTALL ALL CATWALK STRUCTURES 1. BETWEEN THE CABLE PIER'S OUTSHORE PLATFORM AND ALL MONOPILE DOLPHINS AND INTERMEDIATE CATWALK SUPPORTS
- CONTRACTOR MUST SUBMIT MANUFACTURER DESIGN DRAWINGS, 2. DESIGN CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER, AND TECHNICAL SPECIFICATIONS PRIOR TO FABRICATION / PROCUREMENT OF CATWALKS FOR ENGINEER'S REVIEW AND APPROVAL
- DO NOT FABRICATE CATWALKS UNTIL DOLPHINS AND INTERMEDIATE 3. CATWALK SUPPORTS HAVE BEEN INSTALLED.
- CONTRACTOR TO FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION 4. OF CATWALKS BASED ON WALKWAY SUPPORTS FINAL LOCATION.
- FABRICATOR IS RESPONSIBLE FOR PROVIDING LIFTING LUGS AND 5. TEMPORARY BRACING FOR TRANSPORTATION, LIFTING AND STORAGE.
- CONTRACTOR MUST COORDINATE WITH ENGINEER, THROUGH SUBMITTALS, PRIOR TO PROCURING AND INSTALLING ALL CONNECTION 6. HARDWARE TO CONCRETE DECK.
- CONTRACTOR MUST NOT DAMAGE THE REINFORCING STEEL OF THE 7. CONCRETE DECK WHEN INSTALLING CATWALK CONNECTION ANCHORAGE. GPR / SPR METHODS ARE ACCEPTABLE MEANS.

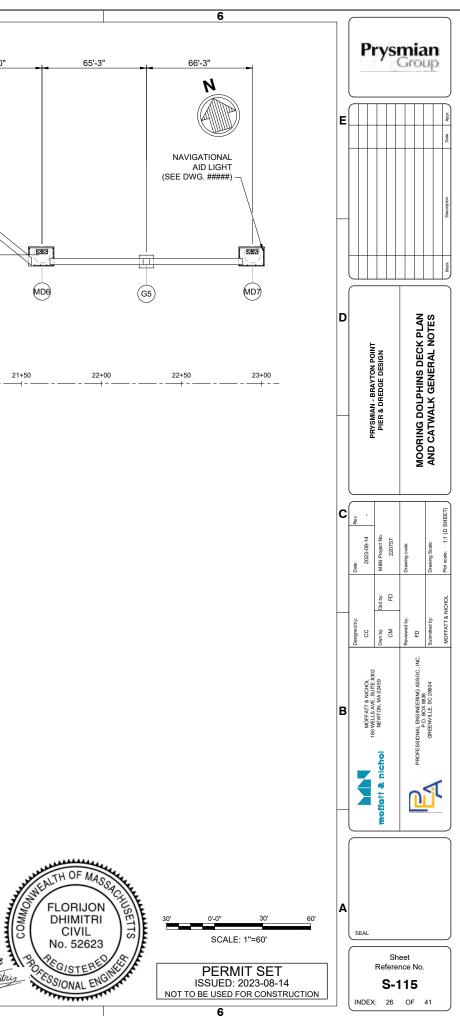
PERFORMANCE SPECIFICATIONS:

- 1. THE CATWALK STRUCTURES, AND ALL CONNECTION COMPONENTS / HARDWARE, SHALL BE SUITABLE FOR THE MARINE ENVIRONMENT.
- 2. CATWALK TREADS MUST BE SERRATED GRATING.
- 3. CATWALKS MUST BE ABLE TO ACCOMMODATE SUPPORTING UTILITY LINES (SUPPORTS AND UTILITIES PROVIDED BY OTHERS).
- 4. ANCHORAGE FOR CATWALK SUPPORTS MUST BE NO LESS THAN 12 INCHES FROM EDGE OF CONCRETE DECK.
- 5. SERVICEABILITY:
- a. MINIMUM MIDSPAN VERTICAL DEFLECTION OF L / 800. b. THE END SUPPORTS OF EACH CATWALK SHALL ACCOMMODATE 6 INCHES OF LATERAL DISPLACEMENT, IN ALL DIRECTIONS, DUE TO DECK MOVEMENT.

DESIGN CRITERIA:

- GRAVITY LOADING:

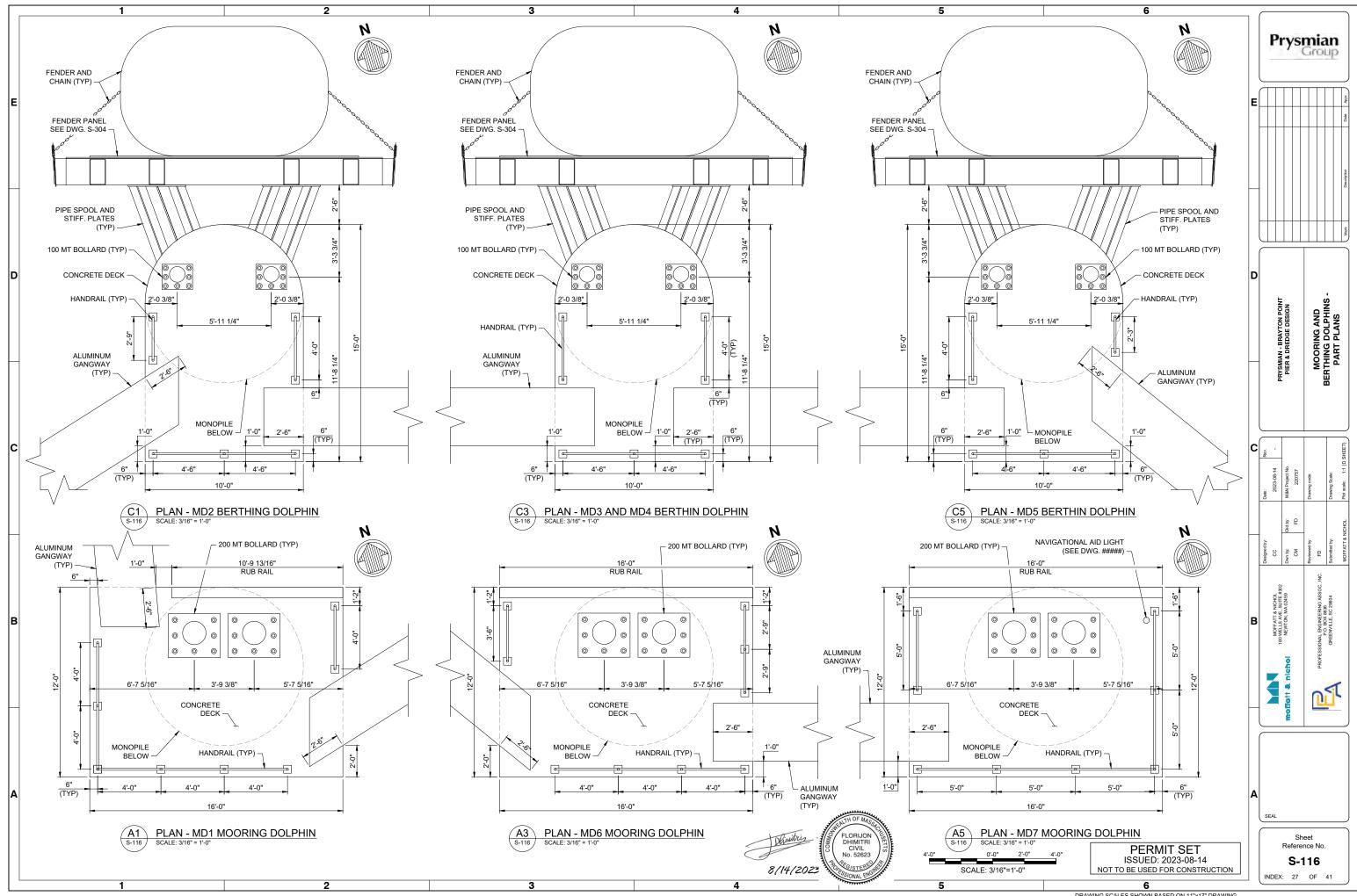
 a. UNIFORMLY DISTRIBUTED LIVE LOAD = 50 PSF.
- b. CONCENTRATED LIVE LOAD = 300 LBS.
- c. LINEARLY DISTRIBUTED UTILITY LINE ROAD = 25 PLF.
- d. MAXIMUM GROUND SNOW LOAD = 30 PSF.
- 2. LATERAL LOADING:
- a. BASIC WIND SPEED = 136 MPH.
- b. NO WAVE LOADING NEED CONSIDERED.
- c. NO IMPACT LOADING NEED CONSIDERED.



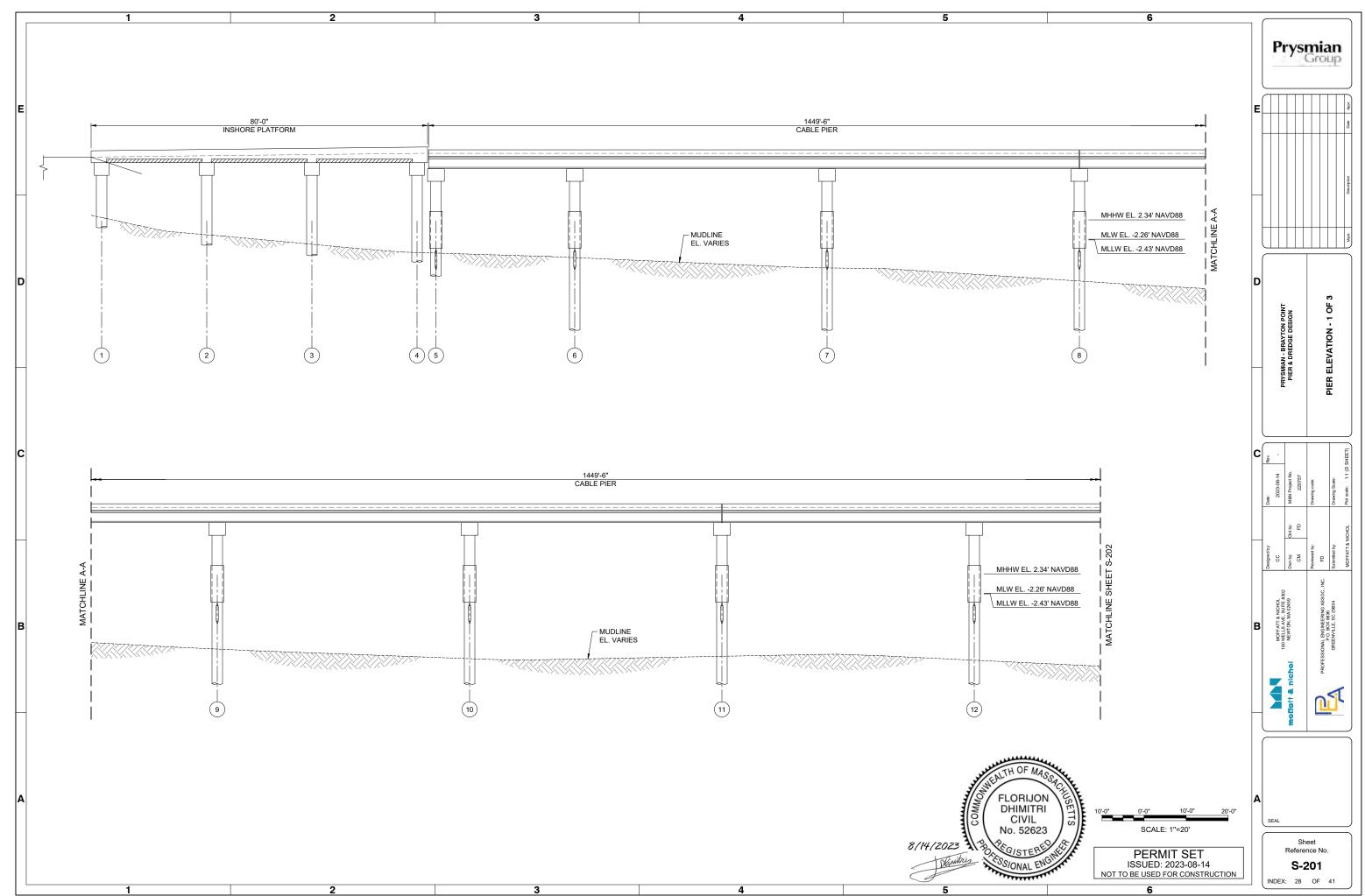
DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING

8/14/2023

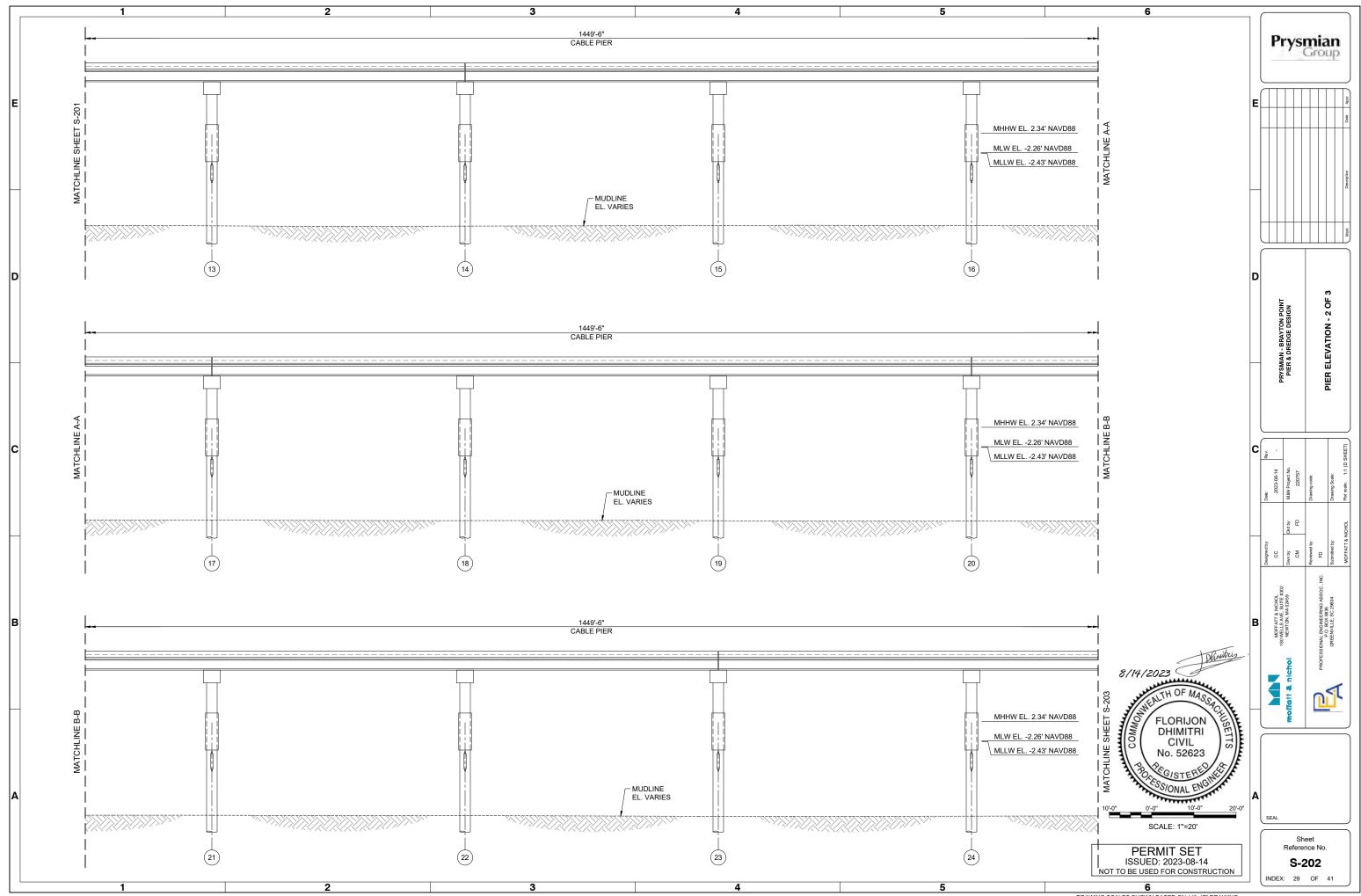
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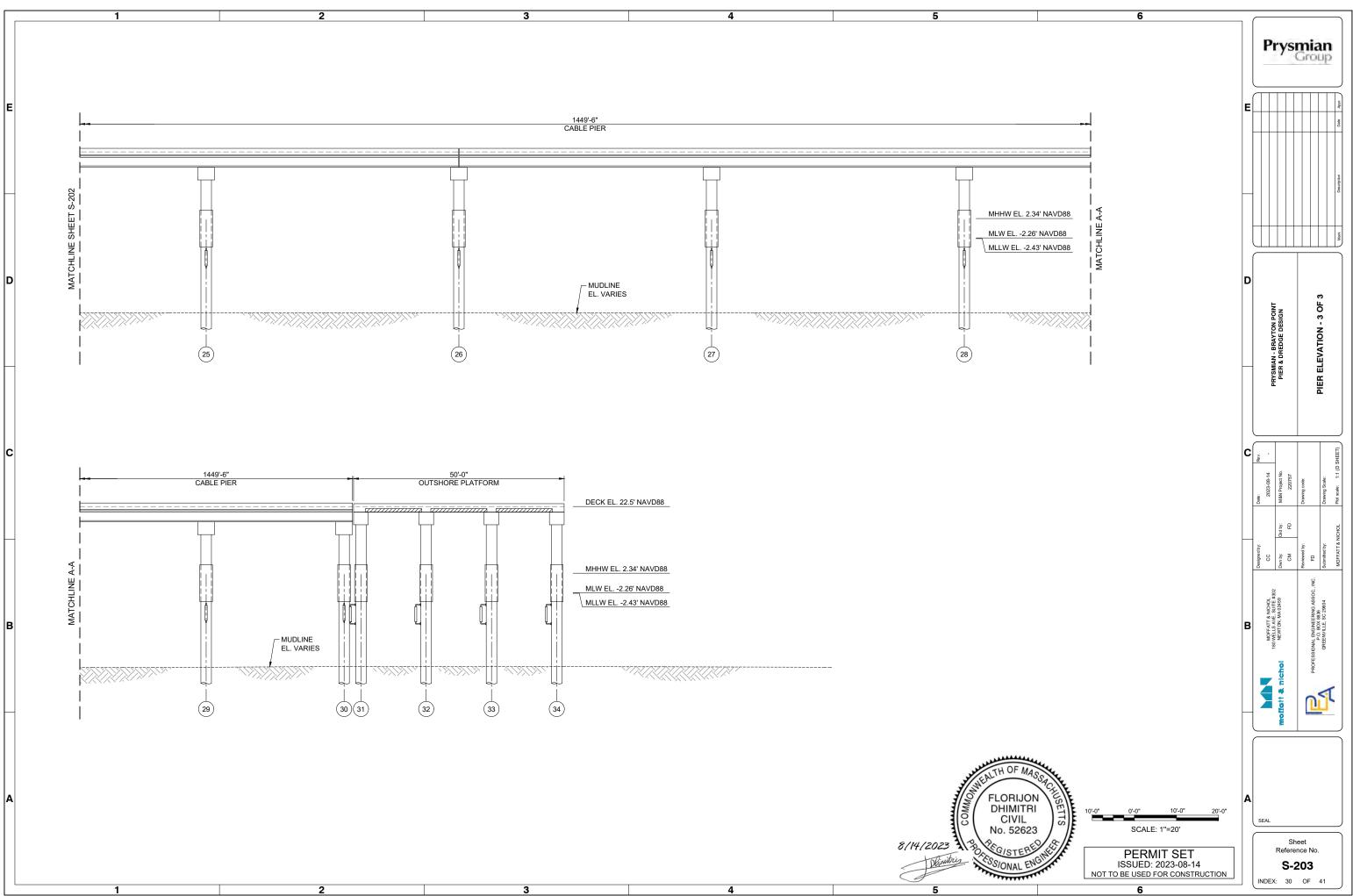
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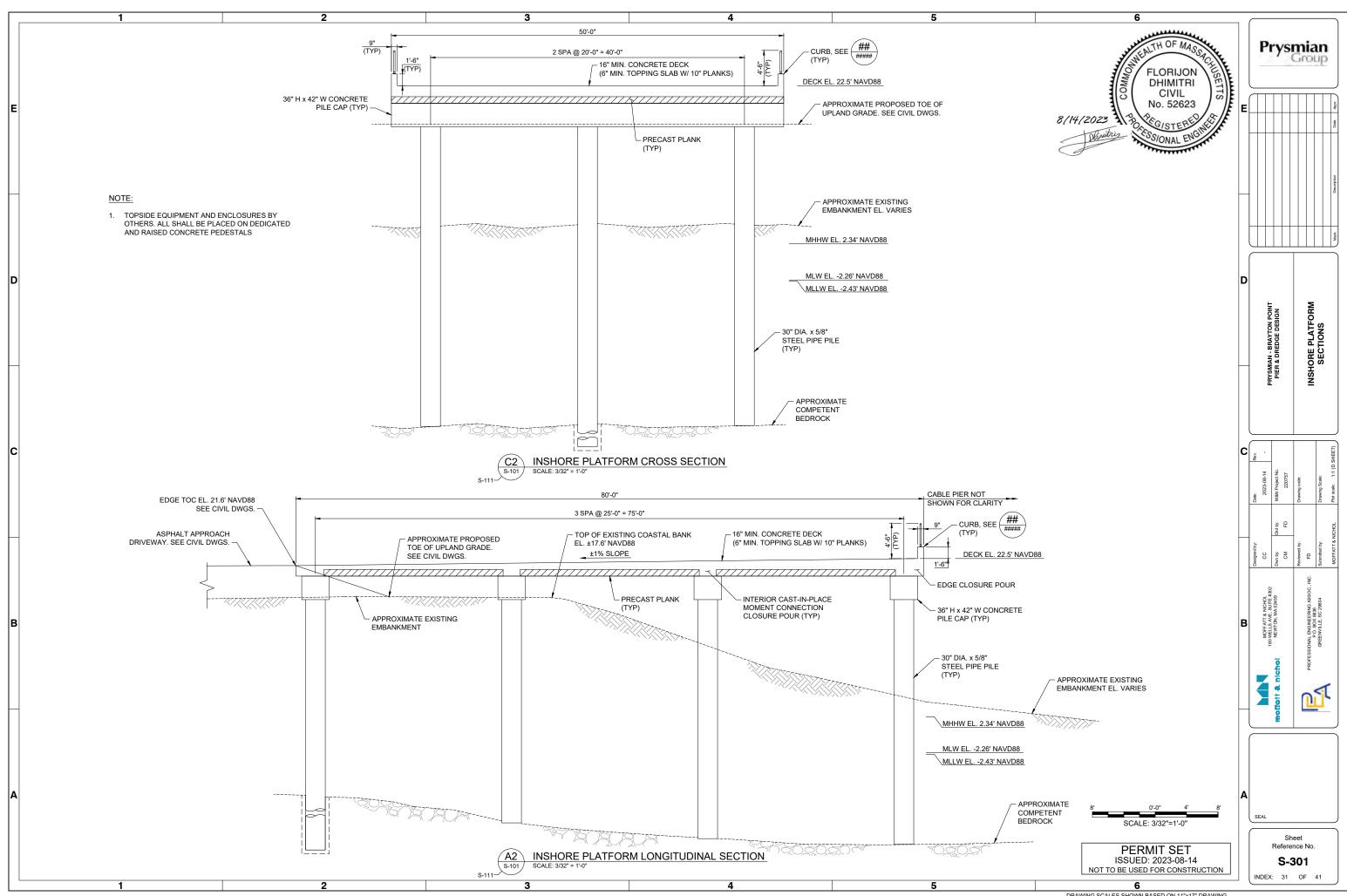
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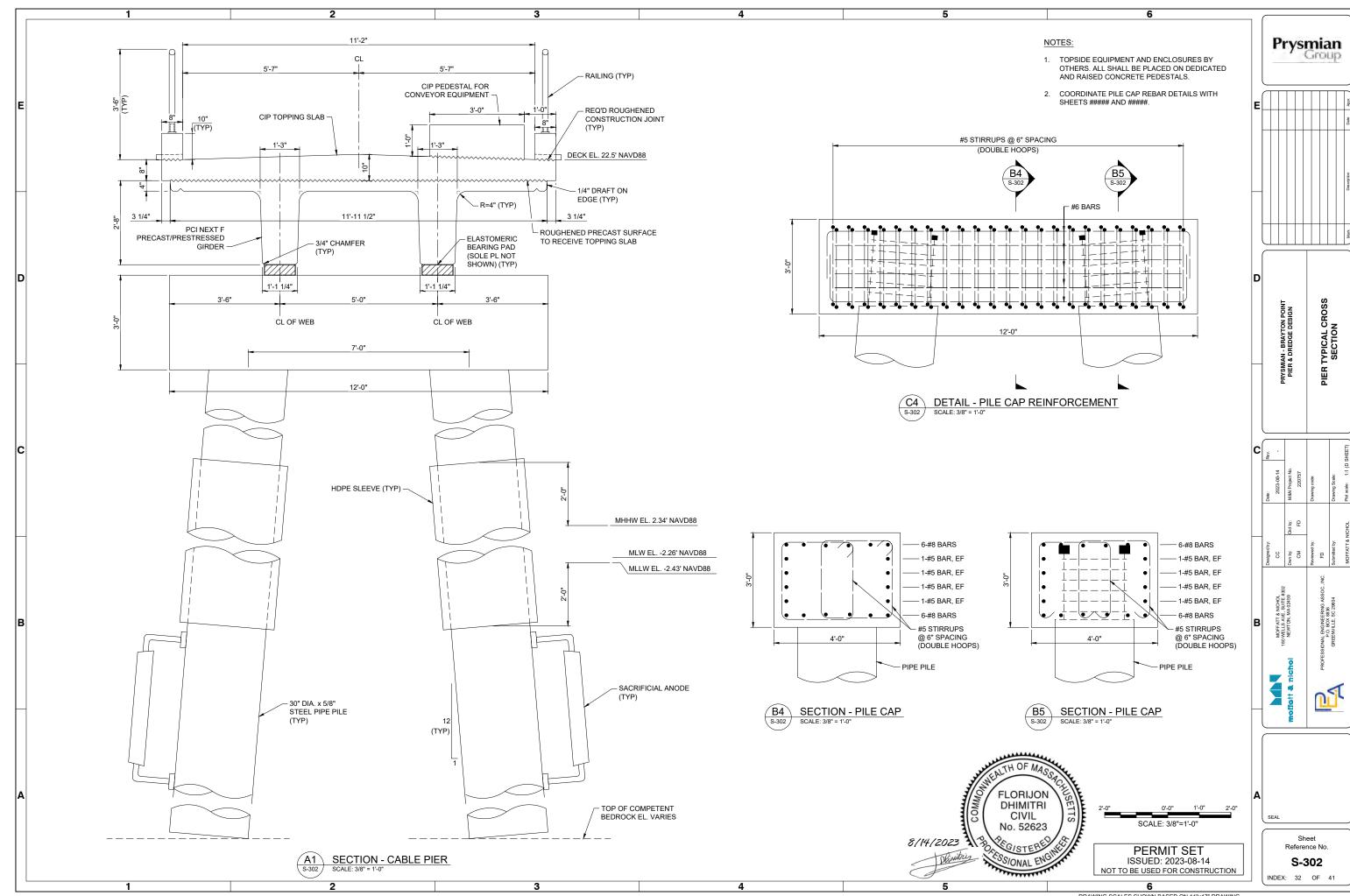
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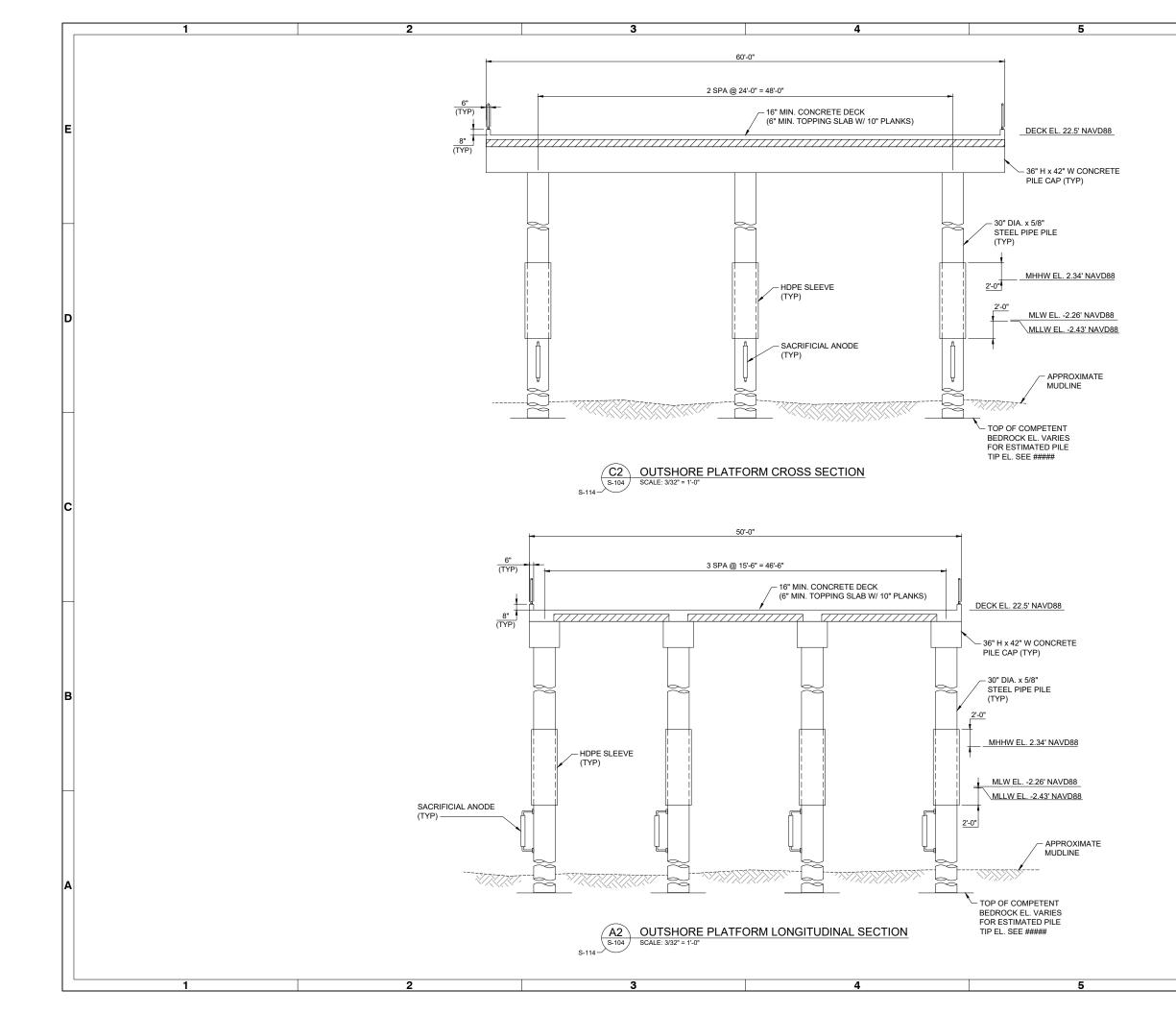


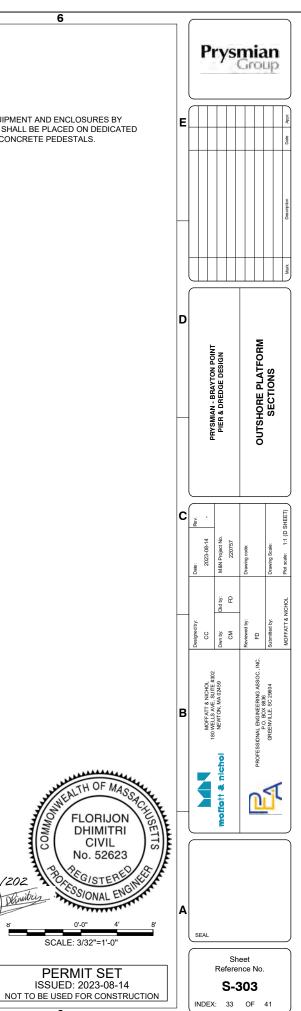
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DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING



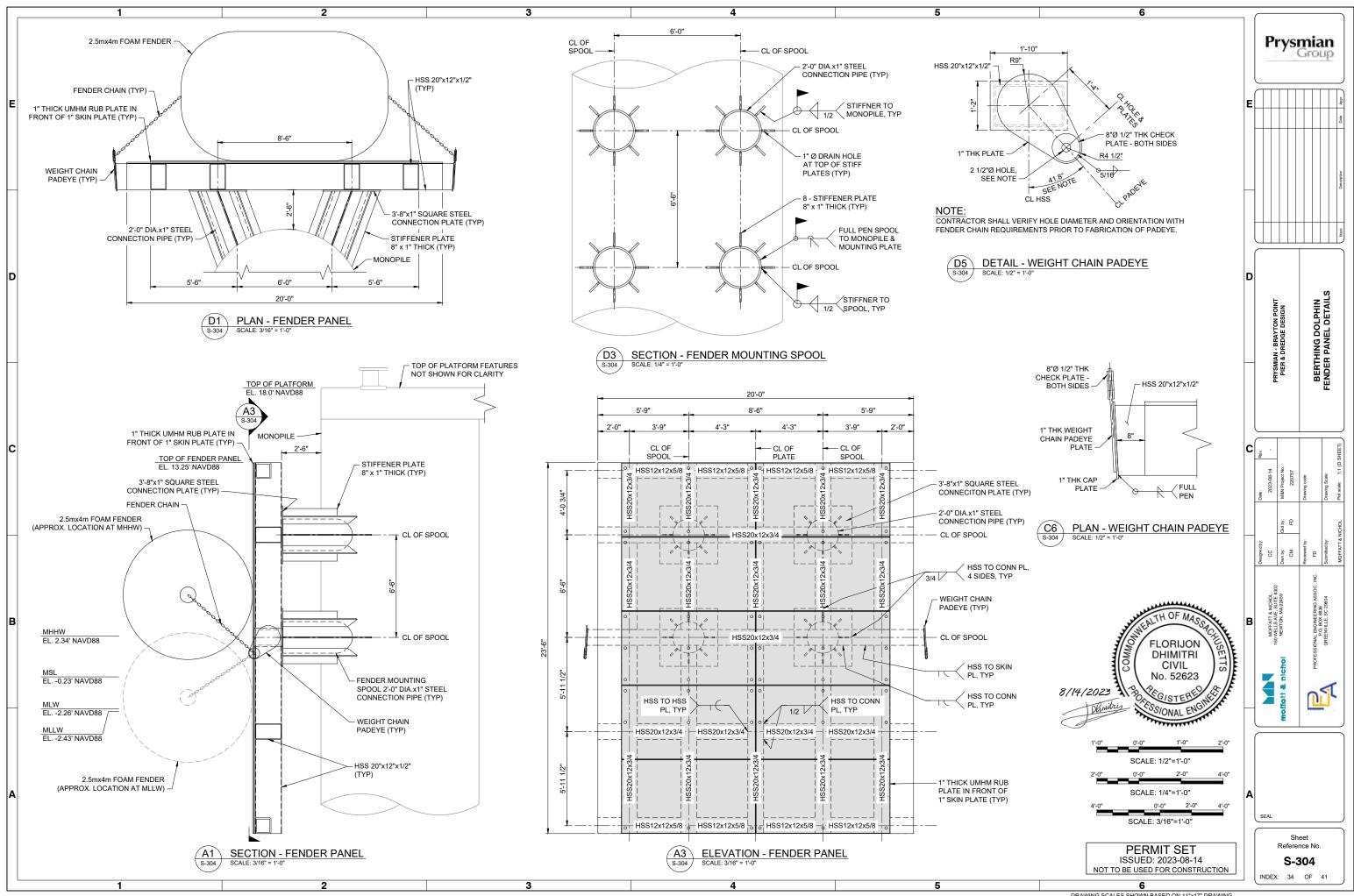


NOTE:

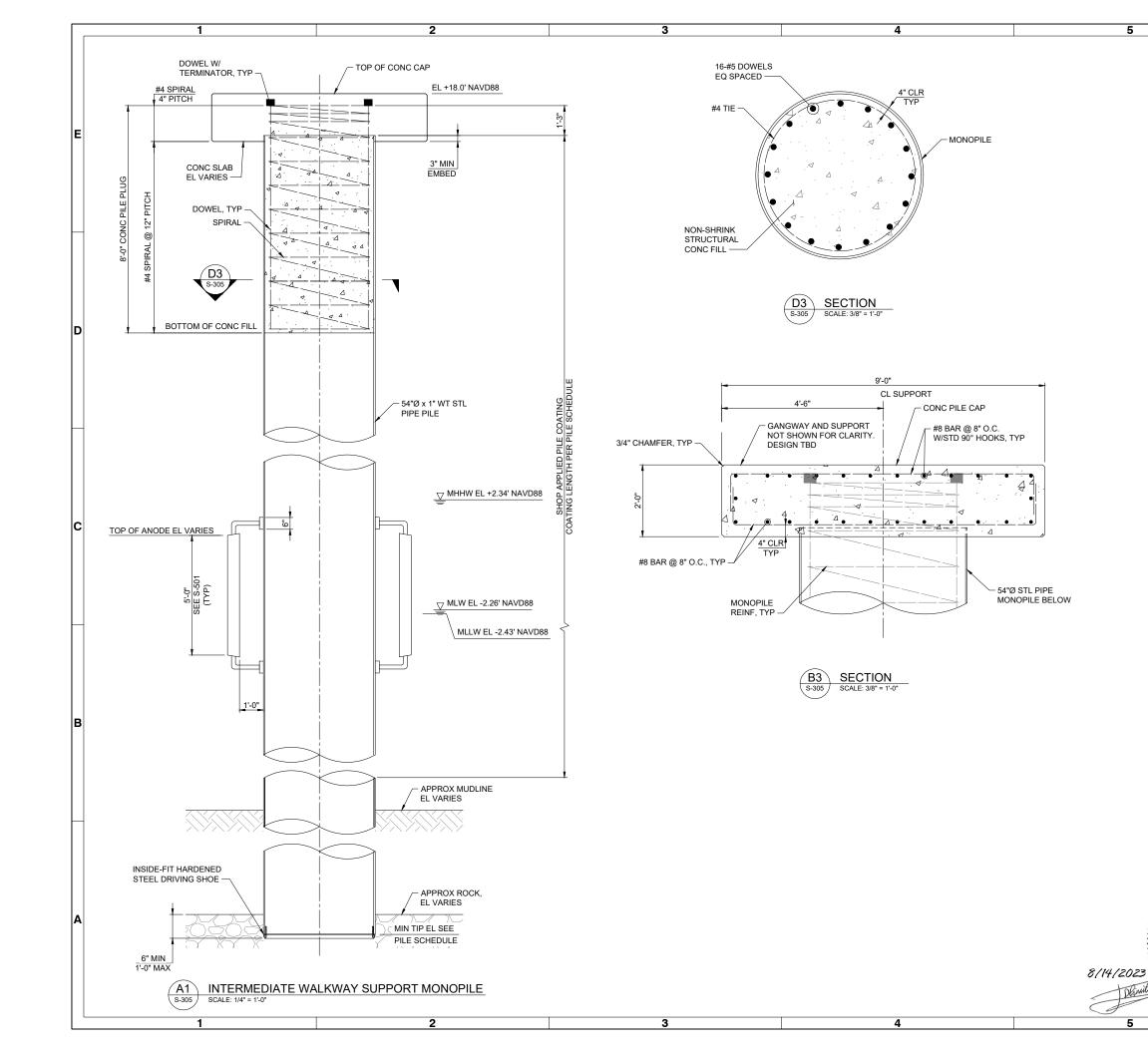
1. TOPSIDE EQUIPMENT AND ENCLOSURES BY OTHERS. ALL SHALL BE PLACED ON DEDICATED AND RAISED CONCRETE PEDESTALS.

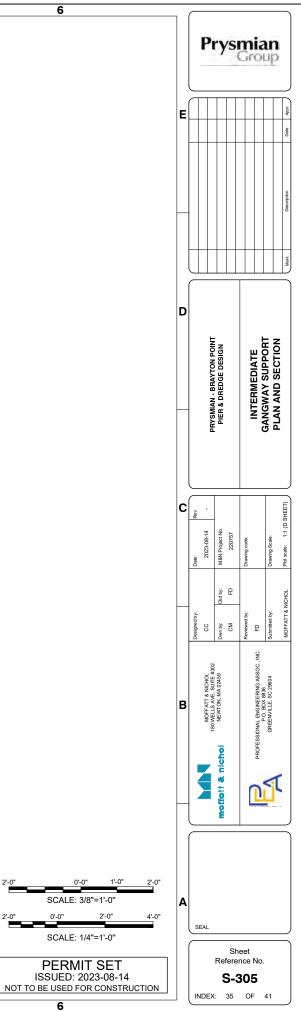
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DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING





0'-0' SCALE: 3/8"=1'-0"

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

PERMIT SET

ISSUED: 2023-08-14

2'-0"

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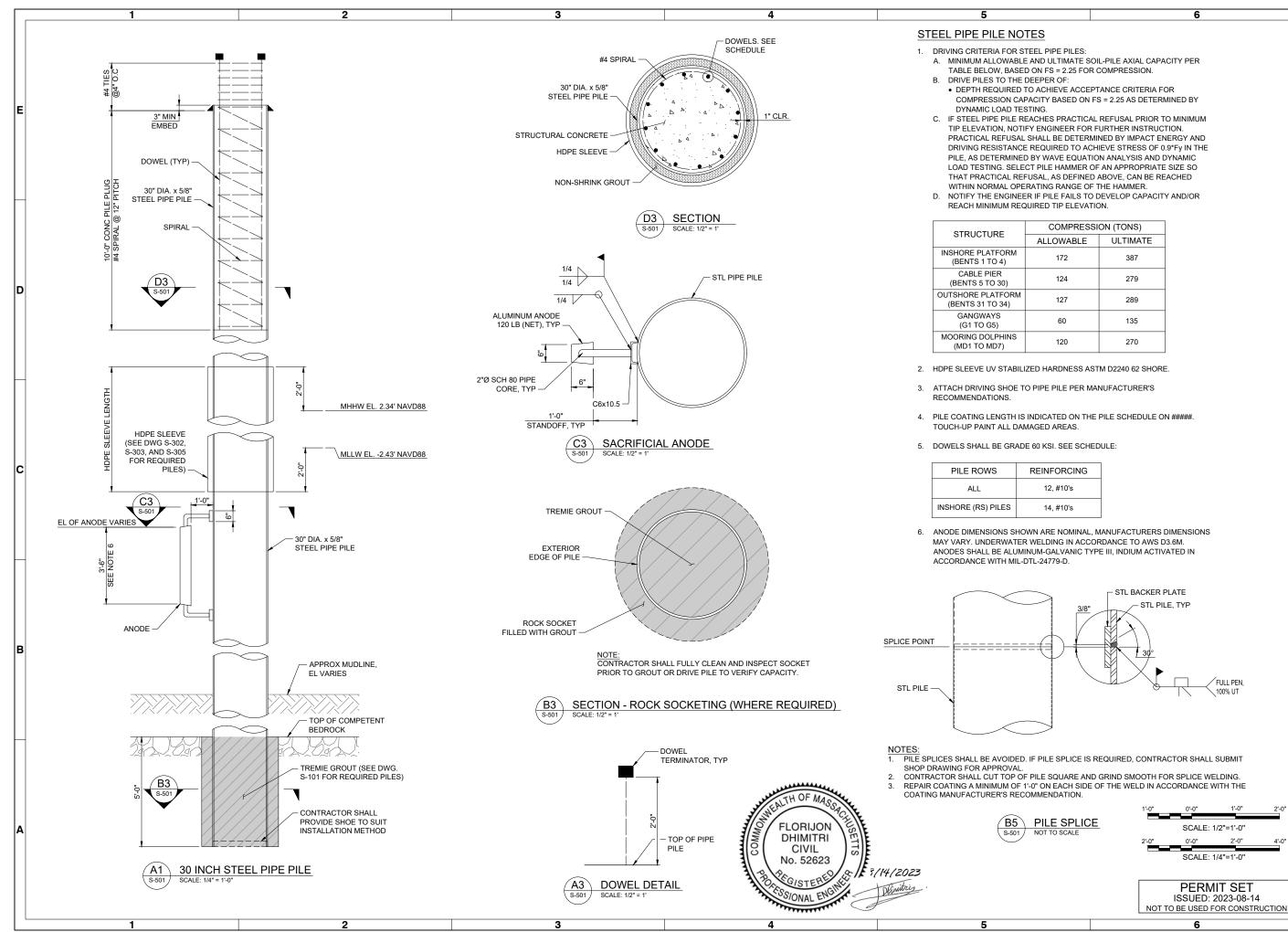
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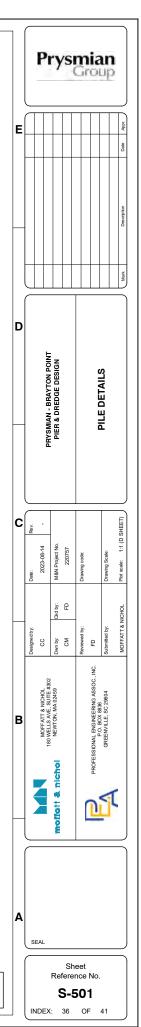
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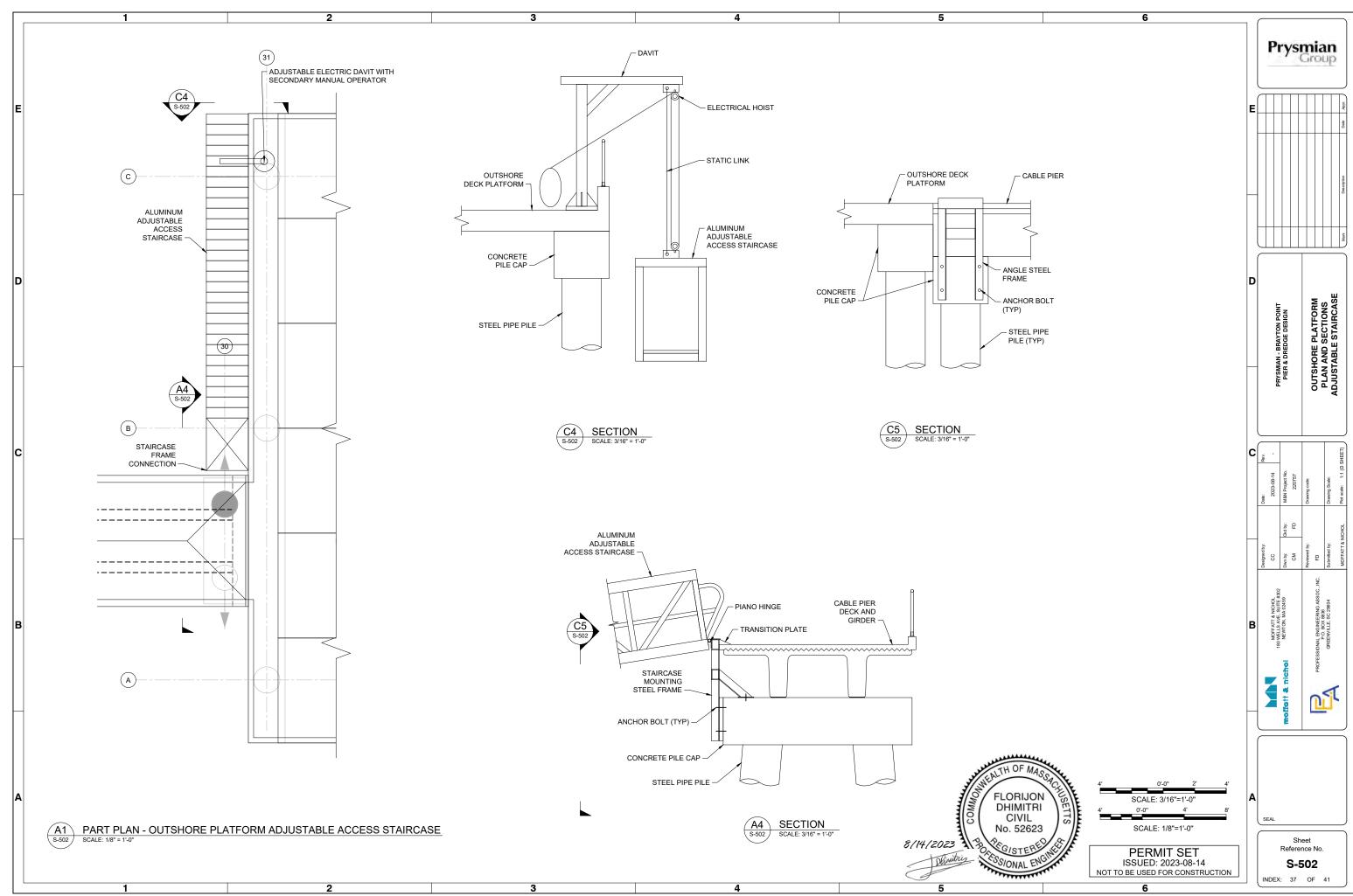
COMPRESSION (TONS)						
LLOWABLE	ULTIMATE					
172	387					
124	279					
127	289					
60	135					
120	270					

NFORCING						
12, #10's						
14, #10's						

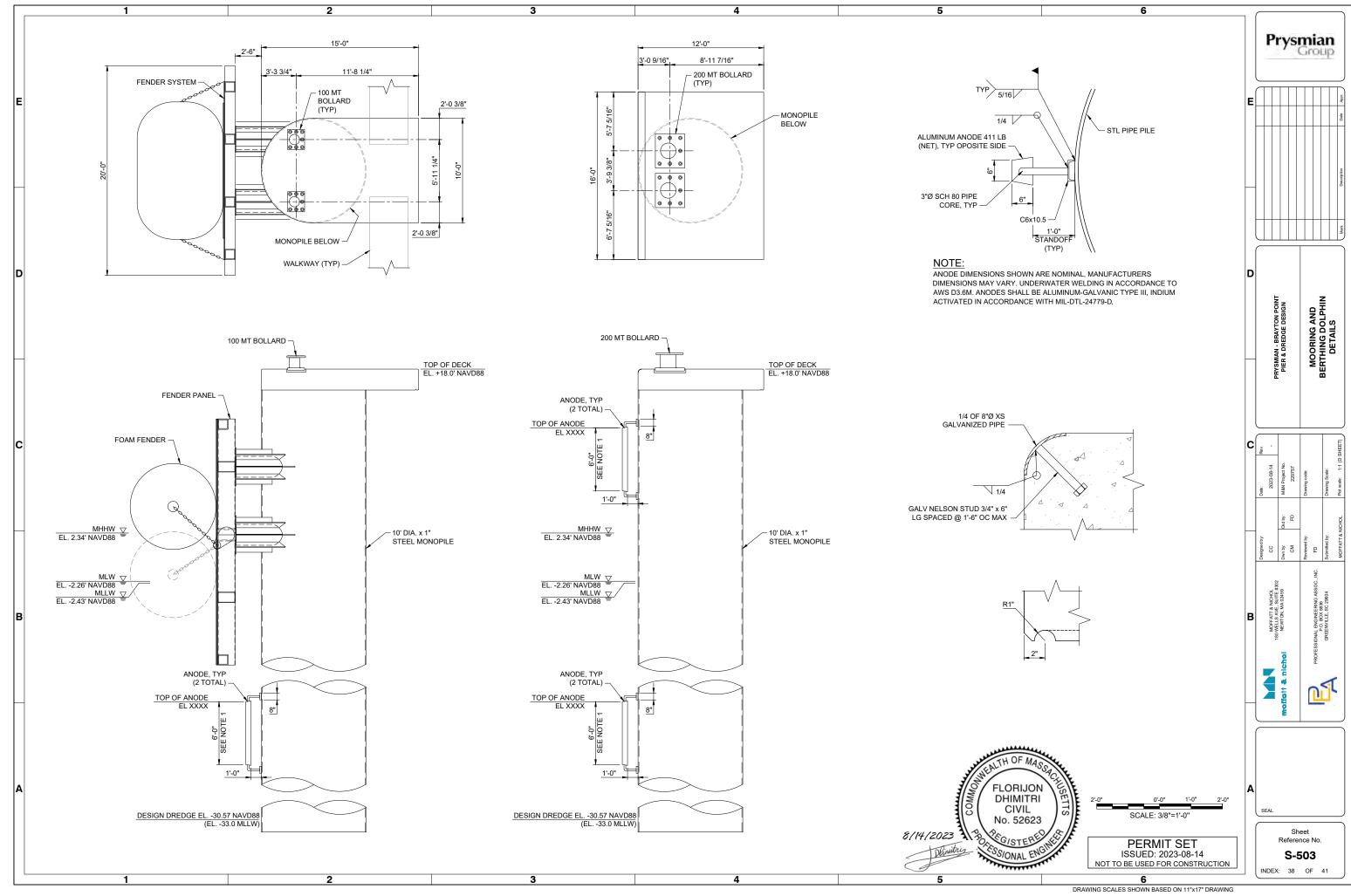


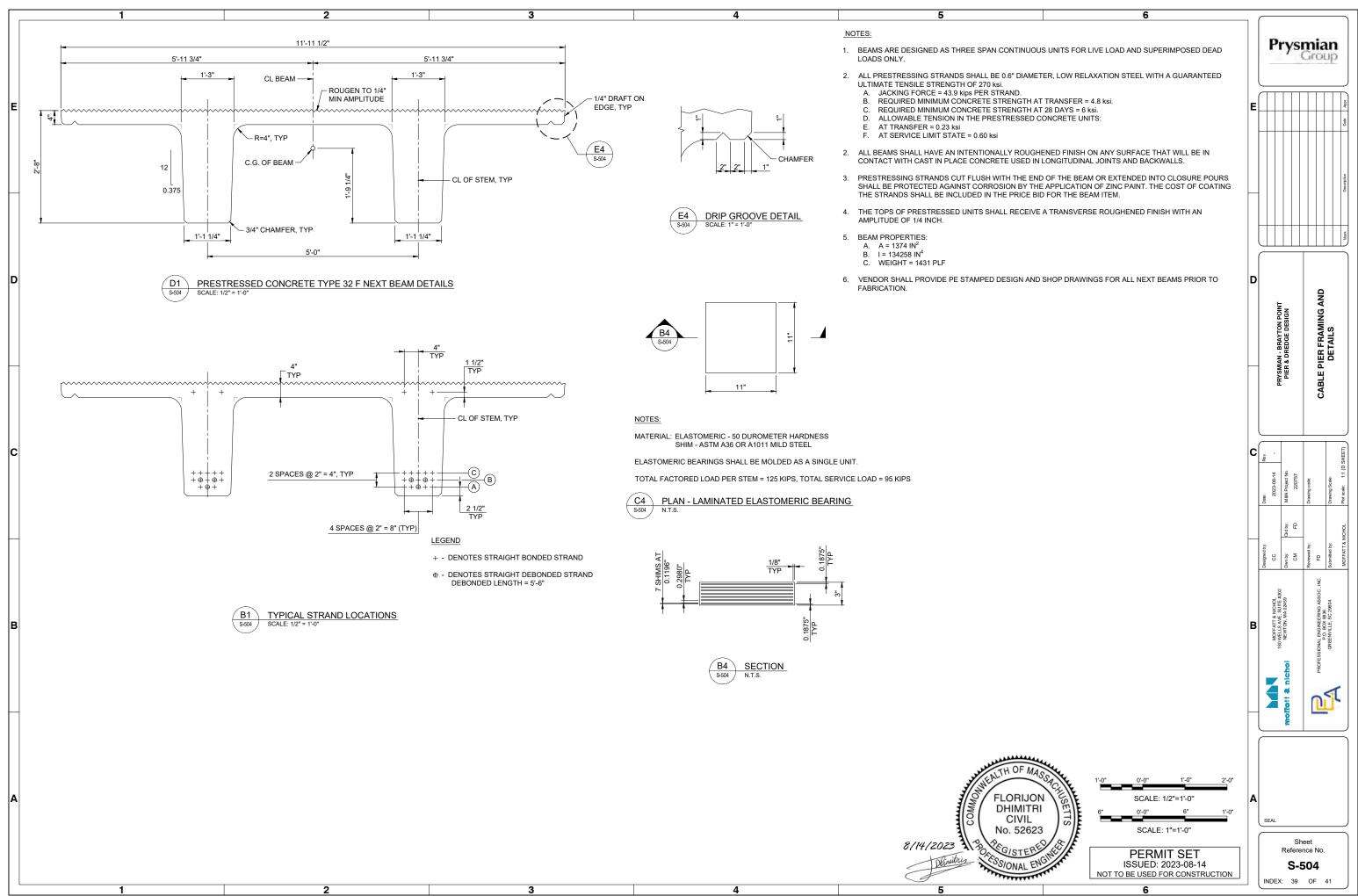
DRAWING SCALES SHOWN BASED ON 11"x17" DRAWING

4'-0'

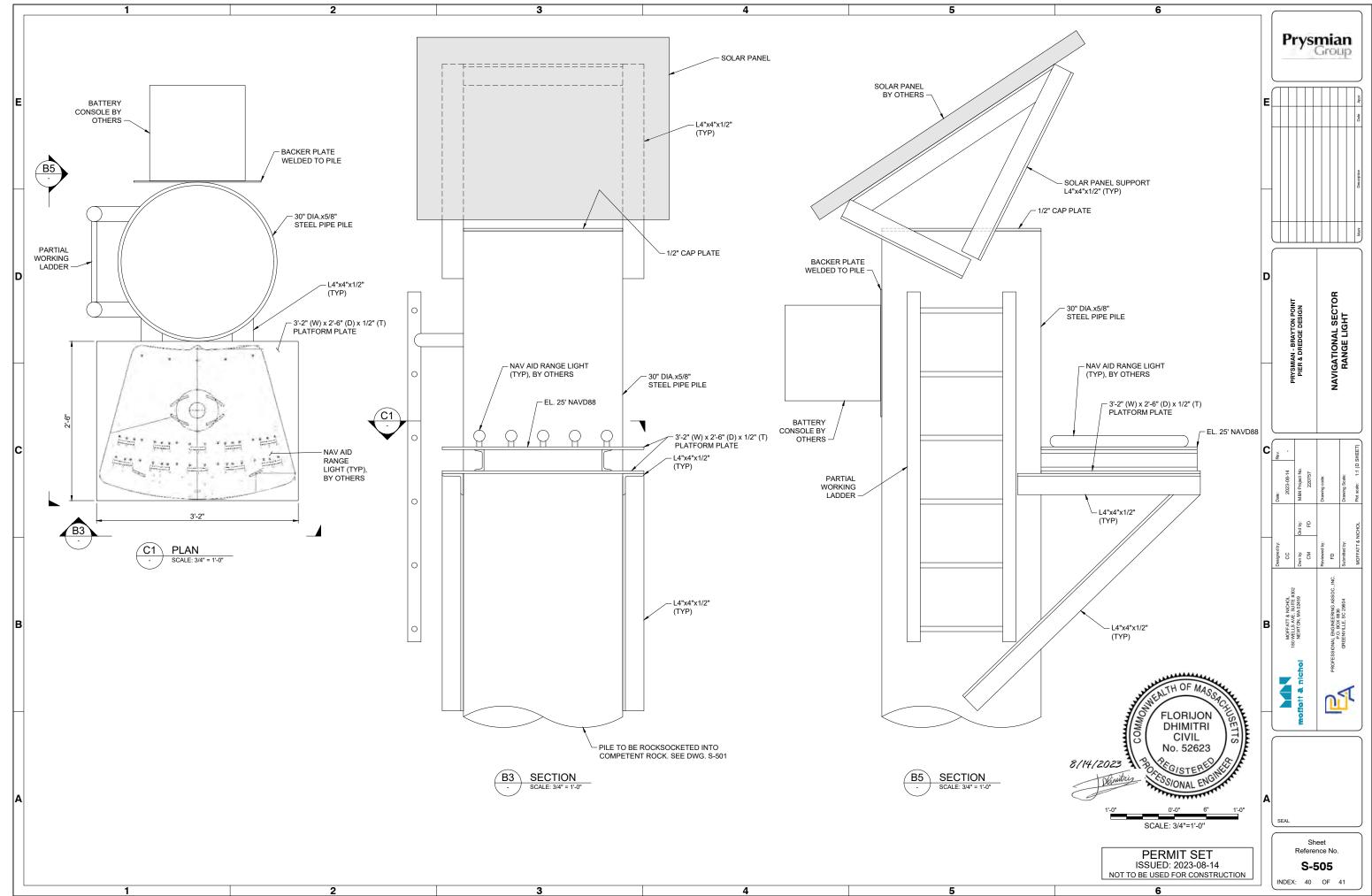


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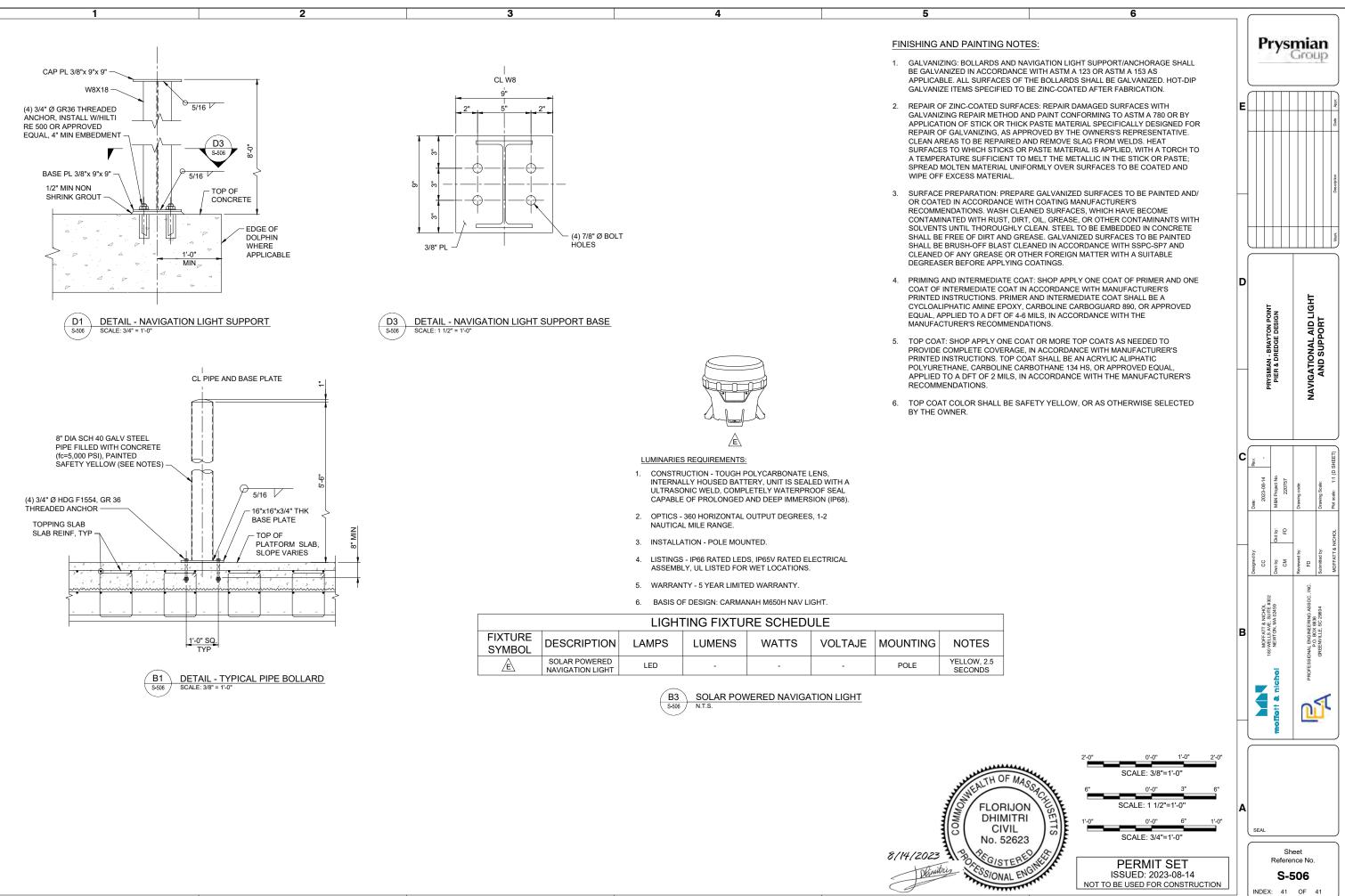


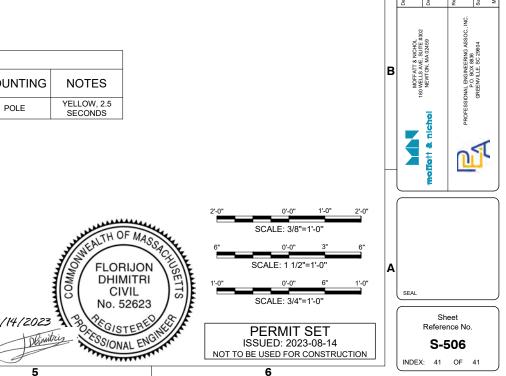


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