May 07, 2025

U.S. Dept of the Navy - Naval Support Activity Annapolis - Environmental Division
c/o Colin P. Casey
US Naval Support Activity Annapolis - Environmental Division
181 Wainright Rd
Annapolis, MD 21402

Via email: colin.p.casey.civ@us.navy.mil

Re: Agency Interest Number: 180573
Tracking Number: 202460102
Tidal Authorization Number: 24-WQC-0048

Dear U.S. Dept of the Navy - Naval Support Activity Annapolis - Environmental Division:

Your project did not qualify for approval under the Maryland State Programmatic General Permit (MDSPGP); therefore a separate review and issuance of the federal permit will be required by the U.S. Army Corps of Engineers. The federal permit is not attached.

Additionally, your project required a Wetlands License to be approved and issued by the Maryland Board of Public Works (BPW). The Wetlands License will be sent to you by BPW's Wetlands Administrator.

A project that does not qualify for approval under the MDSPGP requires an individual Water Quality Certification (WQC) to be issued by the Maryland Department of the Environment, which is attached. Please take a moment to read and review your WQC to ensure that you understand the limits of the authorized work and all of the general and special conditions.

You should not begin any work until you have obtained all necessary State, local, and federal authorizations. Please contact Mel Throckmorton at mel.throckmorton@maryland.gov or 410-375-2803 with any questions.

Sincerely,

Jonathan Stewart
Acting Division Chief
Tidal Wetlands Division

STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION
WATER QUALITY CERTIFICATION

24-WQC-0048

EFFECTIVE DATE:	**May 7, 2025**
CERTIFICATION HOLDER:	**U.S. Dept of the Navy - Naval Support Activity Annapolis - Environmental Division**
ADDRESS:	**Environmental Division** **181 Wainright Rd** **Annapolis, MD 21402**
PROJECT LOCATION:	**along Bigelow Road - 38.982832 / -76.467334** **Annapolis, MD 21402**

UNDER AUTHORITY OF SECTION 401 OF THE FEDERAL WATER POLLUTION CONTROL ACT AND ITS AMENDMENTS AND IN ACCORDANCE WITH § 9-313 THROUGH § 9-323, INCLUSIVE, OF THE ENVIRONMENT ARTICLE, ANNOTATED CODE OF MARYLAND, THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER AND SCIENCE ADMINISTRATION HAS DETERMINED THAT THE REGULATED ACTIVITIES DESCRIBED IN THE REQUEST FOR CERTIFICATION FOR THE PROPOSED YP BOAT BASIN RECONFIGURATION AND SHORELINE STABILIZATION AND AS DESCRIBED IN THE ATTACHED PLAN SHEETS DATED MARCH 20TH, 2025, AND ANY SUBSEQUENT MODIFICATIONS APPROVED BY THE DEPARTMENT WILL NOT VIOLATE MARYLAND'S WATER QUALITY STANDARDS, IF CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THIS CERTIFICATION.

THIS CERTIFICATION DOES NOT RELIEVE THE APPLICANT OF RESPONSIBILITY FOR OBTAINING ANY OTHER APPROVALS, LICENSES, OR PERMITS IN ACCORDANCE WITH FEDERAL, STATE, OR LOCAL REQUIREMENTS AND DOES NOT AUTHORIZE COMMENCEMENT OF THE PROPOSED PROJECT. A COPY OF THIS REQUIRED CERTIFICATION HAS BEEN SENT TO THE CORPS OF ENGINEERS. THE CERTIFICATION HOLDER SHALL COMPLY WITH THE CONDITIONS LISTED BELOW.

The Maryland Department of the Environment satisfied the statutory and regulatory public notice requirements by placing the WQC on Public Notice from April 1st, 2025 to April 15th, 2025 on Maryland Department of the Environment's Public Notice webpage and advertising in the Capital Gazette on April 4th, 2025.

PROJECT DESCRIPTION

1. Remove an existing marine railway, relieving platform, and existing piers with associated dolphin pilings;
2. Mechanically dredge a 160-foot long by 25-foot wide area (2,925 square feet) to a depth of 11 feet at mean low water and to provide for periodic maintenance dredging for six years; to deposit approximately 325 cubic yards of dredged material on an approved upland disposal site located at 4944 Sands Rd, Lothian, MD 20711;

3. Construct a 144-foot long by 50-foot wide concrete boat ramp with a 700 SF floating dock and gangway extending a maximum of 144 feet channelward of the mean high water line, and replace 101 linear feet of bulkhead within 1.5 feet channelward of an existing bulkhead;
4. Construct 101 linear feet of new bulkhead adjacent to an existing boat ramp and add 2,592 SF of clean fill behind it;
5. Replace 650 linear feet of bulkhead within 18 inches of an existing bulkhead;
6. Replace in-kind 13,364 square feet of an existing relieving platform with associated pilings;
7. Construct a 130-foot long by 12-foot wide pier and emplace 8 mooring piles within a maximum of 130-feet channelward of the mean high water line;
8. Construct a 258-foot long by 13-foot wide parallel platform which includes two gangways measuring 40-foot long by 4.5-foot wide, two gangways measuring 16.5-foot long by 4.5 foot wide, two 22-foot long by 10-foot wide access platforms, and five 50-foot long by 8-foot wide floating piers, and emplace eight mooring piles, all within a maximum of 63 feet channelward of the mean high water line.

GENERAL CONDITIONS

1. All water quality-related performance standards and conditions required by the Department in any state issued authorization for activities in tidal wetlands, nontidal wetlands, their 100-year floodplains, nontidal wetlands buffers, or nontidal wetland expanded buffers to ensure that any discharges will not result in a failure to comply with water quality standards in COMAR 26.08.02 or any other water quality requirements of state law or regulation shall be met.

2. This Certification does not obviate the need to obtain required authorizations or approvals from other State, federal or local agencies as required by law.

3. All additional authorizations or approvals, including self-certifying General Permits issued by the Department, shall be obtained and all conditions shall be completed in compliance with such authorizations.

4. The proposed project shall be constructed in accordance with the approved final plan by the Department, or, if Department approval is not required, the plan approved by the U.S. Army Corps of Engineers, and its approved revisions.

5. All fill and construction materials not used in the project shall be removed and disposed of in a manner which will prevent their entry into waters of this State.

6. This Certification does not authorize any injury to private property, any invasion of rights, or any infringement of federal, state, or local laws or regulations.

7. Authorized representatives of the Department shall be provided access to the site of authorized activities during normal business hours to conduct inspections and evaluations of the operations and records necessary to assure compliance with this Certification.

8. No stockpiles of any material shall be placed in Waters of the U.S. or state or private tidal wetlands.

9. Temporary construction trailers or structures, staging areas and stockpiles shall not be located within tidal wetlands, nontidal wetlands, nontidal wetlands buffers, or the 100-year floodplain unless specifically included on the Approved Plan.

10. This Certification is valid for the project identified herein and the associated U.S. Army Corps of Engineers authorization NAB-2024-60102 (Boat Basin at USNA) until such time that it expires or is not administratively extended.

SPECIAL CONDITIONS

1. All Critical Area requirements shall be followed and all necessary authorizations from the Critical Area Commission ("Commission") shall be obtained. This Certificate does not constitute authorization for disturbance in the 100-foot Critical Area Buffer. "Disturbance" in the Buffer means clearing, grading, construction activities, or removal of any size of tree or vegetation. Any anticipated Buffer disturbance requires prior written approval, before commencement of land disturbing activity, from local jurisdiction in the form of a Buffer Management Plan.

2. All work performed under this Water Quality Certificate shall be conducted by a marine contractor licensed by the Marine Contractors Licensing Board (MCLB) in accordance with Title 17 of the Environment Article of Annotated Code of Maryland. Licensing by MCLB shall occur prior to the beginning of construction activities. A list of licensed marine contractors may be obtained by contacting the MCLB at 410-537- 3249, by e-mail at MDE.MCLB@maryland.gov or by accessing the Maryland Department of the Environment, Environmental Boards webpage.

3. The issuance of this Certificate is not a validation or authorization by the Department for any of the existing structures depicted on the plan sheets on the subject property that is not part of the authorized work description, nor does it relieve the Certificate Holder of the obligation to resolve any existing noncompliant structures and activities within tidal wetlands.

4. The Certificate Holder shall pay $4,696.83 USD ($2.07/square foot) into the Maryland Department of the Environment (MDE) Wetland Compensation Fund to mitigate the impacts to 2,269 square feet of open water tidal wetlands. Payment is required to be submitted to MDE within six months of the issuance date of the Certification or prior to the commencement of any construction, whichever comes first. Failure to comply with this condition will result in automatic suspension of the Certification. An invoice for payment and instructions will be mailed separately.

5. The Certificate Holder shall complete construction of the bulkhead prior to filling behind the bulkhead. The bulkhead shall be designed and constructed to prevent the loss of fill material to waters of the State of Maryland. Only clean fill, which is free of organic, toxic, contaminated, or deleterious materials, shall be used.

6. The Certificate Holder, to reduce any potential adverse effects to aquatic resources, shall construct and maintain a cofferdam or similar containment structure around and channelward of the boat ramp area prior to any excavation and backfilling along the shoreline through completion of any excavation and backfilling along the shoreline and concrete work.

7. The Certificate Holder shall not perform any dredging from November 15th through March 1st of any year to protect wintering waterfowl. The proposed project site is located in a Historic Waterfowl Concentration Area.

8. If the Certificate Holder transports by trucks, the trucks need to be watertight and no dredged material shall be discharged onto the roadways of the State.

9. The Certificate Holder shall conduct subsequent maintenance dredging within the scope of this license in terms of authorized dredge area and authorized depths. The certificate holder shall:
    a. Dredge no more than 500 cubic yards of material at each maintenance dredging.
    b. Comply with all applicable conditions of this license.
    c. Submit a detailed dredged material disposal plan to be approved by the Water and Science Administration, Tidal Wetlands Division prior to the start of dredging.
    d. Notify and receive approval from the Water and Science Administration, Compliance Program a minimum of 10 days prior to the start of each maintenance dredging operation.

10. The Certificate Holder shall stake the dredge area and receive approval from the Water and Science Administration's, Compliance Division prior to the start of dredging.

11. The Certificate Holder shall conduct a post dredge bathymetric survey and forward to the Water and Science Administration, Tidal Wetlands Division within 45 days after the termination of any phase of dredging.

12. The Certificate Holder shall dispose of dredged material only at the dredge disposal site(s) approved by this Water Quality Certification. The Certificate Holder shall submit an application for modification of the Certification to MDE for approval of any dredge disposal site not authorized within this Certificate.

STATEMENTS OF NECESSITY

1. Statement of Necessity for General Conditions 1, 2, 3, 4, and Special Conditions 1, 3, 4, 6, 12: These conditions are necessary to ensure that water quality standards are met, and designated uses are maintained.

   Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.10G(3); COMAR 26.23.02.06; COMAR 26.17.01; COMAR 26.23; COMAR 26.24

2. Statement of Necessity for General Conditions 5, 8, 9, and Special Conditions 5, 8, 9, 10, 12 : Fill or construction material within or adjacent to regulated resources may cause discharges resulting in turbidity in excess of water quality standards and interfere with designated uses of growth and propagation of fish, other aquatic life, wildlife; and other designated uses; and fail to meet general water quality criteria that waters not be polluted by substances in amounts sufficient to be unsightly or create a nuisance.

   Citation: 26.08.02.03B(1)-B(2); COMAR 26.23; COMAR 26.24; COMAR 26.17.04

3. Statement of Necessity for General Condition 6: This condition is necessary to clarify the scope of this certification to ensure compliance with water quality regulations, without limiting restrictions through other requirements.

   Citation: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08, COMAR 26.08.02.10E; COMAR 26.23.02.06; COMAR 26.17.04; COMAR 26.23; COMAR 26.24

4. Statement of Necessity for General Condition 7: Conditions of certification involve precise actions to comply with water quality standards. Site inspection may be necessary to ensure that limits, methods, and other requirements are met to ensure that water quality standards are met and designated uses are maintained. These conditions are necessary to ensure that the activity was conducted, and project completed according to terms of the authorization/certification, while allowing for review of in-field modifications which may have resulted in discharges to ensure that water quality standards were met. Designated uses include support of estuarine and marine aquatic life and shellfish harvesting and for growth and propagation of fish, other aquatic life, and wildlife.

   Citation: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.03B(1)(b); COMAR 26.08.02.03B(2); COMAR 26.23.02.06; COMAR 26.23; COMAR 26.24; COMAR 26.17.04

5. Statement of Necessity for General Condition 10: This condition is necessary to qualify the period of applicability of the terms and conditions of this Certification to be protective of Maryland water quality standards.

   Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; 40 C.F.R. 121, 15 C.F.R. 930, Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.17.04; COMAR 26.23; COMAR 26.24

6. Statement of Necessity for Special Condition 2: Expertise for conducting certain activities is required to ensure that there is no violation of water quality standards nor interference with designated uses. This condition is necessary to ensure that discharges will be conducted in a manner which does not violate water quality criteria nor interfere with designated uses.

   Citation: COMAR 26.08.02.02B(2)- B(4); COMAR 26.08 02.03B(2)(d) – (e); COMAR 26.08.02.03B(1)(b); 26.08.02.03B(2); COMAR 23.02.04.04

7. Statement of Necessity for General Condition 8 and Special Conditions 9, 10, 12: Unauthorized discharges may enter regulated waters as result of activity or structural failure. A plan to address inadvertent discharges will prevent or address further violations of water quality standards and failure of water to meet designated uses, including uses of growth and propagation of fish, other aquatic life, wildlife; and other designated uses; and fail to meet general water quality criteria that waters not be polluted by substances in amounts sufficient to be unsightly or create a nuisance.

   Citation COMAR 26.08.02.02B(1)d; COMAR 26.08.02.02B(3); COMAR 26.08.02.03B(1) and B(2); 26.08.02.01B(2); 26.08.02.02B(1)

8. Statement of Necessity for Special Condition 11: The condition is necessary to ensure that the dredging results in water depths which are appropriate to support designated uses of fishing and water contact recreation and propagation of fish, other aquatic life and wildlife; and ensure that no discharges are unsightly, create a nuisance, change to an objectionable color or interferes with designated uses.

   Citations: COMAR 26.08.02.01B(2); COMAR 26.08.02.02B(1); 26.08.02.02B(3); COMAR 26.08.02.03B

9. Statement of Necessity for Special Condition 7: A time of year restriction is necessary to maintain the designated use for support of estuarine and marine aquatic life and shellfish harvesting.

   Citation: Federal and state laws which authorize this condition include but are not limited to: COMAR: 26.08.02.02B(1)(d); 26.08.02.02B(3); COMAR 26.08.02.02-16.

CERTIFICATION APPROVED

Matthew C. Rowe
Matthew C. Rowe (May 19, 2025 19:10 EDT)

May 19, 2025

D. Lee Currey, Director
Water and Science Administration

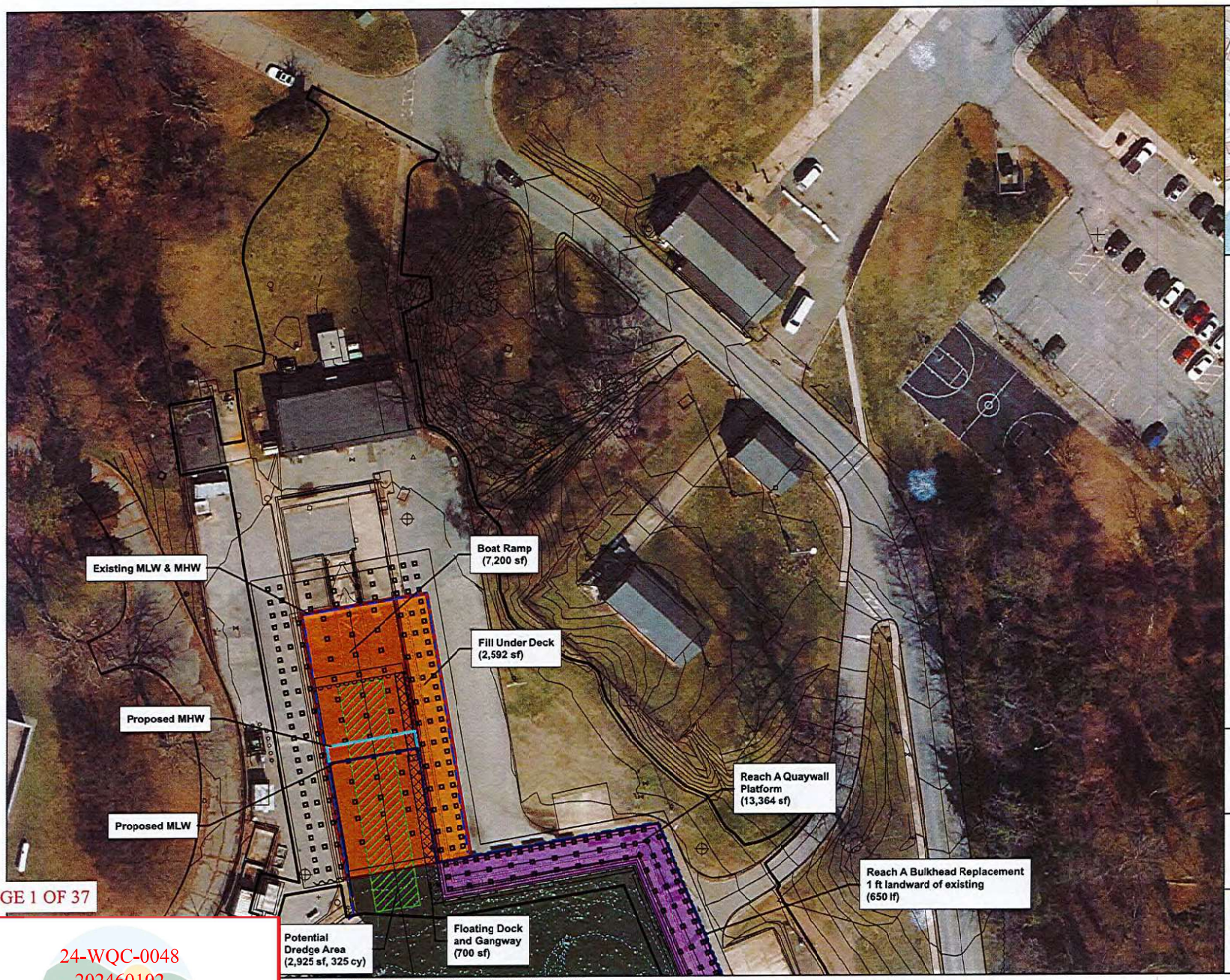
Date

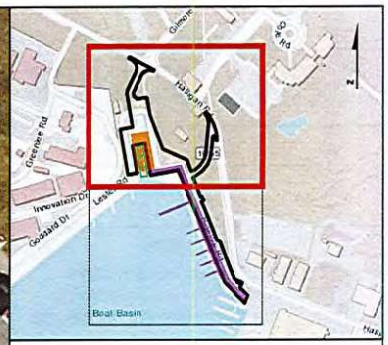
Tracking Number: 202460102
Agency Interest Number: 180573

Effective Date: **May 7, 2025**

Enclosure: Plan Sheets dated March 20, 2025

cc: WSA Inspection & Compliance Program
Army Corps of Engineers





Legend

- Limit of Disturbance
- Proposed Dredge Impact
- Proposed Fill Impact
- Proposed Platform
- Proposed Floating Dock and Gangway
- Proposed Design
- Existing Design
- Proposed Mean High Water (MHW)
- Proposed Mean Low Water (MLW)
- Existing MHW & MLW
- 1-Foot Contour

NOTE: Mean Low Water (MLW) and Mear High Water (MHW) are referenced to Mean Low Water. Elevations based on NOAA station data for Annapolis, MD (8575512).
MLW = 0.00 feet MLW or -0.55 feet NAVD88.
MHW = 0.97 feet MLW or 0.42 feet NAVD88.

DATA SOURCES: Marine Solutions, NAVFAC, MD iMAP, ESRI, NOAA

IMPACTS TO WATERS OF THE US

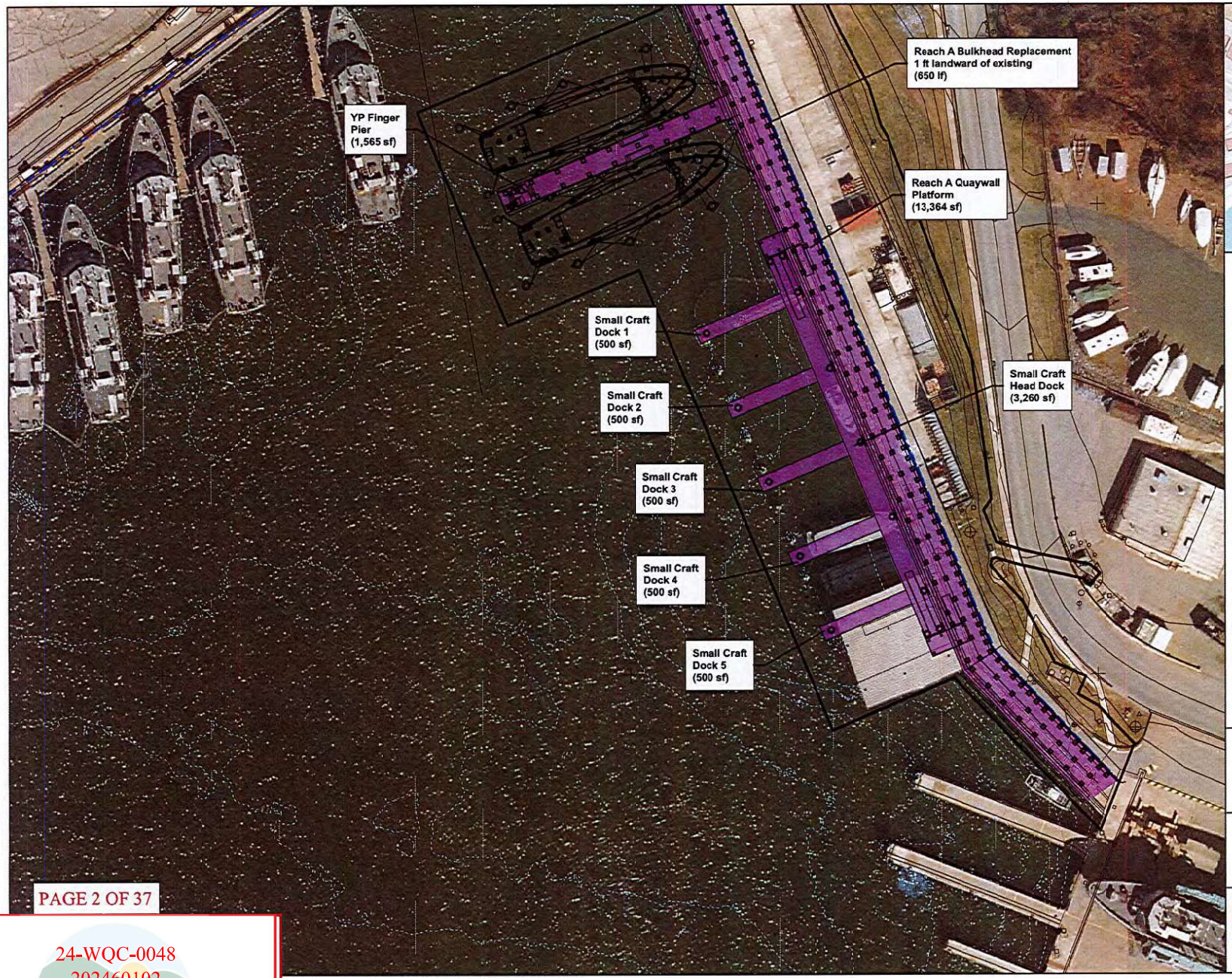
REPAIRS TO YP BASIN QUAYWALL AND YP PIER AT 87NS PHASE 2

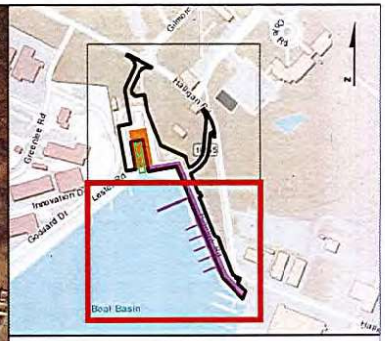
0 50 100
FEET

MARINE SOLUTIONS

HDR

DECEMBER 2024





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IMPACTS TO WATERS OF THE US

REPAIRS TO YP BASIN QUAYWALL AND YP PIER AT 87NS PHASE 2

Page 2 of 2

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FEET

MARINE SOLUTIONS

HDR

DECEMBER 2024

QUAYWALL REACH A REPAIR DESIGN

NAVAL SUPPORT ACTIVITY ANNAPOLIS, MARYLAND

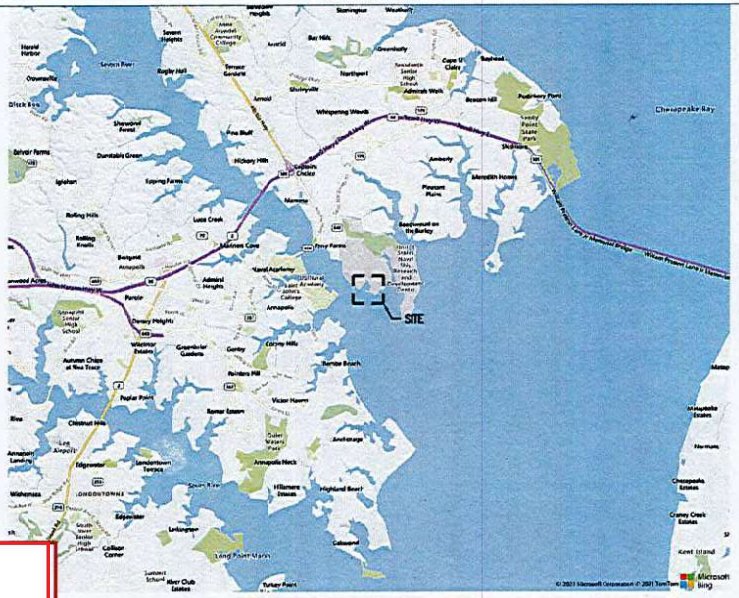
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND, WASHINGTON

PUBLIC WORKS DEPARTMENT

LOCATION MAP

SCALE: NTS

VICINITY MAP



SCALE: NTS

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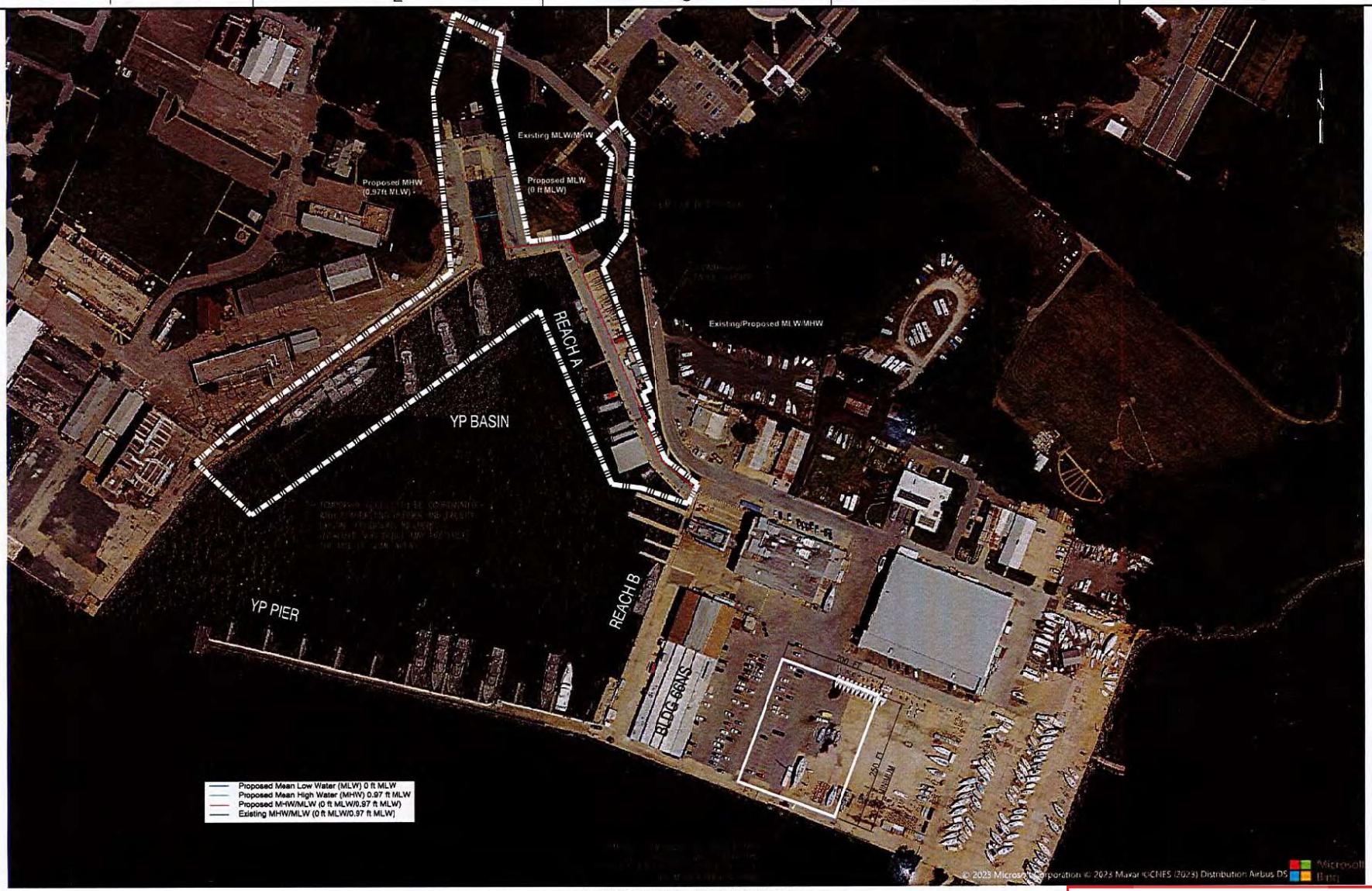
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
COVER SHEET

SCALE: AS NOTED
CONTRACT NO. 1582747
DRAWING NO. N40080-23-R-0015
TBD
SHEET TBD OF 190
G-001



CONTRACTOR LAYDOWN PLAN

SCALE: N.T.S.

ACCESS AND LAYDOWN NOTES:

1. ANY SOIL OR LOOSE MATERIAL GENERATED BY THE CONTRACTOR WITHIN THE LAYDOWN AREAS SHALL BE REMOVED AND SURFACE CLEANED BY THE CONTRACTOR AT THE END OF EACH WORKING DAY. IN ADDITION, CONTRACTOR SHALL ALSO ENSURE THAT ADJACENT STORMWATER SURFACE FLOW AREA INLETS AND DRAINAGE DITCHES ARE ADEQUATELY PROTECTED, AS NECESSARY, FROM ANY POTENTIAL SEDIMENT TRANSPORT FROM THE PROJECT LAYDOWN AREAS.
2. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING A LAYDOWN AREA FOR MATERIALS AND EQUIPMENT. LOCATION OF CONTRACTOR'S STAGING SHALL BE AS ILLUSTRATED ON THIS SHEET AND IS SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER. CONTRACTOR MAY SUBMIT ALTERNATIVES TO THE LAYDOWN AREA LOCATIONS AS SHOWN. CONTRACTOR'S LAYDOWN AREA IS SUBJECT TO CHANGE AT THE DIRECTION OF THE CONTRACTING OFFICER AND MAY CHANGE BASED ON OPERATIONAL REQUIREMENTS OF THE PROJECT SITE.
3. VEHICULAR LOADING RESTRICTED TO 10 TON TRUCKS ALONG SOUTH SIDE OF BUILDING 66NS.

NAVFAC

MARINE SOLUTIONS

HDR

ON FILE

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
CONTRACTOR LAYDOWN PLAN

SCALE: AS NOTED
EFP PROJECT NO. 1302747
CONTR. CONTR. NO. N40080-23-R-0015
NAVFAC DRAWING NO. TBD
SHEET TBD OF 190
G-005

24-WQC-0048
202460102
180573
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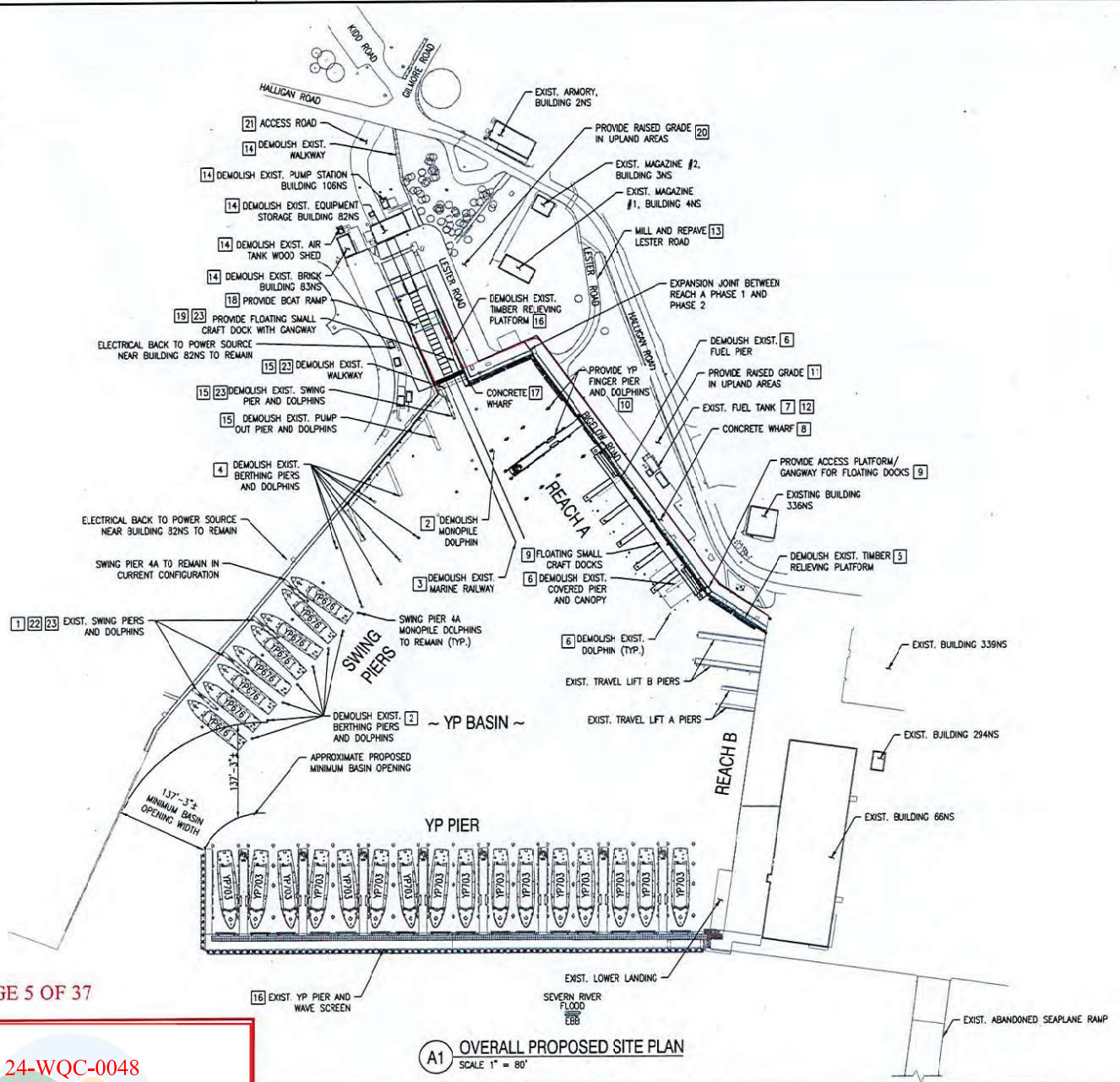


A1 OVERALL PROPOSED SITE PLAN
SCALE 1" = 80'

PHASE 1 SEQUENCE OF CONSTRUCTION

1. REMOVE STAIRS AND UPPER PLATFORMS TO ACCOMODATE SMALL CRAFT VESSELS.
2. DEMOLISH MOORING DOLPHINS AS INDICATED.
3. DEMOLISH EXIST. MARINE RAILWAY.
4. DEMOLISH BERTHING PIERS AND ASSOCIATED DOLPHINS AS INDICATED
5. DEMOLISH TIMBER RELIEVING PLATFORM ALONG BIGELOW ROAD TO PLANNED EXPANSION JOINT BETWEEN PHASE 1 AND 2.
6. DEMOLISH TIMBER FUEL PIER, TIMBER COVERED PIER, AND ASSOCIATED TIMBER DOLPHINS.
7. REMOVE AND STORE EXIST. FUEL TANK.
8. PROVIDE CONCRETE WHARF ALONG BIGELOW ROAD.
9. PROVIDE FLOATING SMALL CRAFT DOCKS AND ACCESS PLATFORMS/GANGWAYS.
10. PROVIDE YP FINGER PIER AND DOLPHINS.
11. RAISE GRADE IN UPLAND AREAS NORTHEAST OF BIGELOW ROAD.
12. REPLACE FUEL TANK.
13. PROVIDE LESTER ROAD EXTENSION TO HALLIGAN ROAD INTERSECTION.

PHASE 2 SEQUENCE OF CONSTRUCTION

14. DEMOLISH EXIST. PUMP STATION BUILDING 106NS, EQUIPMENT STORAGE BUILDING 82NS, AIR TANK WOOD SHED, BRICK BUILDING 83NS, AND WALKWAY.
15. DEMOLISH EXIST. TIMBER WALKWAY, SWING PIER, PUMP OUT PIER, AND DOLPHINS.
16. DEMOLISH TIMBER RELIEVING PLATFORM SURROUNDING THE BOAT RAMP AREA AND LESTER ROAD.
17. PROVIDE CONCRETE WHARF ALONG THE BOAT RAMP AREA AND LESTER ROAD.
18. PROVIDE BOAT RAMP.
19. PROVIDE FLOATING SMALL CRAFT ACCESS DOCK WITH GANGWAY.
20. RAISE GRADE IN UPLAND AREAS TO THE NORTH OF LESTER ROAD.
21. PROVIDE ACCESS ROAD.
22. DEMOLISH SWING PIERS 1A, 2A, AND 3A, ALONG WITH ASSOCIATED MONOPILES.

GENERAL SHEET NOTES

23. CONFIGURATION OF YP PIER WAVE SCREEN, SWING PIERS, DOLPHINS, AND WALKWAY SHOWN ARE BASED ON COMPLETED CONSTRUCTION OF ONGOING PROJECT N4008023C0010, WHICH INCLUDES REPLACEMENT OF THE YP PIER AND WAVE SCREEN, DEMOLITION OF A ROW OF 15 TIMBER DOLPHINS, AND CONSTRUCTION OF FIVE SWING PIERS AND ACCOMPANYING MONOPILE DOLPHINS.

GRAPHIC SCALE
0 40' 80' 160'
SCALE: 1" = 80'-0"

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
OVERALL PROPOSED SITE PLAN

ON FILE
SCALE: AS NOTED
PROJECT NO.: 1592747
N40080-23-R-0015
TBD
SHEET: TBD OF 190
G-100

PAGE 5 OF 37

24-WQC-0048
202460102
180573
3/20/25
MT

A1 HYDROGRAPHIC SURVEY
SCALE 1" = 80'

GENERAL SHEET NOTES

1. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE MEASUREMENTS AND SOUNDINGS TAKEN BY MARINE SOLUTIONS, INC. ON NOVEMBER 18, 2020. CONFIGURATION OF STRUCTURES IN BASIN ARE ACCURATE AS THE DATE OF THE SURVEY AND MAY DIFFER THAN WHAT IS SHOWN ON OTHER DRAWINGS. STRUCTURES DEMOLISHED OR CONSTRUCTED AS PART OF A SEPARATED ONGOING PROJECT INCLUDE REPLACEMENT OF THE YP PIER AND WAVE SCREEN, DEMOLITION OF A ROW OF 15 TIMBER DOLPHINS, AND CONSTRUCTION OF A TIMBER WALKWAY AND FIVE SWING PIERS WITH ACCOMPANYING MONOPILE DOLPHINS.
2. ECHOSOUNDER – R2SONIC 2022 MULTIBEAM OPERATING AT 400KHZ.
3. POSITIONING AND MOTION – APPLANIX POS MV WAVEMASTER WITH IARTK POSITIONING.
4. SOUND VELOCITY SENSORS – AML MICRO SOUND VELOCITY PROBE ATTACHED TO THE SONAR BRACKET AND AN AML SOUND VELOCITY PROFILER.
5. VERTICAL COMPENSATION FOR CHANGING WATER LEVELS IS PROVIDED USING PPK SOLUTION PROVIDED BY CORRECTIONS FROM THE CORS NETWORK.
6. HORIZONTAL DATUM: STATE PLANE MARYLAND NAD83 2011 U.S. SURVEY FEET.
7. VERTICAL DATUM: NAVD88 U.S. SURVEY FEET
8. SURVEY PERFORMED IN ACCORDANCE WITH INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO) ORDER 1A.

SHEET LEGEND

15 EXISTING MAJOR CONTOURS (NAVD88)
14 EXISTING MINOR CONTOURS (NAVD88)

GRAPHIC SCALE

0 40' 80' 160'
SCALE: 1" = 80'–0"

NAVFAC

MARINE SOLUTIONS

HDR

ON FILE

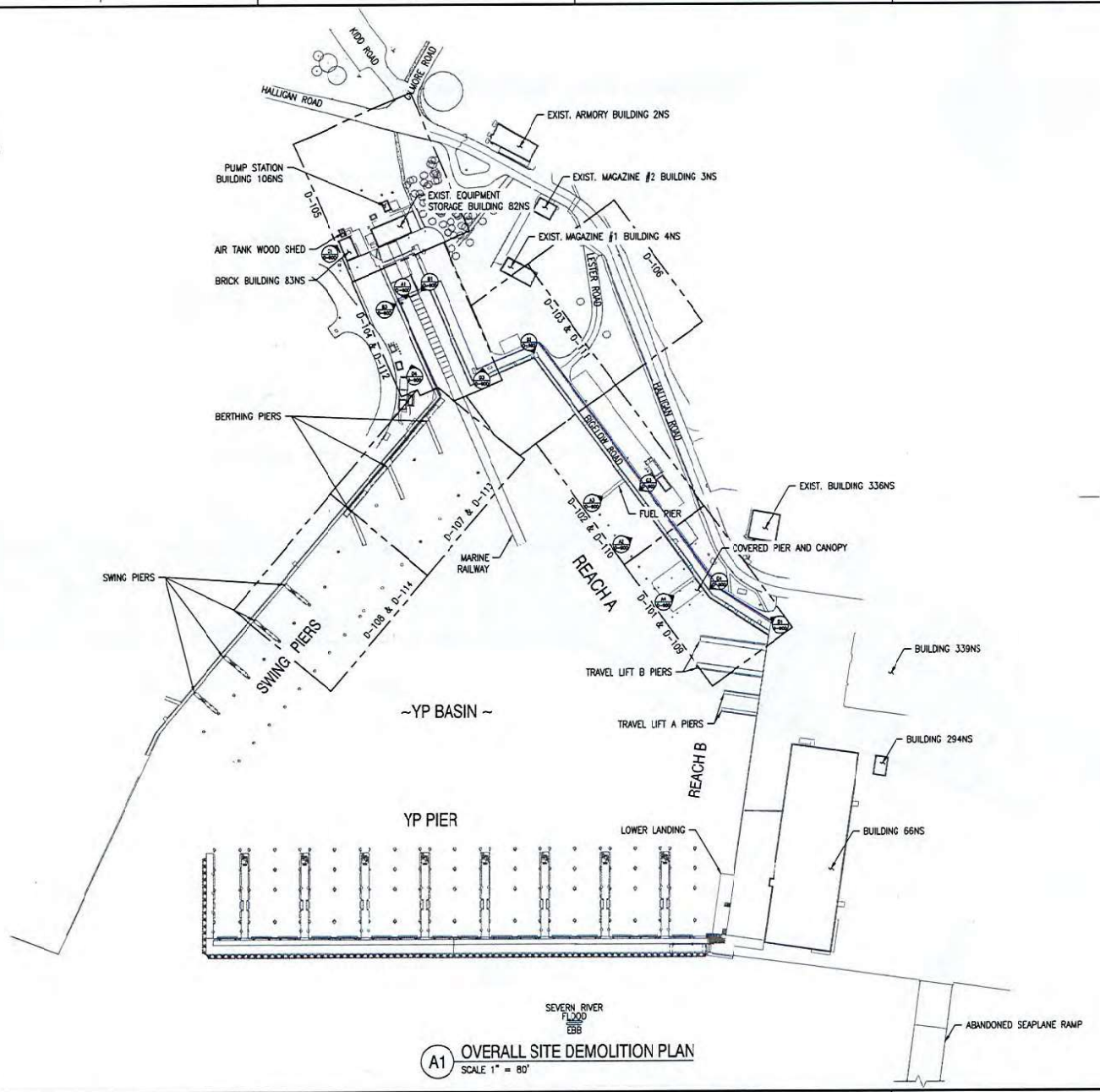
SCO | RLV | SCA

NRJ / JCJ

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
HYDROGRAPHIC SURVEY

SCALE: AS NOTED
CONTRACT NO. 1592747
N40080-23-R-3015
TBD
SHEET TBD OF 190
V-100

24-WQC-0048
202460102
180573
3/20/25
MT



A1 OVERALL SITE DEMOLITION PLAN
SCALE 1" = 80'

GENERAL SHEET NOTES

1. SEE G-100 FOR SEQUENCE OF DEMOLITION/CONSTRUCTION NOTES.
2. CONFIGURATION OF YP PIER WAVE SCREEN, SWING PIERS, DOLPHINS, AND WALKWAY SHOWN ARE BASED ON COMPLETED CONSTRUCTION OF ONGOING PROJECT N4008023C0010, WHICH INCLUDES REPLACEMENT OF THE YP PIER AND WAVE SCREEN, DEMOLITION OF A ROW OF 15 TIMBER DOLPHINS, AND CONSTRUCTION OF FIVE SWING PIERS AND ACCOMPANYING MONOPILE DOLPHINS.

GRAPHIC SCALE
0 40' 80' 160'
SCALE: 1" = 80'-0"

24-WQC-0048
202460102
180573
3/20/25
MT

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MARINE SOLUTIONS
HDR

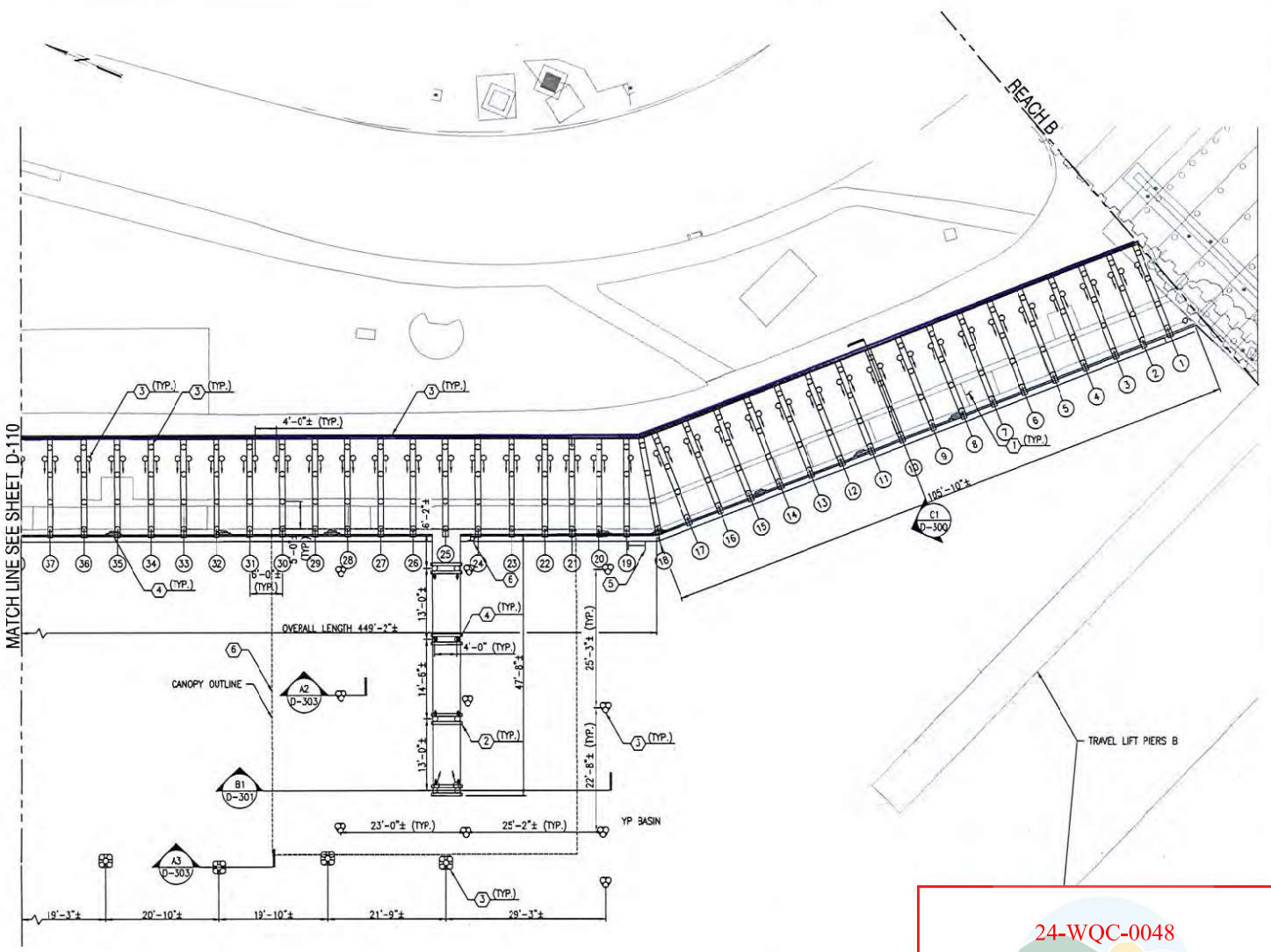
ON FILE

DES. SCD DRW RLV CHK SCA
PM/TM NRJ / JCJ

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL SUPPORT ACTIVITY ANNAPOLIS
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
ANNAPOLIS, MARYLAND

QUAYWALL REACH A REPAIR DESIGN
OVERALL SITE DEMOLITION PLAN

SCALE AS NOTED
PROJECT NO. 1992747
CONTR. CONTR. NO. N40080-23-R-0015
DRAWING NO. TBD
SHEET TBD OF 190
D-100



A1 STRUCTURAL DEMOLITION PLAN - SHEET 1 OF 6
SCALE 1" = 10' D-100

GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. STRINGERS, EDGE BEAMS, AND CROSS-BRACING NOT SHOWN FOR CLARITY.
3. CONCRETE CURB AND TIMBER DECK NOT SHOWN FOR CLARITY.

SHEET DEMOLITION KEYNOTES

1. DEMOLISH CONCRETE CURB, DECK, AND UTILITY VAULT.
2. DEMOLISH ASPHALT, STONE, BACKFILL, AND TIMBER DECK, WALES, VERTICAL FENDERS, AND PILE CAPS AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS.
3. PULL ALL DOLPHIN, FENDER, SHEET PILES, PLUMB AND BATTER TIMBER PILES AS INDICATED. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. EXTRACT PILES CONFLICTING WITH THE PLACEMENT OF NEW CONCRETE OR PIPE PILES.
4. DEMOLISH CLEATS.
5. DEMOLISH LADDER.
6. DEMOLISH CANOPY STRUCTURE ROOF AND FRAMING. FRAMING NOT SHOWN FOR CLARITY.

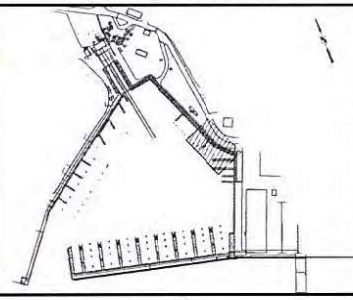
SHEET LEGEND

- CLEAT
- PLUMB TIMBER PILE
- BATTER TIMBER PILE
- (1)(A) BENT NUMBER/PILE ROW
- DOLPHIN CLUSTER – 3 TIMBER PILES
- DOLPHIN CLUSTER – 5 TIMBER PILES
- Existing MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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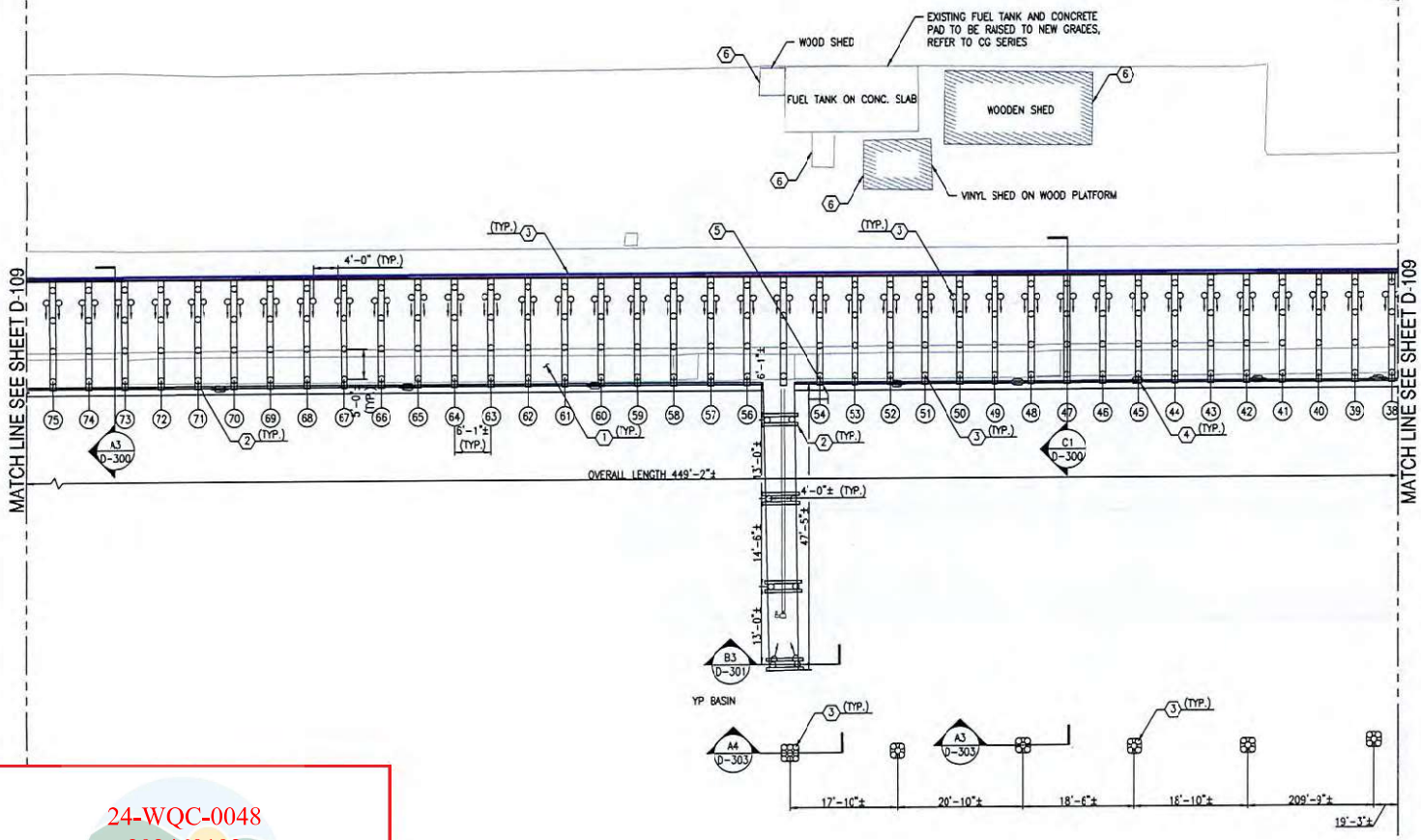
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
STRUCTURAL DEMOLITION PLAN – SHEET 1 OF 6

ON FILE
DES. SCO DRW. RLV CHK. SCA
PROJ.NO. NAU / JCJ
AS NOTED
CONTRACT NO. N40080-23-R-0015
TBD
SHEET TBD OF 180
D-109



A1 STRUCTURAL DEMOLITION PLAN - SHEET 2 OF 6
SCALE 1" = 10'
D-100

GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. STRINGERS, EDGE BEAMS, AND CROSS-BRACING NOT SHOWN FOR CLARITY.
3. CONCRETE CURB AND TIMBER DECK NOT SHOWN FOR CLARITY.

SHEET DEMOLITION KEYNOTES

1. DEMOLISH CONCRETE CURB, DECK, AND UTILITY VAULT.
2. DEMOLISH ASPHALT, STONE, BACKFILL, AND TIMBER DECK, WALES, VERTICAL FENDERS, AND PILE CAPS AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS.
3. PULL ALL DOLPHIN, FENDER, SHEET PILES, PLUMB AND BATTER TIMBER PILES AS INDICATED. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. EXTRACT PILES CONFLICTING WITH THE PLACEMENT OF NEW CONCRETE OR PIPE PILES.
4. DEMOLISH CLEATS.
5. DEMOLISH LADDER.
6. DEMOLISH SHEDS.

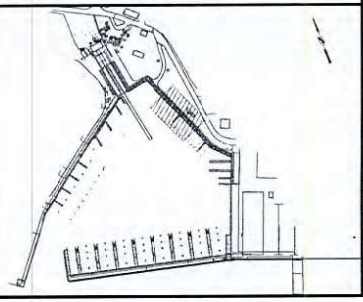
SHEET LEGEND

- CLEAT
- PLUMB TIMBER PILE
- BATTER TIMBER PILE
- (1)(A) BENT NUMBER/PILE ROW
- DOLPHIN CLUSTER – 3 TIMBER PILES
- DOLPHIN CLUSTER – 5 TIMBER PILES
- DOLPHIN CLUSTER – 9 TIMBER PILES
- Existing MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
STRUCTURAL DEMOLITION PLAN – SHEET 2 OF 6

SCALE AS NOTED
EFMS/LEC NO. 1992747
CONTR. CONTR. NO. N40080-23-R-0015
NAVFAC DRAWING NO. TBD
SHEET TBD OF 190
D-110

ON FILE
DES. SCO DRW. RLV CHK. SCA
PROJ. MGR. NRJ / JCJ

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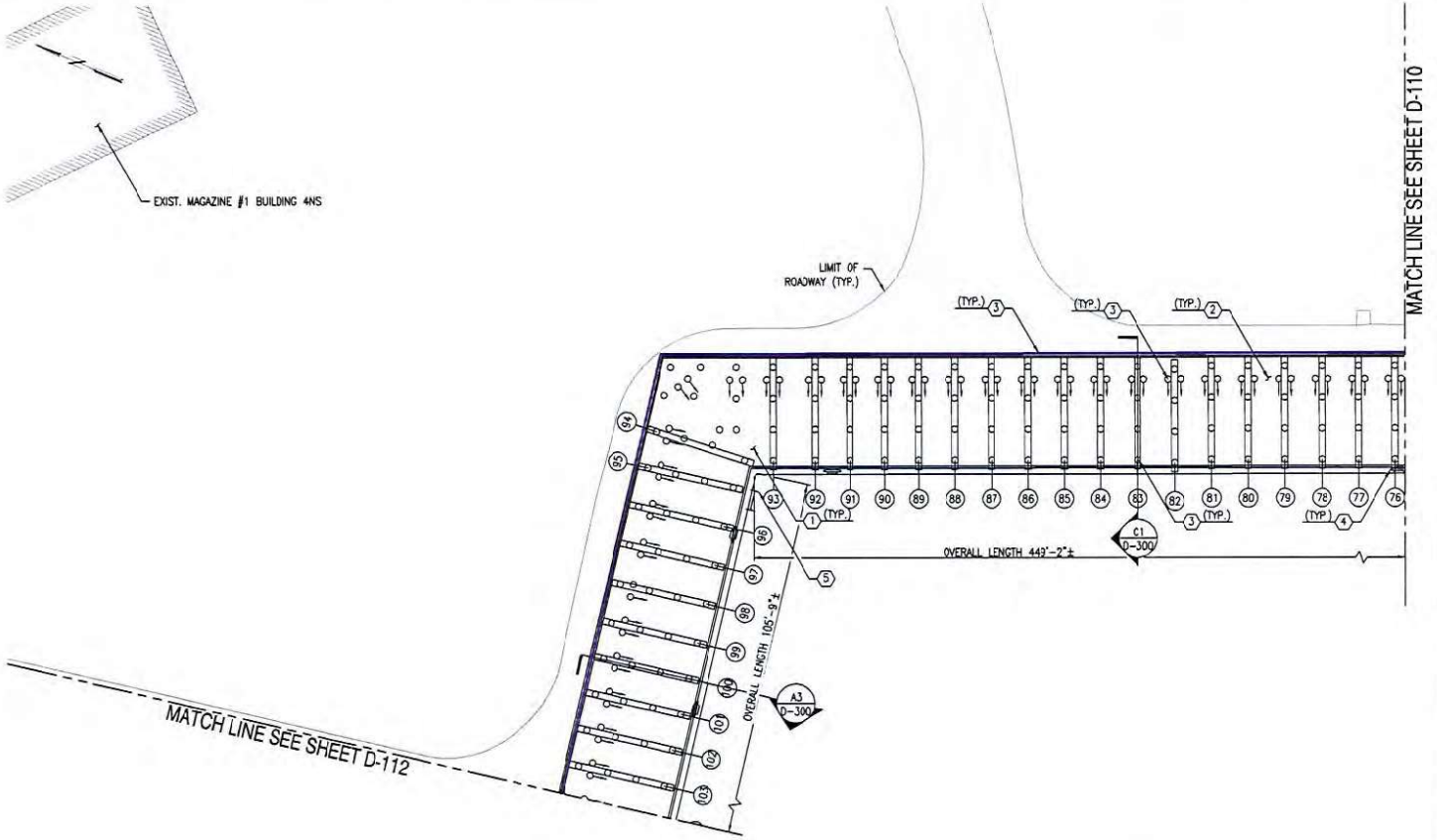
202460102
180573
3/20/25
MT



GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. STRINGERS, EDGE BEAMS, AND CROSS-BRACING NOT SHOWN FOR CLARITY.
3. CONCRETE CURB AND TIMBER DECK NOT SHOWN FOR CLARITY.

SHEET DEMOLITION KEYNOTES

1. DEMOLISH CONCRETE CURB, DECK, AND UTILITY VAULT.
2. DEMOLISH ASPHALT, STONE, BACKFILL, AND TIMBER DECK, WALES, VERTICAL FENDERS, AND PILE CAPS AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS.
3. PULL ALL DOLPHIN, FENDER, SHEET PILES, PLUMB AND BATTER TIMBER PILES AS INDICATED. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. EXTRACT PILES CONFLICTING WITH THE PLACEMENT OF NEW CONCRETE OR PIPE PILES.
4. DEMOLISH CLEATS.
5. DEMOLISH LADDER.

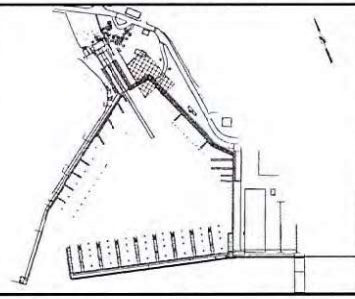
SHEET LEGEND

- CLEAT
- PLUMB TIMBER PILE
- BATTER TIMBER PILE
- (1)(A) BENT NUMBER/PILE ROW
- Existing MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



(A1) STRUCTURAL DEMOLITION PLAN - SHEET 3 OF 6
SCALE 1" = 10' D-100

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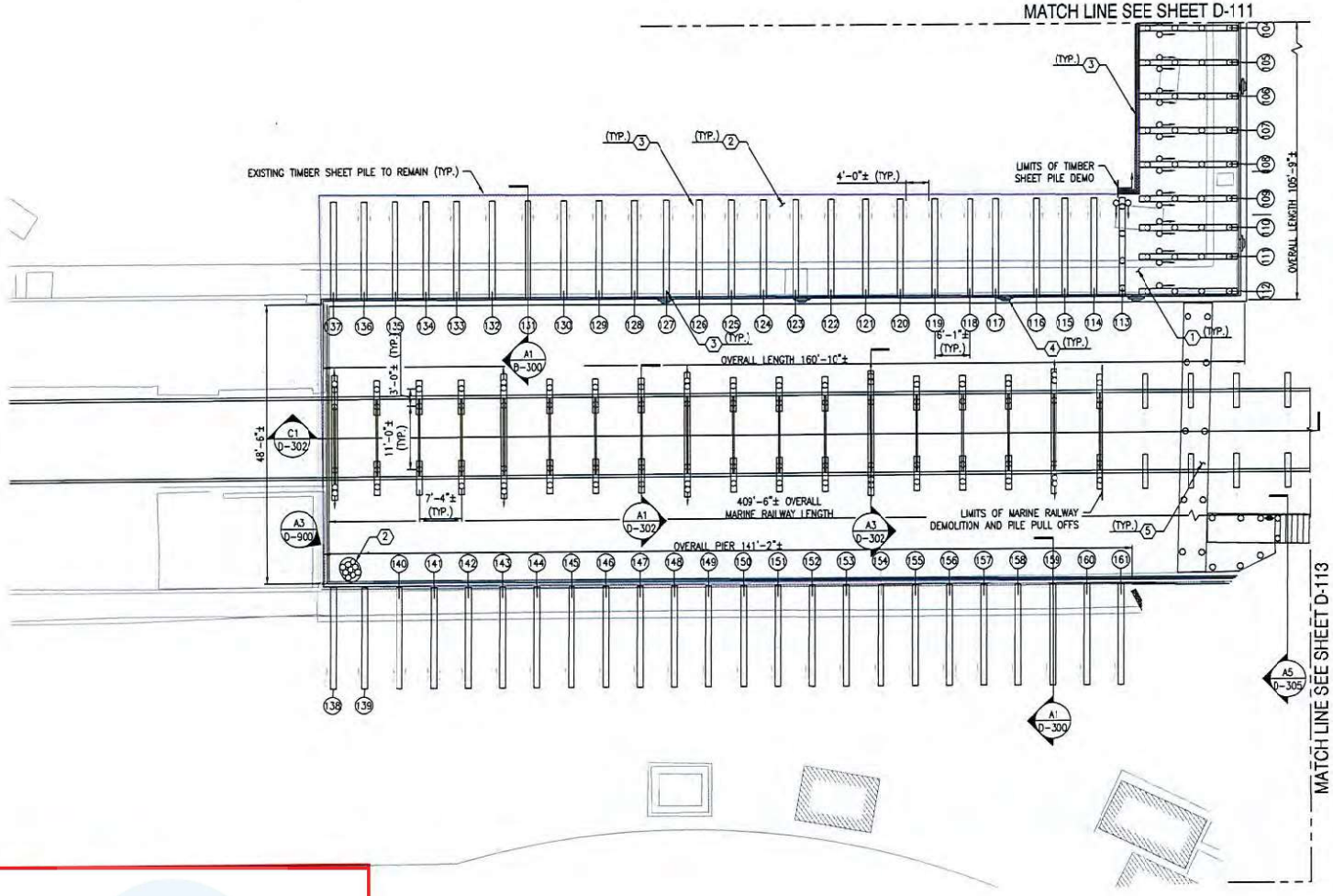
3/20/25
MT

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
STRUCTURAL DEMOLITION PLAN – SHEET 3 OF 6

ON FILE
SCO | RLV | SCA
NRJ / JCJ
AS NOTED
1597747
N40080-23-R-3015
TBD
TBD 190
D-111



GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. STRINGERS, EDGE BEAMS, AND CROSS-BRACING NOT SHOWN FOR CLARITY.
3. CONCRETE CURB AND TIMBER DECK NOT SHOWN FOR CLARITY.

① SHEET DEMOLITION KEYNOTES

1. DEMOLISH CONCRETE CURB, DECK, AND UTILITY VAULT.
2. DEMOLISH ASPHALT, STONE, BACKFILL, AND TIMBER DECK, WALES, VERTICAL FENDERS, AND PILE CAPS AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS.
3. PULL ALL DOLPHIN, FENDER, SHEET PILES, PLUMB AND BATTER TIMBER PILES AS INDICATED. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. EXTRACT PILES CONFLICTING WITH THE PLACEMENT OF NEW CONCRETE OR PIPE PILES.
4. DEMOLISH CLEATS.
5. FOR MARINE RAILWAY COMPONENTS (TRACK, RAILS, FRAMING, AND PILES) LOCATED WITHIN THE FOOTPRINT OF THE NEW BOAT RAMP, DEMOLISH AS NECESSARY TO ALLOW FOR CONSTRUCTION OF THE NEW BOAT RAMP. FOR MARINE RAILWAY COMPONENTS OUTSIDE OF THE NEW BOAT RAMP FOOTPRINT, DEMOLISH COMPONENTS TO EITHER EL. -10' NAVD88 OR BELOW MUDLINE (WHICHEVER IS DEEPER) PER SPECIFICATIONS. MARINE RAILWAY COMPONENTS THAT DO NOT PROTRUDE ABOVE THIS CRITERIA TO REMAIN.

SHEET LEGEND

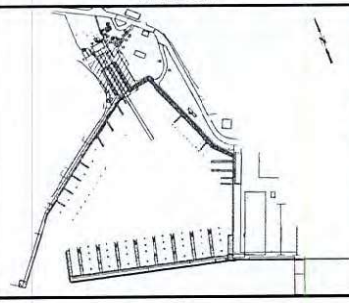
- CLEAT
- PLUMB TIMBER PILE (TO DEMOLISH)
- BATTER TIMBER PILE (TO DEMOLISH)
- PLUMB TIMBER PILE (TO REMAIN)
- BATTER TIMBER PILE (TO REMAIN)
- DOLPHIN CLUSTER – 9 TIMBER PILES
- (1)(A) BENT NUMBER/PILE ROW
- Existing MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'

SCALE: 1" = 10'-0"

KEY PLAN



(A1) STRUCTURAL DEMOLITION PLAN - SHEET 4 OF 6
SCALE 1" = 10' D-100

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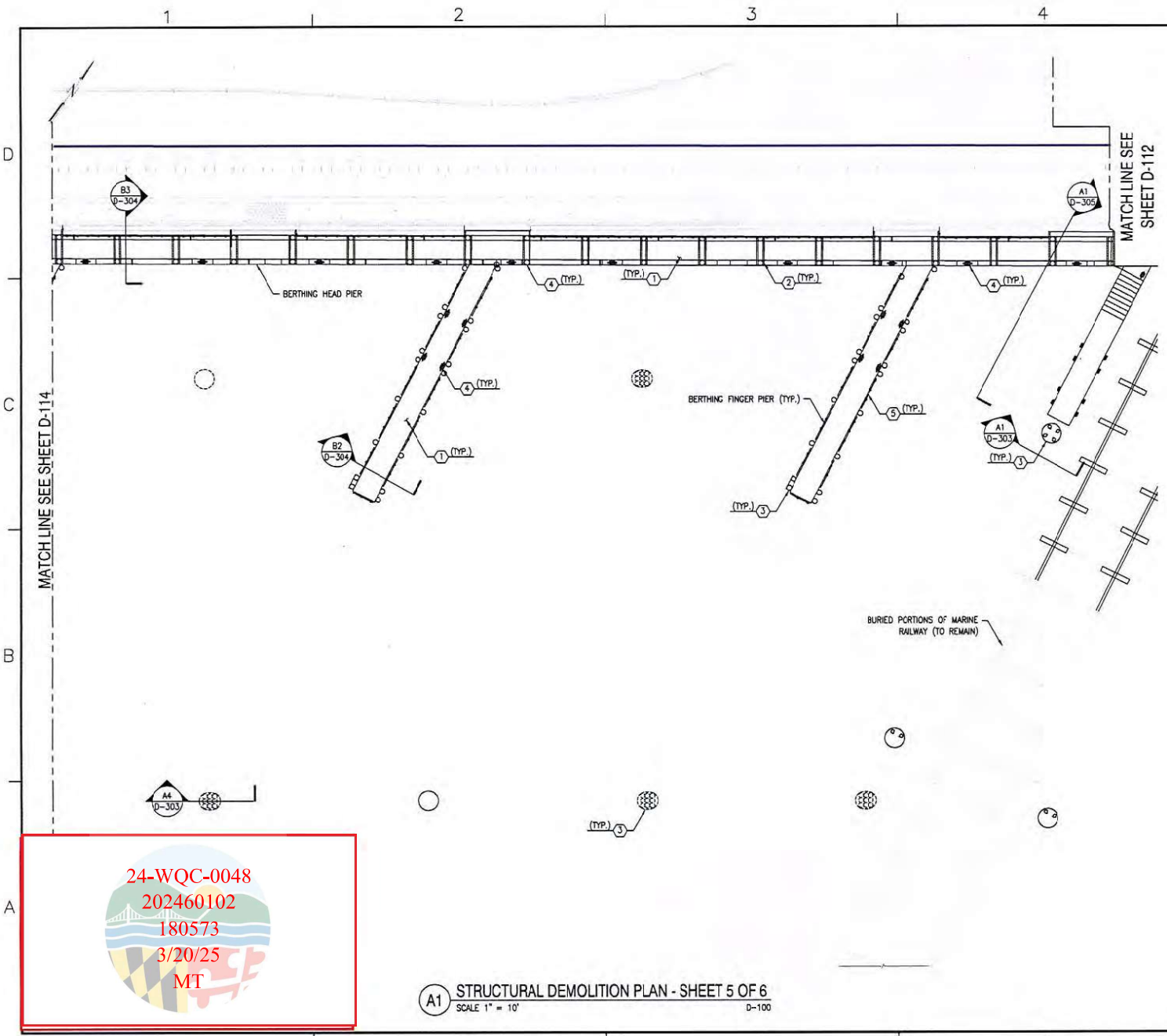
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
NAVFAC
MARINE SOLUTIONS
HDR
ON FILE
DES: SCO DRW: RLV CHK: SCA
PLN/M: NRJ / JCJ
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
STRUCTURAL DEMOLITION PLAN – SHEET 4 OF 6
SCALE: AS NOTED
FINAL SUBMITTAL
CONTR. CONTR. NO. N40080-23-R-0015
NAVFAC DRAWING NO. TBD
SHEET TBD OF 180
D-112



GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. STRINGERS, EDGE BEAMS, AND CROSS-BRACING NOT SHOWN FOR CLARITY.
3. CONCRETE CURB AND TIMBER DECK NOT SHOWN FOR CLARITY.

SHEET DEMOLITION KEYNOTES

1. DEMOLISH CONCRETE CURB, DECK, AND UTILITY VAULT.
2. DEMOLISH ASPHALT, STONE, BACKFILL, AND TIMBER DECK, WALES, VERTICAL FENDERS, AND PILE CAPS AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS.
3. PULL ALL DOLPHIN, FENDER, PLUMB AND BATTER TIMBER PILES AS INDICATED. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. EXTRACT PILES CONFLICTING WITH THE PLACEMENT OF NEW CONCRETE OR PIPE PILES.
4. DEMOLISH CLEATS.
5. DEMOLISH HANDRAIL.

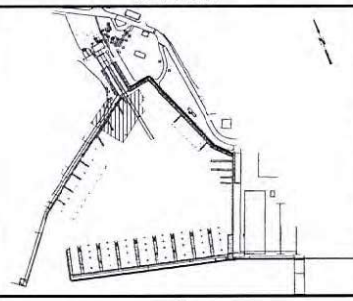
SHEET LEGEND

- CLEAT
- PLUMB TIMBER PILE (TO DEMOLISH)
- BATTER TIMBER PILE (TO DEMOLISH)
- PLUMB TIMBER PILE (TO REMAIN)
- BATTER TIMBER PILE (TO REMAIN)
- DOLPHIN CLUSTER – 9 TIMBER PILES
- MONOPILE
- (1)(A) BENT NUMBER/PILE ROW
- Existing MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



A1 STRUCTURAL DEMOLITION PLAN - SHEET 5 OF 6
SCALE 1" = 10'
D-100

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202460102
180573
3/20/25
MT

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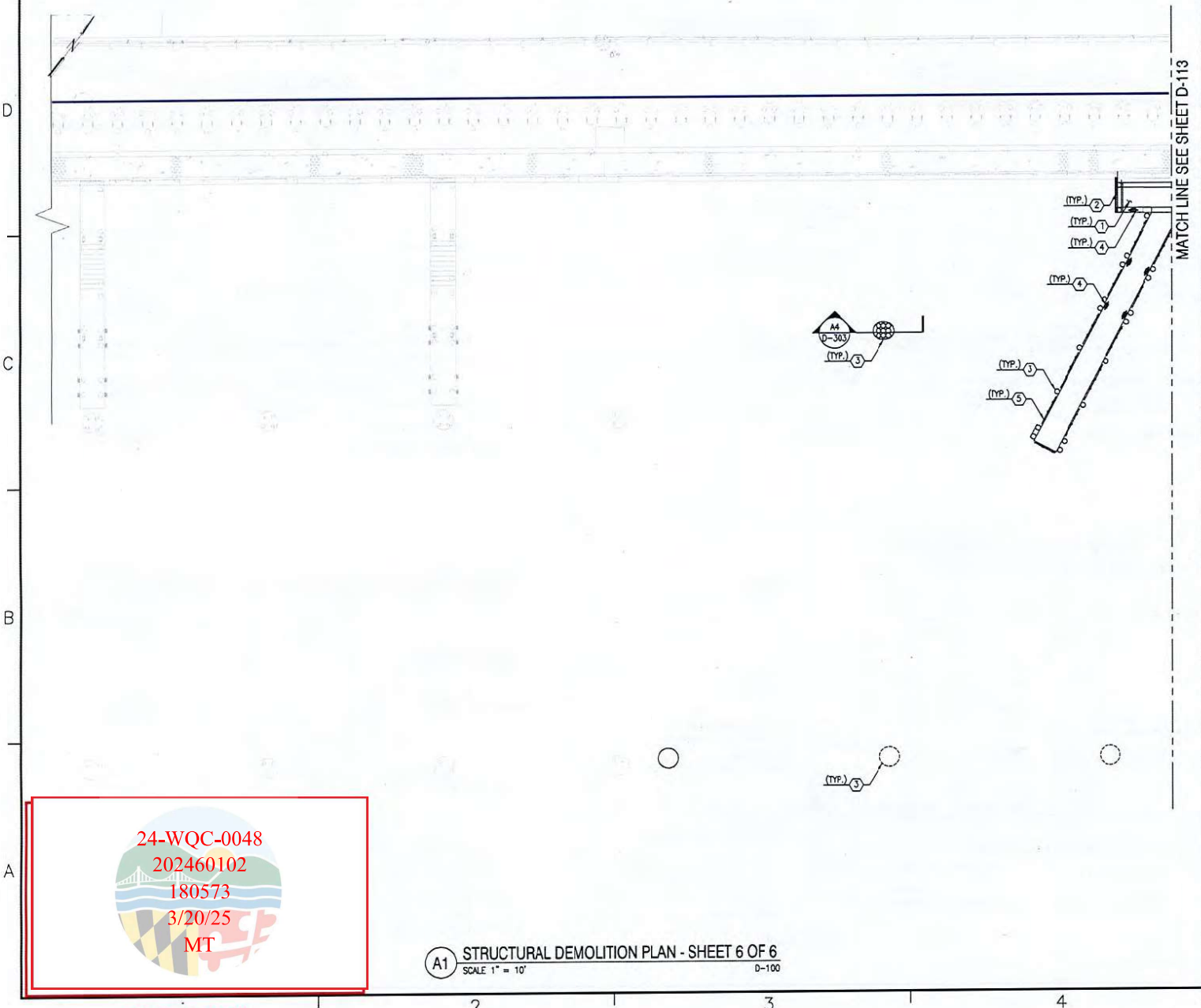
HDR

ON FILE

DES. SCO DRW. RLV CHK. SCA
PROJ. NRJ / JCJ

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
STRUCTURAL DEMOLITION PLAN – SHEET 5 OF 6

SCALE AS NOTED
EFD/PROJECT NO. 1562747
CONTR. / CNTR. NO. N40080-23-R-0015
DRAWING NO. TBD
SHEET TBD OF 180
D-113



GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. STRINGERS, EDGE BEAMS, AND CROSS-BRACING NOT SHOWN FOR CLARITY.
3. CONCRETE CURB AND TIMBER DECK NOT SHOWN FOR CLARITY.

SHEET DEMOLITION KEYNOTES

1. DEMOLISH CONCRETE CURB, DECK, AND UTILITY VAULT.
2. DEMOLISH ASPHALT, STONE, BACKFILL, AND TIMBER DECK, WALES, VERTICAL FENDERS, AND PILE CAPS AND DISPOSE OF ACCORDING TC FEDERAL AND STATE REGULATIONS. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS.
3. PULL ALL DOLPHIN, FENDER, PLUMB AND BATTER TIMBER PILES AS INDICATED. ASSUME TIMBER IS TREATED WITH CREOSOTE AND DISPOSE OF ACCORDING TO FEDERAL AND STATE REGULATIONS. EXTRACT PILES CONFLICTING WITH THE PLACEMENT OF NEW CONCRETE OR PIPE PILES.
4. DEMOLISH CLEATS.
5. DEMOLISH HANDRAIL.

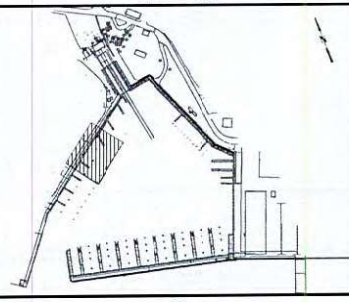
SHEET LEGEND

- CLEAT
- PLUMB TIMBER PILE (TO DEMOLISH)
- BATTER TIMBER PILE (TO DEMOLISH)
- PLUMB TIMBER PILE (TO REMAIN)
- BATTER TIMBER PILE (TO REMAIN)
- MONDPILE
- (1)(A) BENT NUMBER/PILE ROW
- Existing MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



(A1) STRUCTURAL DEMOLITION PLAN - SHEET 6 OF 6
SCALE 1" = 10'
D-100

24-WQC-0048
202460102
180573
3/20/25
MT

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HDR

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PROJ. MGR NRJ / JCJ

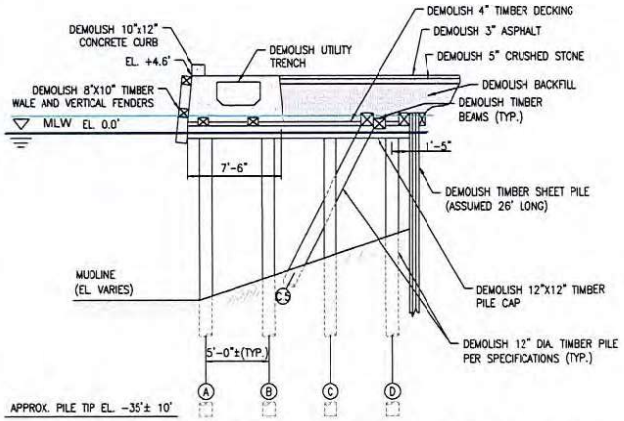
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL SUPPORT ACTIVITY ANNAPOLIS
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
ANNAPOLIS, MARYLAND

QUAYWALL REACH A REPAIR DESIGN
STRUCTURAL DEMOLITION PLAN – SHEET 6 OF 6

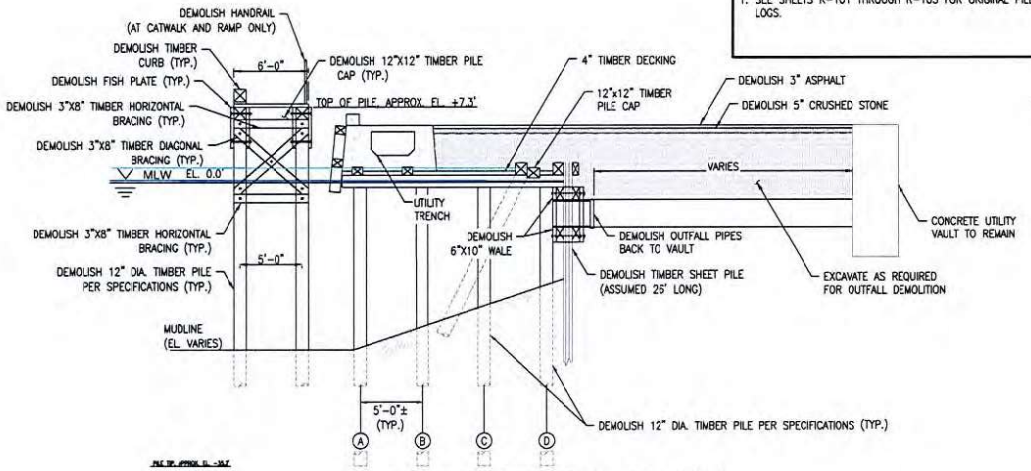
SCALE AS NOTED
PROJECT NO. 1102747
CONTR. CONTR. NO. N40080-23-R-0015
DRAWING NO. TBD
SHEET TBD OF 190
D-114

GENERAL SHEET NOTES

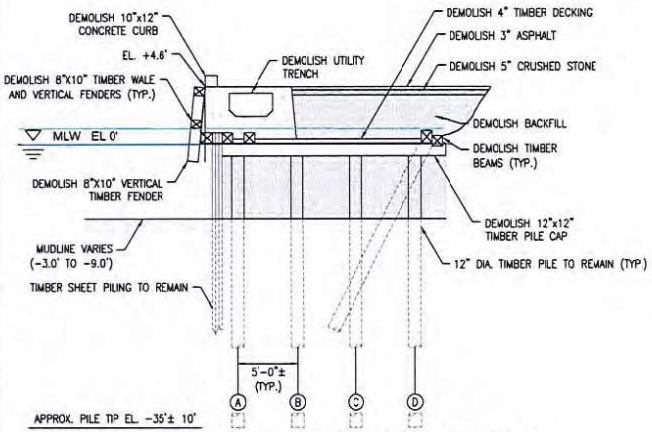
1. SEE SHEETS R-101 THROUGH R-103 FOR ORIGINAL PILE DRIVING LOGS.



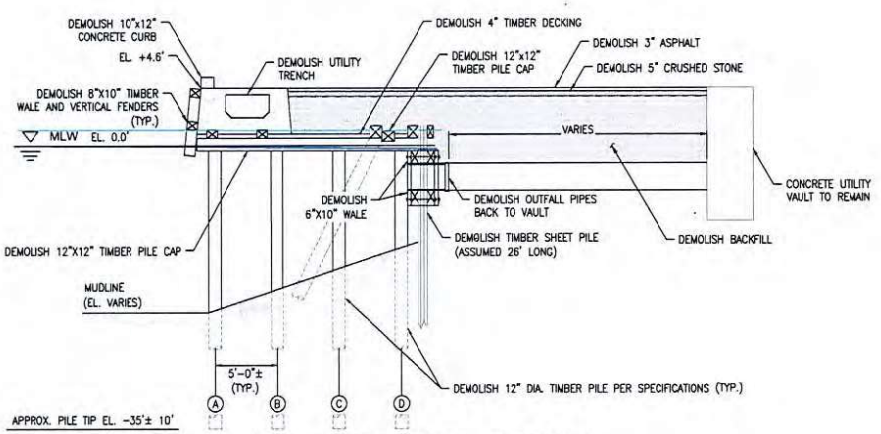
C1 NORTH QUAYWALL REACH A DEMOLITION TYPICAL SECTION
SCALE 1" = 5'
D-109, D-110, D-111



C3 NORTH QUAYWALL REACH A DEMOLITION SECTION AT 30" STEEL OUTFALL
SCALE 1" = 5'
D-111



A1 NORTH QUAYWALL REACH A DEMOLITION SECTION AT WEST SIDE OF MARINE RAILWAY
SCALE 1" = 5'
D-112



A3 NORTH QUAYWALL REACH A DEMOLITION SECTION AT STORM DRAIN PIPES
SCALE 1" = 5'
D-111

Proposed Mean Low Water (MLW) 0 ft MLW
Proposed Mean High Water (MHW) 0.97 ft MLW

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

NAVFAC
MARINE SOLUTIONS
HDR
ON FILE

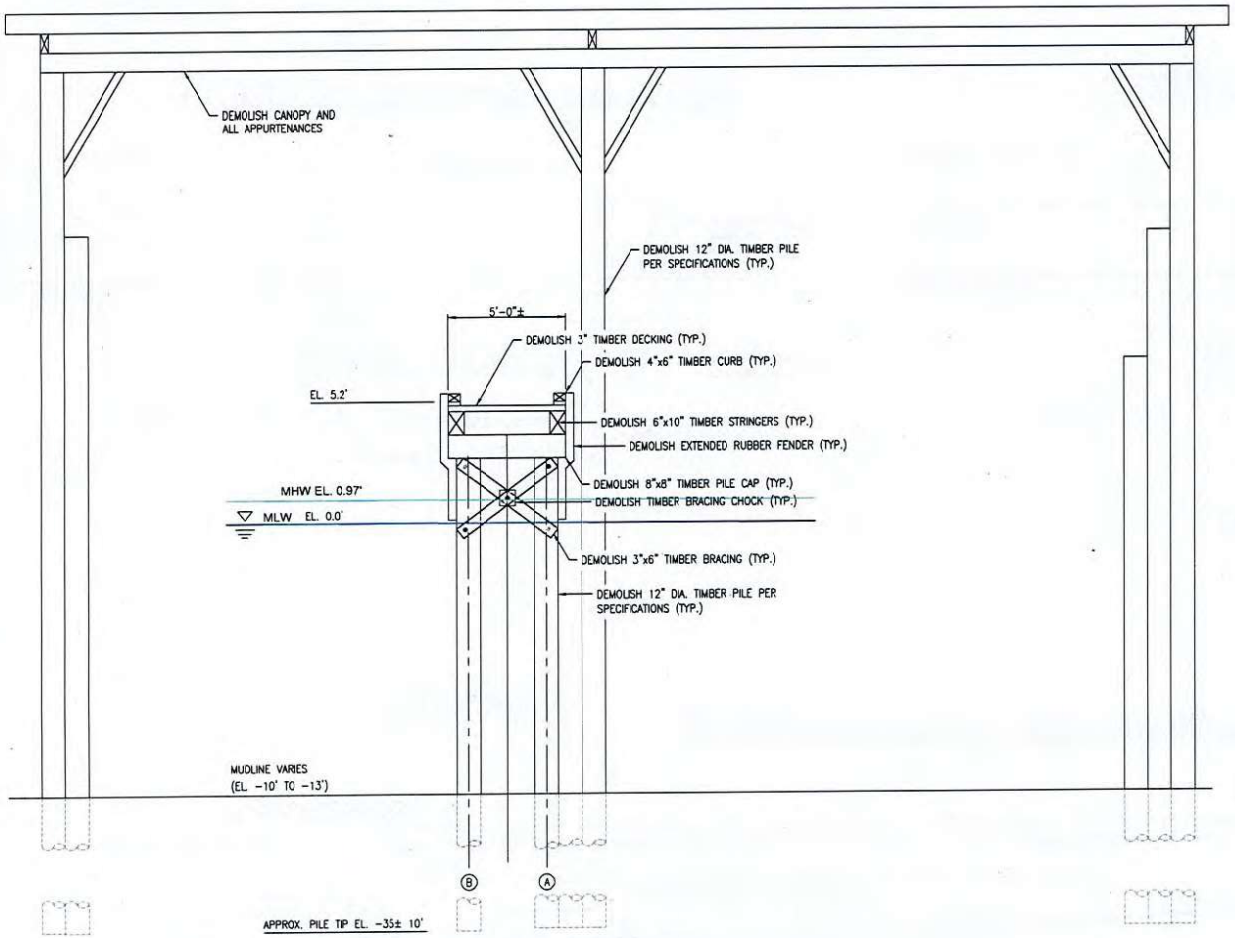
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL SUPPORT ACTIVITY ANNAPOLIS
QUAYWALL REACH A REPAIR DESIGN
DEMOLITION – SECTIONS – SHEET 1 OF 6

SCALE: AS NOTED
EFMSDET NO. 1562747
CONTRACT NO. N40080-23-R-0015
DRAWING NO. TBD
SHEET TBD OF 190
D-300

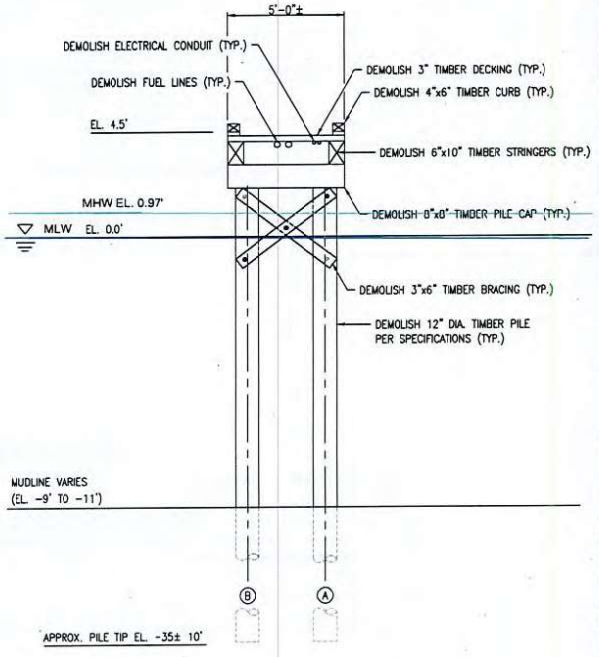
24-WQC-0048
202460102
180573
3/20/25
MT

GENERAL SHEET NOTES

1. SEE SHEETS R-101 THROUGH R-103 FOR ORIGINAL PILE DRIVING LOGS.



B1 COVERED PIER AND CANOPY DEMOLITION TYPICAL FINGER PIER SECTION
SCALE 3/8" = 1'-0" D-109



B3 FUELING PIER DEMOLITION - TYPICAL FINGER PIER SECTION
SCALE 3/8" = 1'-0" D-113

Proposed Mean Low Water (MLW) 0 ft MLW
Proposed Mean High Water (MHW) 0.97 ft MLW

GRAPHIC SCALE

0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

NAVFAC

MARINE SOLUTIONS

HDR

ON FILE

DESIGNED SCO DRAWN ASA CHKD SCA
PROJ MGR NRJ / JCJ

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND

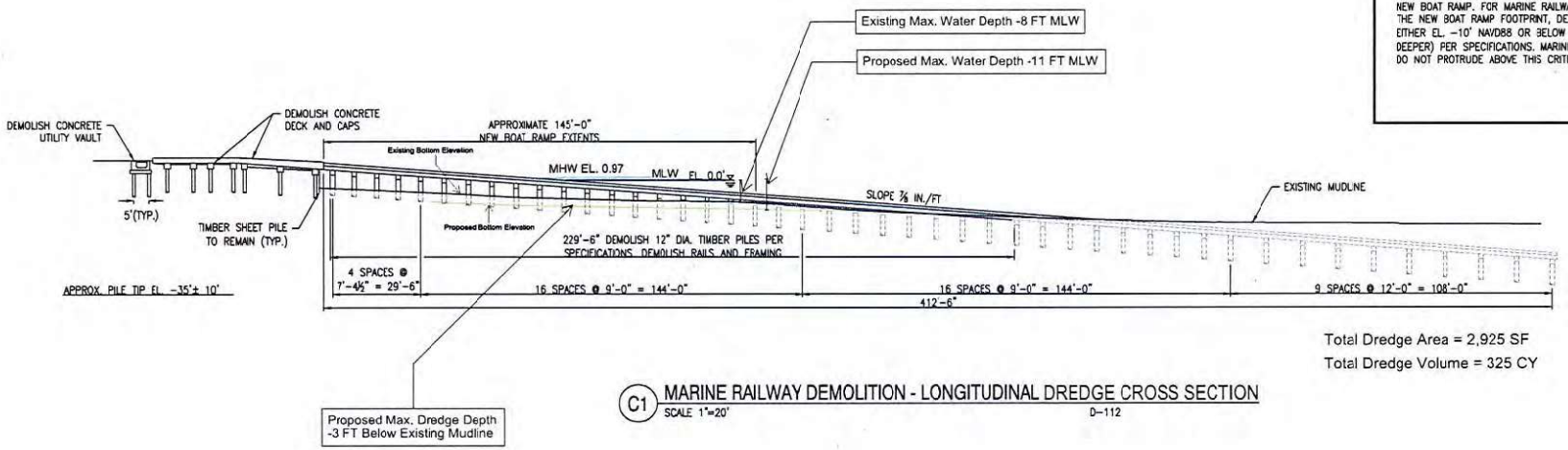
QUAYWALL REACH A REPAIR DESIGN
ANNAPOLIS, MARYLAND
DEMOLITION – SECTIONS – SHEET 2 OF 6

SCALE: AS NOTED
PROJECT NO. 1092747
CONTR. CONST. NO. N40080-23-R-0015
DRAWING NO. TBD
SHEET TBD OF 190
D-301

24-WQC-0048
202460102
180573
3/20/25
MT

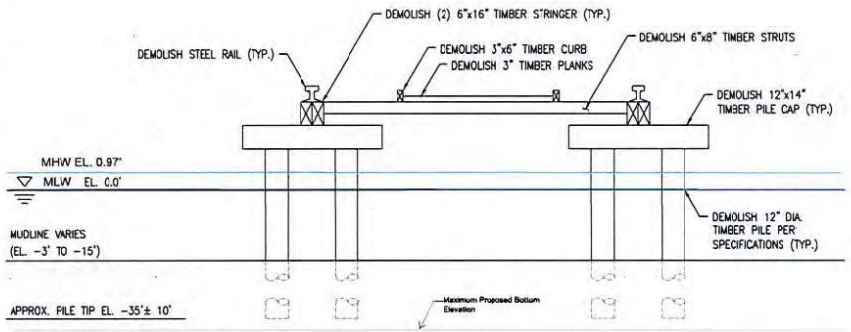
GENERAL SHEET NOTES

1. SEE SHEETS R-101 THROUGH R-103 FOR ORIGINAL PILE DRIVING LOGS.
2. FOR MARINE RAILWAY COMPONENTS (TRACK, RAILS, FRAMING, AND PILES) LOCATED WITHIN THE FOOTPRINT OF THE NEW BOAT RAMP, DEMOLISH AS NECESSARY TO ALLOW FOR CONSTRUCTION OF THE NEW BOAT RAMP. FOR MARINE RAILWAY COMPONENTS OUTSIDE OF THE NEW BOAT RAMP FOOTPRINT, DEMOLISH COMPONENTS TO EITHER EL. -10' NAVD88 OR BELOW MUDLINE (WHICHEVER IS DEEPER) PER SPECIFICATIONS. MARINE RAILWAY COMPONENTS THAT DO NOT PROTRUDE ABOVE THIS CRITERIA TO REMAIN

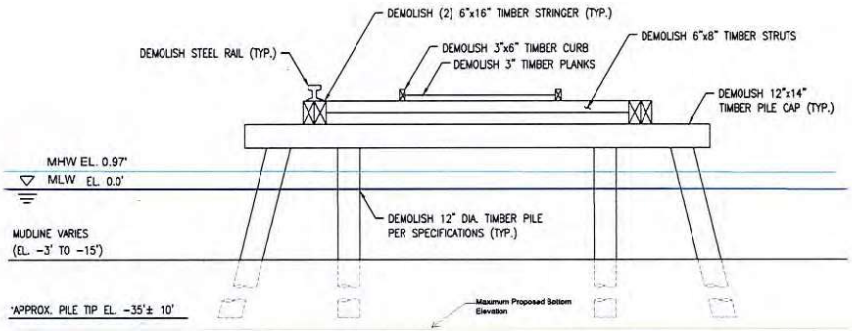


Total Dredge Area = 2,925 SF
Total Dredge Volume = 325 CY

C1 MARINE RAILWAY DEMOLITION - LONGITUDINAL DREDGE CROSS SECTION
SCALE 1"=20' D-112



A1 MARINE RAILWAY DEMOLITION - TYPICAL PLUMB PILE SECTION
SCALE 3/8" = 1'-0" D-112



A3 MARINE RAILWAY DEMOLITION - TYPICAL BATTER PILE SECTION
SCALE 3/8" = 1'-0" D-112

GRAPHIC SCALE

SCALE: 3/8" = 1'-0" (0, 1', 2', 3', 5')

SCALE: 1" = 20'-0" (0, 10', 20', 40')

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
1314 HARWOOD STREET SE
WASHINGTON NAVY YARD, DC 20374-5018

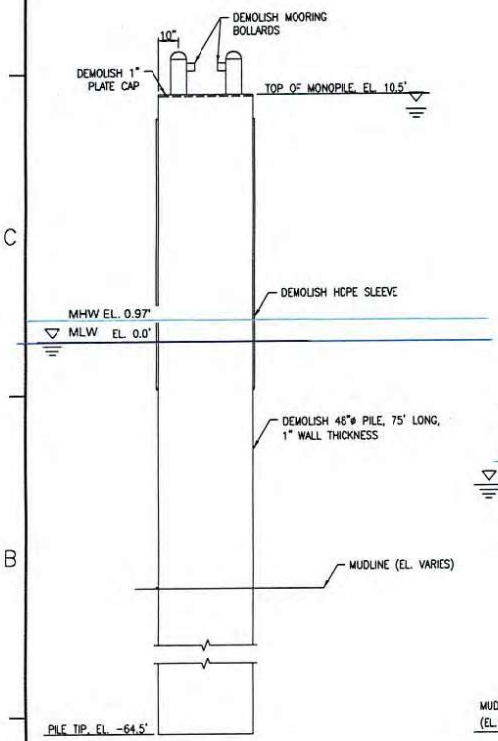
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
DEMOLITION – SECTIONS – SHEET 3 OF 6

SCALE: AS NOTED
PROJECT NO. 1592747
CONTR. CONTR. NO. N40080-23-R-0015
DRAWING NO. TBD
SHEET TBD OF 190
D-302

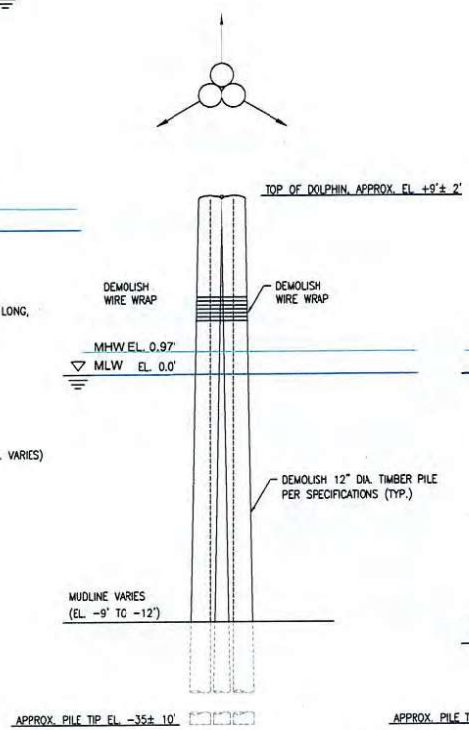
24-WQC-0048
202460102
180573
3/20/25
MT

GENERAL SHEET NOTES

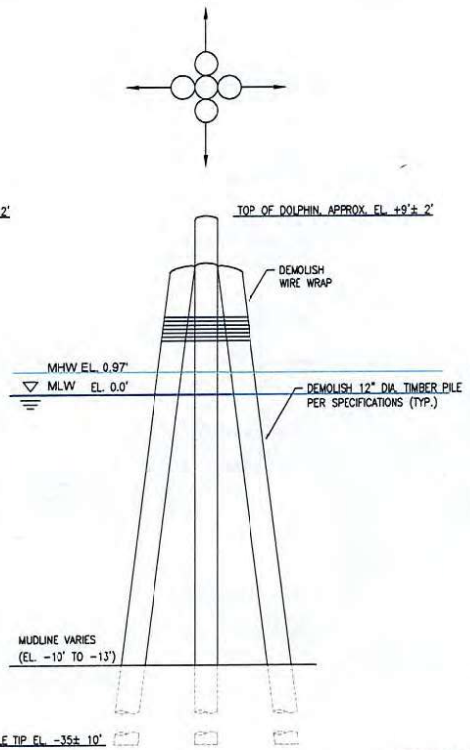
1. SEE SHEETS R-101 THROUGH R-103 FOR ORIGINAL PILE DRIVING LOGS.



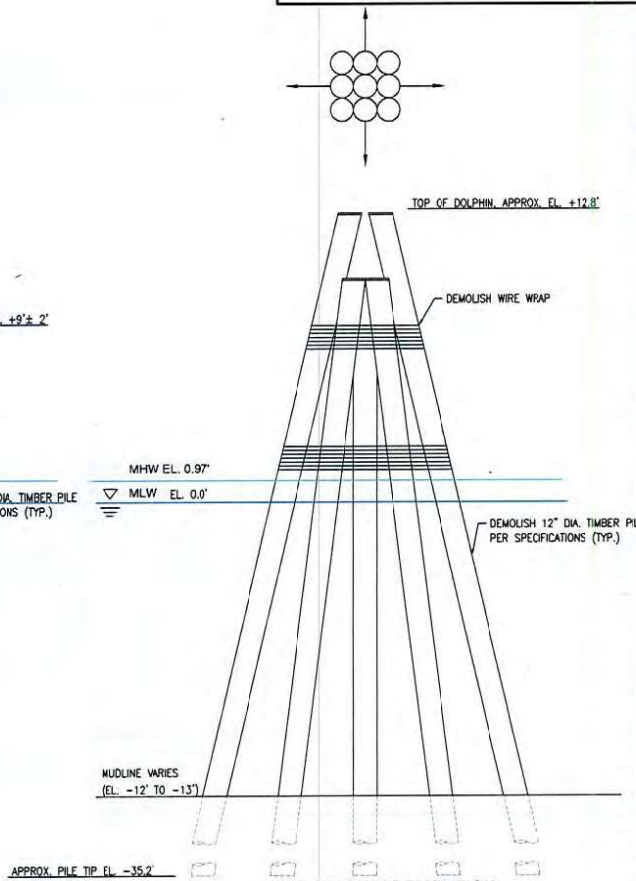
A1 MONOPILE DEMOLITION TYPICAL SECTION
SCALE 3/8" = 1'-0" D-114



A2 3 PILE DOLPHIN DEMOLITION TYPICAL SECTION
SCALE 3/8" = 1'-0" D-109



A3 5 PILE DOLPHIN DEMOLITION SECTION
SCALE 3/8" = 1'-0" D-109, D-110



A4 9 PILE DOLPHIN DEMOLITION TYPICAL SECTION
SCALE 3/8" = 1'-0" D-110, D-113, D-114

GRAPHIC SCALE
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

NAVFAC
MARINE SOLUTIONS
HDR

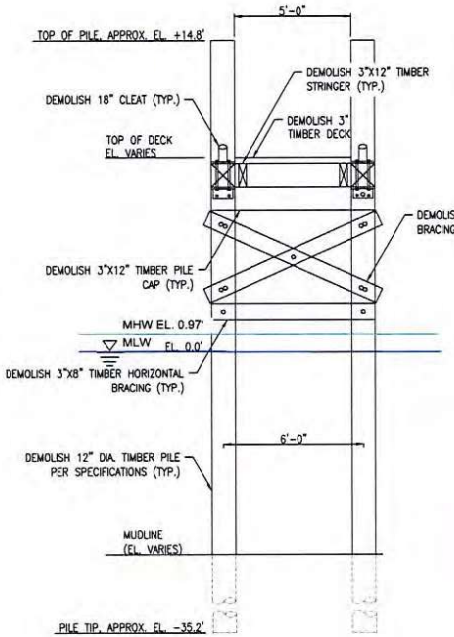
ON FILE

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
DEMOLITION – SECTIONS – SHEET 4 OF 6

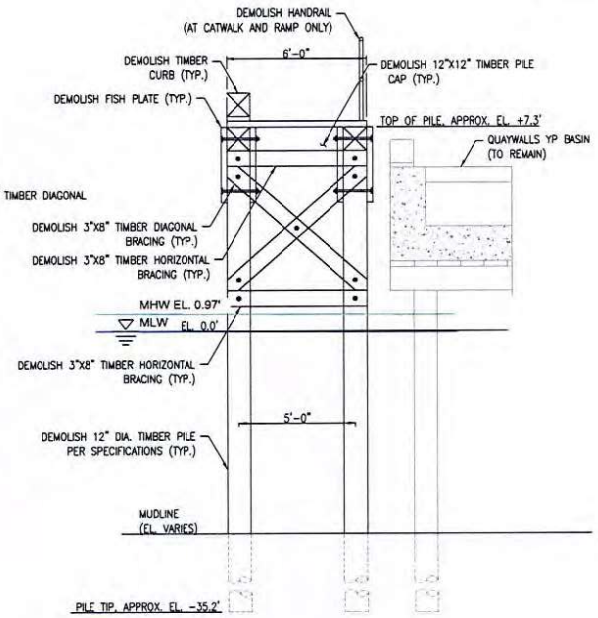
SCALE: AS NOTED
CONTRACT NO. 1302747
COMPUTER CONTROL NO. N40080-23-R-0015
NAVFAC DRAWING NO. TBD
SHEET TBD OF 190
D-303

GENERAL SHEET NOTES

1. SEE SHEETS R-101 THROUGH R-103 FOR ORIGINAL PILE DRIVING LOGS.



B2 BERTHING PIERS DEMOLITION SECTION AT FINGER PIERS
SCALE 3/8" = 1'-0" D-113



B3 BERTHING PIERS DEMOLITION SECTION AT HEAD PIER
SCALE 3/8" = 1'-0" D-113

GRAPHIC SCALE

0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND

NAVAL SUPPORT ACTIVITY ANNAPOLIS
QUAYWALL REACH A REPAIR DESIGN
DEMOLITION PHASE SECTIONS (OLD TIDEWATER SECTIONS)

NAVFAC
MARINE SOLUTIONS
HDR

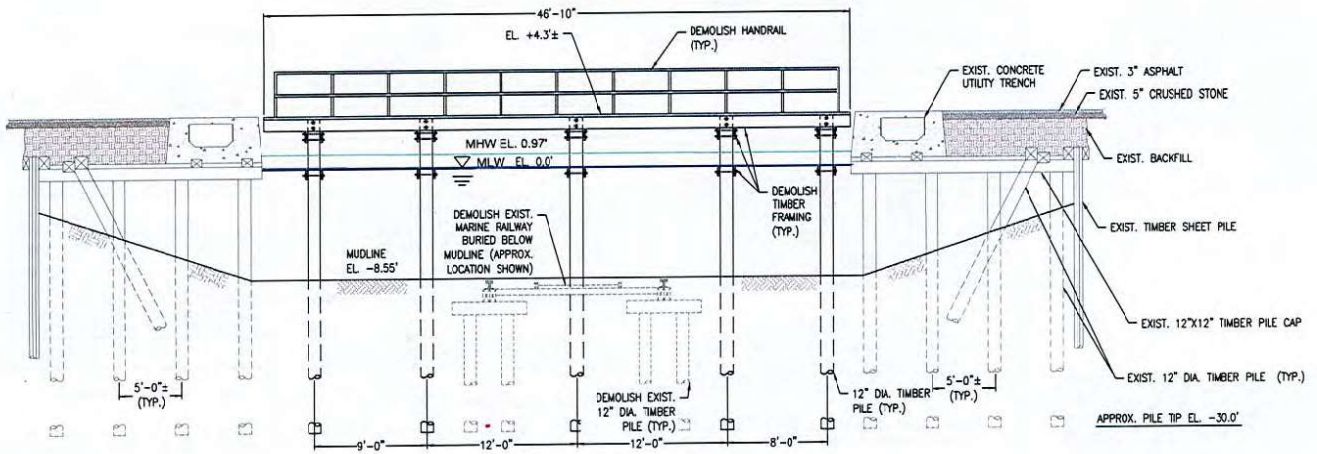
ON FILE

SCALE: AS NOTED
PROJECT NO.: 1502747
CONTR. CONTR. NO.: N40080-23-R-0015
NAVFAC DRAWING NO.: #######
SHEET TBD OF 190
D-304

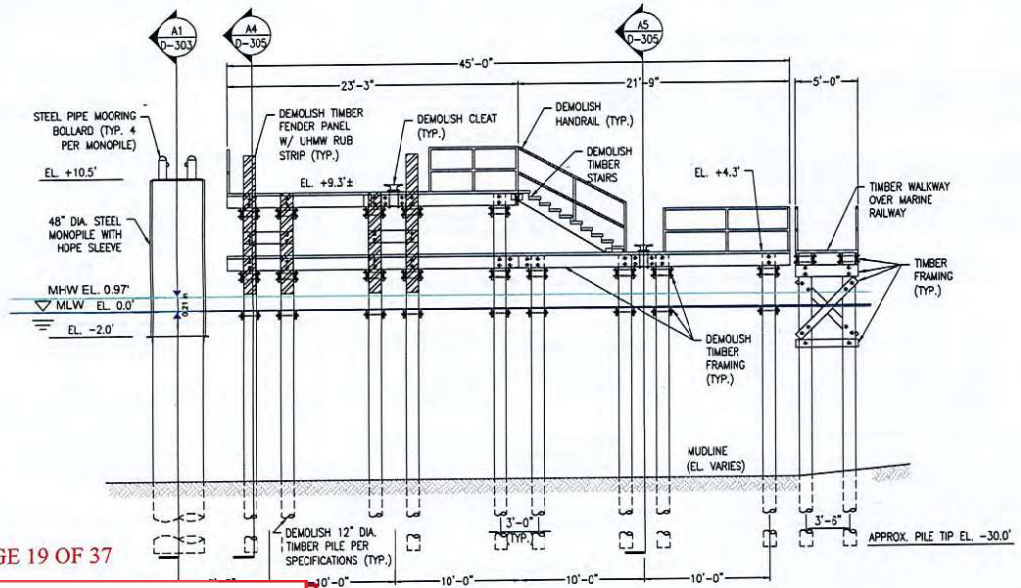
PAGE 18 OF 37

GENERAL SHEET NOTES

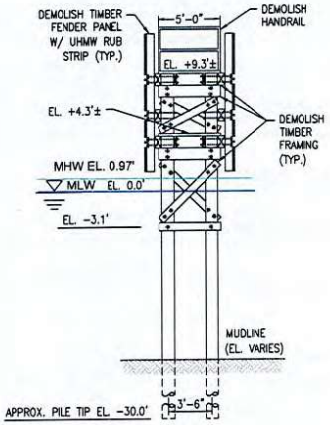
1. SEE SHEETS R-101 THROUGH R-103 FOR ORIGNAL PILE DRIVING LOGS.



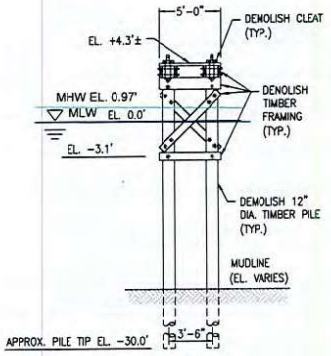
C1 LONGITUDINAL SECTION - SWING PIER ACCESS WALKWAY
SCALE 1" = 5' S-111



GITUDINAL SECTION - SWING PIER 5A
1" = 5' S-111



A4 SECTION - SWING PIER RAISED SEGMENT AT FENDER PANEL
SCALE 1" = 5' S-303



A5 SECTION - SWING PIER LOWER SEGMENT AT CLEAT
SCALE 1" = 5' S-303

GRAPHIC SCALE

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

ON FILE

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
DEMOLITION - SECTIONS - SHEET 6 OF 6

SCALE: AS NOTED
CONTRACT NO.: 1582747
M40080-23-R-0015
SHEET: TBD OF 190
D-305

GENERAL STRUCTURAL NOTES

GENERAL

1. FIELD VERIFY DIMENSIONS, LOCATIONS, AND ELEVATIONS SHOWN ON THE CONTRACT DRAWINGS FOR EXISTING STRUCTURES. BRING DISCREPANCIES TO THE ATTENTION OF THE CONTRACTING OFFICER BEFORE PROCEEDING WITH WORK.
2. LOCATIONS OF BORINGS AND BORING LOGS ARE INCLUDED ON B SERIES DRAWINGS.
3. STRUCTURES SHOWN ON THE DRAWINGS ARE STABLE ONLY IN THEIR COMPLETED FORM. TEMPORARY SUPPORTS REQUIRED FOR STABILITY DURING INTERMEDIATE STAGES OF CONSTRUCTION MUST BE DESIGNED, FURNISHED, AND INSTALLED BY THE CONTRACTOR.
4. PRECAUTIONS MUST BE TAKEN TO AVOID AND/OR LIMIT DEBRIS FROM ENTERING THE WATER. ANY MATERIAL/DEBRIS THAT FALLS INTO THE WATER MUST BE REMOVED AS SOON AS POSSIBLE.

STEEL SHEET PILE

1. PROVIDE STEEL SHEET PILE FOR REACH A BULKHEAD THAT MEETS THE FOLLOWING CRITERIA:
   - A. MINIMUM S_x = 75 IN³/FT
   - B. MINIMUM I_x = 740 IN⁴/FT
   - C. MINIMUM FLANGE THICKNESS: 0.65 INCH
   - D. MINIMUM WEB THICKNESS: 0.5 INCH
   - E. MAXIMUM SECTION HEIGHT: 21 INCH
   - F. MINIMUM GRADE: ASTM A572 GRADE 60
   - G. MINIMUM TIP ELEVATION: −49.5'
   - H. TOP OF SHEET PILE ELEVATION: +5.5'
2. FILL AREA BEHIND STEEL SHEET PILE WALL WITH FREE DRAINING MATERIAL. PLACE AND COMPACT FILL IN 12" LIFTS.
3. FILL ANNULUS BETWEEN STEEL SHEET PILE AND TIMBER SHEET PILE WALL WITH MARINE CONCRETE FILL.
4. SUBMIT SPECIFICATIONS OF HAMMER OR VIBRATORY DRIVER TO BE USED FOR INSTALLATION OF SHEET PILE BULKHEAD A MINIMUM OF 28 DAYS BEFORE INSTALLING THE FIRST SHEET PILE.
5. PROVIDE ZERO VOC SPLASH ZONE COATING ON BOTH SIDES OF SHEET PILES FROM THE TOP OF SHEET PILE TO 5'−0" BELOW THE EXISTING MUDLINE DEPTH. PROVIDE A SIMILAR COATING FOR ANY PERMANENT LEFT IN PLACE STRUCTURAL STEEL ATTACHED TO THE SHEET PILE BULKHEAD. THIS INCLUDES ANY STRUCTURAL STEEL LEFT IN PLACE FOR RIGGING OR FORMWORK.
6. CATHODIC PROTECTION IS A DELEGATED DESIGN (PER SPECIFICATIONS): AT A MINIMUM PROVIDE 170 POUND ALUMINUM ANODES AT 20'−0" MAXIMUM SPACING ALONG THE BULKHEAD.
7. CATHODIC PROTECTION MONITORING STATIONS (PER SPECIFICATIONS): PROVIDE ONE CATHODIC PROTECTION MONITORING STATION FOR THE SHEET PILES.
8. PROBE CHANNEL BOTTOM AND REMOVE OBSTRUCTIONS PRIOR TO DRIVING.

STRUCTURAL STEEL

1. PROVIDE STRUCTURAL STEEL WIDE-FLANGE SHAPES CONFORMING TO ASTM A992; CHANNELS, ANGLES, AND PLATES CONFORMING TO ASTM A572 GRADE 50; STEEL PIPE (EXCLUDING PIPE PILES) CONFORMING TO ASTM A53 GRADE B; STEEL TUBING CONFORMING TO ASTM A1085. HOLLOW STRUCTURAL STEEL ASTM A500 GRADE C.
2. PROVIDE STAINLESS STEEL SHEET, STRIP, AND PLATE CONFORMING TO ASTM A240 TYPE 316; SHAPES AND BARS CONFORMING TO ASTM A276 TYPE 316; PIPE CONFORMING TO ASTM A312 TYPE 316.
3. FABRICATE AND ERECT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), "STEEL CONSTRUCTION MANUAL, 14TH EDITION".
4. SUBMIT ERECTION PLANS AND SHOP DETAILS AND RECEIVE APPROVAL BEFORE PROCEEDING WITH FABRICATION.
5. WELD CONNECTIONS WITH CLASS E-70 SERIES ELECTRODES AND WELD IN COMPLIANCE WITH AMERICAN WELDING SOCIETY AWS D1.1, "STR[illegible] NOTED OTHERWISE, ALL WELI[illegible]TERTIGHT.
6. PROVIDE GRADE A325 OR ASTM F3125 GRADE HEAVY HEX HEAD STYLE HIGH

PAGE 20 OF 37

CONCRETE

1. PROVIDE MARINE CONCRETE AND MARINE CONCRETE FILL WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS (PER SPECIFICATIONS).
2. DETAIL AND CONSTRUCT REINFORCED CONCRETE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301, "SPECIFICATION FOR STRUCTURAL CONCRETE."
3. DETAIL REINFORCING STEEL IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE SP-66, "ACI DETAILING MANUAL," WHICH INCLUDES ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
4. PROVIDE REINFORCEMENT STEEL CONFORMING TO ASTM A1035 CS GRADE 100 DEFORMED BARS FOR ALL MARINE CONCRETE. FOR ALL OTHER CONCRETE REFER TO SPECIFICATION 03 30 00.
5. UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE CONCRETE COVER FOR REINFORCEMENT MUST BE:
   - A. BARS IN CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH OR GRAVEL OR EXPOSED TO WATER INCLUDING ALL DECK AND PILE CAP CONCRETE ..... 3 IN
   - B. OTHER LOCATIONS ..... 2 IN
6. SUBMIT REINFORCING STEEL DETAILS (SHOP DRAWINGS) AND RECEIVE APPROVAL BEFORE PROCEEDING WITH FABRICATION.
7. CHAMFER EXPOSED CONCRETE EDGES 3/4 INCHES UNLESS OTHERWISE NOTED.
8. DETAIL SPLICES FOR REINFORCING BARS NOT DIMENSIONED ON THE DRAWINGS AS TABULATED ON SHEET S-002.
9. SUBMIT A PLAN INDICATING THE TYPE AND LOCATION OF EACH CONSTRUCTION JOINT. FINAL JOINT LOCATIONS ARE SUBJECT TO APPROVAL BY THE CONTRACTING OFFICER. ONCE THE CONSTRUCTION JOINT PLAN IS APPROVED, NO ADDITIONAL JOINTS SHALL BE USED NOR ANY OMITTED EXCEPT BY WRITTEN AUTHORIZATION FROM THE CONTRACTING OFFICER.
10. SURFACE OF HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS MUST BE CLEANED OF LAITANCE AND MUST EXPOSE CLEAN COARSE AGGREGATE SOLIDLY EMBEDDED IN MORTAR MIX. THE SURFACE OF CONSTRUCTION JOINT MUST BE THOROUGHLY CLEANED AND WETTED JUST PRIOR TO DEPOSITING CONCRETE.
11. THE ABOVE PROVISIONS (NOTE 10) APPLY WHEN CONCRETE IS PLACED AGAINST EXISTING CONCRETE. IN ADDITION, ROUGHEN THE EXISTING CONCRETE SURFACE TO A FULL AMPLITUDE OF APPROXIMATELY 1/4".
12. WHERE CONCRETE IS SLOPED (TOP AND/OR BOTTOM), PROVIDE SLOPED REINFORCING PARALLEL TO THE CONCRETE SURFACE.
13. SIZE AND LOCATE ANCHOR BOLTS AND EQUIPMENT PADS OR PEDESTALS TO SUIT EQUIPMENT FURNISHED.
14. REVIEW DRAWINGS FROM OTHER DISCIPLINES AND COORDINATE ALL OPENINGS AND EMBEDDED ITEMS SUCH AS SLEEVES, ANCHORS, CONDUIT, ETC. THAT MUST BE INCORPORATED INTO CONCRETE WORK.
15. ALL SURFACE SUBJECTED TO PEDESTRIAN TRAFFIC SHALL RECEIVE A BROOMED FINISH. ALL OTHER SURFACE EXPOSED TO PUBLIC VIEW SHALL RECEIVE STANDARD SMOOTH FINISH.
16. KEEP TREMIE WATERTIGHT AND SUFFICIENTLY LARGE TO PERMIT A FREE FLOW OF CONCRETE. DISCHARGE AND SPREAD THE CONCRETE BY RAISING THE TREMIE TO MAINTAIN A UNIFORM FLOW. PLACE CONCRETE WITHOUT INTERRUPTION UNTIL THE TOP OF THE FRESH CONCRETE IS AT THE REQUIRED HEIGHT.
17. HOOKS SHALL MEET THE REQUIREMENTS OF ACI AND CRSI.

TENSIONERS

1. CHAIN TENSIONERS SHALL HAVE A MINIMUM TENSILE CAPACITY OF 25 TON. BELOW IS A LIST OF ACCEPTABLE CHAIN TENSIONERS:
   - SHIBATA FENDER
   - SEAKONG MARINE
   - JIER MARINE FENDER
   - TRELLEBORG MARINE & INFRASTRUCTURE

   OTHER BRANDS MAY BE USED IF THE MEET THE REQUIREMENTS OF THE SPECIFICATION AND DRAWINGS ARE APPROVED THE THE OWNER.

POST-INSTALLED ADHESIVE ANCHORS

1. THE ADHESIVE ANCHOR SYSTEM USED FOR POST INSTALLED ANCHORAGE TO CONCRETE MUST CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY PUBLISHED ACI 355.4, "ACCEPTANCE CRITERIA FOR QUALIFICATION OF POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE AND COMMENTARY." EACH ADHESIVE ANCHOR SYSTEM MUST SATISFY THE STRENGTH REQUIREMENTS FOR ITS USE. BULK-MIXED ADHESIVES ARE NOT PERMITTED. ADHESIVE ANCHORAGE DESIGN IS IN ACCORDANCE WITH ACI 318-14. ADHESIVE ANCHORS IN CONCRETE MUST BE QUALIFIED FOR USE IN CRACKED CONCRETE IN ACCORDANCE WITH ACI 355.4.
2. THE FOLLOWING ARE APPROVED ADHESIVE ANCHORING SYSTEMS:
   - 2.1. HIT-RE 500 V3 IN ACCORDANCE WITH ESR-3814 IN CONCRETE PER ACI 318-14 CHAPTER 17 AND ACI 355.4
   - 2.2. SIMPSON STRONG-TIE SET-3G IN ACCORDANCE WITH ESR-4057 IN CONCRETE PER ACI 318-14 CHAPTER 17 AND ACI 355.4
   - 2.3. RED HEAD A7+ IN ACCORDANCE WITH ESR-3903 IN CONCRETE PER ACI 318-14 CHAPTER 17 AND ACI 355.4
3. PROVIDE TYPE 316 STAINLESS STEEL ANCHORS.
4. CONCRETE STRENGTH AT THE TIME OF ADHESIVE ANCHOR INSTALLATION MUST MEET 75% OF THE MINIMUM 28 DAY COMPRESSIVE STRENGTH.
5. INSTALL ADHESIVE ANCHORS WITH A MINIMUM EDGE DISTANCE OF 3 INCHES TO ANY FREE EDGE OF CONCRETE OR EDGE DISTANCE INDICATED ON DRAWINGS, WHICHEVER IS GREATER.
6. INSTALL ADHESIVE ANCHORS WITH TRAINED QUALIFIED PERSONNEL, IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
7. PROVIDE THOROUGHLY CLEANED AND ROUGHENED ANCHOR HOLES PRIOR TO ADHESIVE INJECTION, AS REQUIRED BY THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. PROTECT DRILLED AND CLEANED ANCHOR HOLES FROM CONTAMINATION UNTIL THE ADHESIVE IS INSTALLED.
8. PROVIDE ANCHORS CLEAN, OIL-FREE, AND FREE OF LOOSE RUST, PAINT, OR OTHER COATINGS.
9. PROVIDE INSTALLED ADHESIVE ANCHORS SECURELY FIXED IN-PLACE TO PREVENT DISPLACEMENT WHILE THE ADHESIVE CURES.
10. ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE CONTRACTING OFFICER MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
11. PERSONNEL INSTALLING HORIZONTAL OR OVERHEAD ADHESIVE ANCHORS MUST BE QUALIFIED WITH AN AC ADHESIVE ANCHOR INSTALLER CERTIFICATION.
12. DO NOT DAMAGE EXISTING REINFORCING STEEL IN THE CONCRETE DURING ANCHOR INSTALLATION, UNLESS NOTED OTHERWISE. PRIOR TO ANCHOR INSTALLATION, DETERMINE LOCATION OF EXISTING REINFORCING STEEL BY NON-DESTRUCTIVE MEANS AND NOTIFY THE CONTRACTING OFFICER OF ANY CONFLICTS BETWEEN REINFORCING STEEL AND ANCHOR LOCATION PRIOR TO FABRICATION OF MATERIALS.
13. ACCEPTABLE ANCHORS ARE PROVIDED ABOVE. SUBSTITUTIONS WILL BE CONSIDERED, BUT PRODUCT MUST MEET OR EXCEED ALL CRITERIA OF THE SPECIFIED ANCHOR AND THE NOTED FACTORED LOADS. SUBSTITUTION REQUESTS MUST BE APPROVED IN WRITING BY THE CONTRACTING OFFICER PRIOR TO USE. PROVIDE PRODUCT DATA AND CALCULATIONS DEMONSTRATING THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURES AND INSTALLATION TEMPERATURE.

THREADED RODS

1. THREADED RODS FOR HDPE LUMBER AND ADHESIVE ANCHORS:

   PROVIDE THREADED RODS CONFORMING TO ASTM A193, GRADE B8 CLASS 2, TYPE 316. PROVIDE NUTS CONFORMING TO ASTM A194, GRADE B8M CLASS 2, AND TYPE 316 WASHERS.

POST-INSTALLED MECHANICAL ANCHORS

1. THE MECHANICAL ANCHOR SYSTEM USED FOR POST INSTALLED ANCHORAGE TO CONCRETE MUST CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY PUBLISHED ACI 355.2, "QUALIFICATION OF POST-INSTALLED MECHANICAL ANCHORS IN CONCRETE AND COMMENTARY." EACH MECHANICAL ANCHOR SYSTEM MUST SATISFY THE STRENGTH REQUIREMENTS FOR ITS USE. MECHANICAL ANCHORAGE DESIGN IS IN ACCORDANCE WITH ACI 318-14. MECHANICAL ANCHORS IN CONCRETE MUST BE QUALIFIED FOR USE IN CRACKED CONCRETE IN ACCORDANCE WITH ACI 355.2.
2. THE FOLLOWING ARE APPROVED MECHANICAL ANCHORING SYSTEMS:
   - 2.1. HILTI KWIK BOLT TZ EXPANSION ANCHOR IN ACCORDANCE WITH ESR-1917
   - 2.2. SIMPSON STRONG-TIE STRONG BOLT 2 WEDGE ANCHOR IN ACCORDANCE WITH ESR-3037
   - 2.3. DEWALT POWER-STUD SD6 WEDGE ANCHOR IN ACCORDANCE WITH ESR-2502
3. PROVIDE TYPE 316 STAINLESS STEEL ANCHORS.
4. CONCRETE STRENGTH AT THE TIME OF MECHANICAL ANCHOR INSTALLATION MUST MEET 75% OF THE MINIMUM 28 DAY COMPRESSIVE STRENGTH.
5. INSTALL MECHANICAL ANCHORS WITH A MINIMUM EDGE DISTANCE OF 4 INCHES TO ANY FREE EDGE OF CONCRETE, OR EDGE DISTANCE INDICATED ON DRAWINGS, WHICHEVER IS GREATER.
6. INSTALL MECHANICAL ANCHORS WITH TRAINED QUALIFIED PERSONNEL, IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
7. ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING OF THEIR ANCHORING PRODUCTS SPECIFIED. THE (ENGINEER, CONTRACTING OFFICER, OWNER'S REPRESENTATIVE) MUST RECEIVE DOCUMENTED CONFIRMATION THAT PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
8. DO NOT DAMAGE EXISTING REINFORCING STEEL IN THE CONCRETE DURING ANCHOR INSTALLATION, UNLESS OTHERWISE NOTED ON OTHE DRAWINGS. PRIOR TO ANCHOR INSTALLATION, DETERMINE LOCATION OF EXISTING REINFORCING STEEL BY NON-DESTRUCTIVE MEANS AND NOTIFY THE (ENGINEER, CONTRACTING OFFICER, OWNER'S REPRESENTATIVE) OF ANY CONFLICTS BETWEEN REINFORCING STEEL AND ANCHOR LOCATION PRIOR TO FABRICATION OF MATERIALS.
9. ACCEPTABLE ANCHORS ARE PROVIDED ABOVE. SUBSTITUTIONS WILL BE CONSIDERED, BUT PRODUCT MUST MEET OR EXCEED ALL CRITERIA OF THE SPECIFIED ANCHOR AND THE NOTED FACTORED LOADS. SUBSTITUTION REQUESTS MUST BE APPROVED IN WRITING BY THE CONTRACTING OFFICER PRIOR TO USE. PROVIDE PRODUCT DATA AND CALCULATIONS DEMONSTRATING THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS.

DEPLOYABLE SELF-ADJUSTING STAIRS

1. DEPLOYABLE SELF-ADJUSTING STAIRS (INCLUDING PLATFORM) SHALL MEET THE DESIGN CRITERIA AS OUTLINED IN THE SPECIFICATIONS.
2. PROVIDE SYSTEM TO MEET GEOMETRIC REQUIREMENTS AS INDICATED ON G-301.

ACCESS PLATFORMS

1. STAIRS, GANGWAYS, AND ACCESS PLATFORMS SERVICING THE FINGER PIER AND FLOATING DOCKS SHALL MEET THE DESIGN CRITERIA AS OUTLINED IN THE SPECIFICATIONS SPECIFICATIONS AND AS INDICATED IN THE DRAWINGS.

PRESTRESSED CONCRETE PILES

1. PROVIDE CONCRETE PILES WITH F'C OF 6,000 PSI.
2. TEST PILE LOCATIONS ARE INDICATED ON S-101 TO S-105. DETAILS OF THE TEST PILE REQUIREMENTS ARE INCLUDED IN THE SPECIFICATIONS.
3. ALL PILE CAPACITIES (ALLOWABLE AND ULTIMATE) ARE PROVIDED IN THE TABLE BELOW.
4. DRIVE PILES TO THE MINIMUM EMBEDMENT DEPTHS AS INDICATED IN THE PILE SCHEDULE ON S-600 TO S-603.
5. PROBE CHANNEL BOTTOM AND REMOVE OBSTRUCTIONS PRIOR TO DRIVING.

PIPE PILES

1. PROVIDE STEEL FOR PIPE PILES CONFORMING TO ASTM A252 GRADE 3 WITH PHYSICAL AND CHEMICAL REQUIREMENTS THAT MEET ASTM A572 GRADE 50.
2. TEST PILE LOCATIONS ARE INDICATED ON S-101 TO S-105. DETAILS OF THE TEST PILE REQUIREMENTS ARE INCLUDED IN THE SPECIFICATIONS.
3. ALL PILE CAPACITIES (ALLOWABLE AND ULTIMATE) ARE PROVIDED IN THE TABLE BELOW.
4. DRIVE PILES TO THE MINIMUM EMBEDMENT DEPTHS AS INDICATED IN THE PILE SCHEDULE ON S-600 TO S-603.
5. CATHODIC PROTECTION (PER SPECIFICATIONS): AT A MINIMUM PROVIDE A 170 POUND ALUMINUM ANODE AT EACH MONOPILE. LOCATE TOP OF ANODE AT EL. −3.0' ON THE SOUTH FACE OF THE MONOPILES.
6. PROVIDE ZERO VOC SPLASH ZONE COATING ON MONOPILES FROM THE TOP OF THE PIPE PILE TO 5'−0" BELOW THE EXISTING MUDLINE DEPTH. PROVIDE A SIMILAR COATING FOR ANY PERMANENT LEFT IN PLACE STRUCTURAL STEEL ATTACHED TO THE MONOPILES. THIS INCLUDES ANY STRUCTURAL STEEL USED AS MOORING FITTINGS AND FENDER SYSTEM CONNECTIONS.
7. PROBE CHANNEL BOTTOM AND REMOVE OBSTRUCTIONS PRIOR TO DRIVING.

PILE TYPE	ALLOWABLE COMPRESSION CAPACITY (TONS)	COMPRESSION FACTOR OF SAFETY	ULTIMATE COMPRESSION CAPACITY (TONS)	ALLOWABLE TENSION CAPACITY (TONS)	TENSION FACTOR OF SAFETY	ULTIMATE TENSION CAPACITY (TONS)
CONCRETE PLUMB PILES	106	2.5	265	15	3	45
CONCRETE BATTER PILES	106	2.5	265	38	3	114
24" MONOPILES	44	2.5	110	25	3	75
36" MONOPILES	92	2.5	230	48	3	144
12" PIPE PILES	6	3.0	18	4	3	12
24" PIPE PILES	92	3.0	276	65	3	195
48" PIPE PILES	105	3.0	315	65	3	195
12" HDPE FENDER PILES	3	3.0	9	2	3	6

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DESIGNED SCO | DRAWN RLV | CHKD SCA

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND

QUAYWALL REACH A REPAIR DESIGN

STRUCTURAL NOTES – SHEET 1 OF 2

SCALE: AS NOTED

EFP PROJECT NO. 1502747

CONTRACT NO. N40080-23-R-0015

DRAWING NO. TBD

SHEET TBD OF 190

S-001

24-WQC-0048
202460102
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3/20/25
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DESIGN LOADS AND FORCES

1. ALL DESIGN LOADS AND FORCES LISTED BELOW ARE ALLOWABLE AND UNFACTORED.

2. DEAD LOADS:
   A. STRUCTURES: ACTUAL WEIGHT
   B. WEIGHT OF SOIL

3. WIND LOADS:
   A. 121 MPH

4. LIVE LOADS
   A. REACH A WHARF AND BOAT RAMP
      i. UNIFORM LOAD: 600 PSF
      ii. TRACTOR TRAILER: HL-93 AND AASHTO TANDEM
      iii. UNIFORM LOAD (PLATFORM): 100 PSF
   B. YP FINGER PIER
      i. UNIFORM LOAD: 600 PSF
   C. SMALL CRAFT DOCK
      i. UNIFORM LOAD: 100 PSF
      ii. POINT LOAD: 400 LB
   D. BOAT RAMP FLOATING DOCK
      i. UNIFORM LOAD: 100 PSF
      ii. POINT LOAD: 400 LB

5. SNOW LOADS: 25 PSF

6. MOORING LOADS
   B. MOORING CONDITIONS
      i. UFC TYPE I CRITERIA: 35 KNOT WIND, 1 KNOT CURRENT (CONCURRENTLY)
      ii. UFC TYPE IIB CRITERIA (SMALL CRAFT DOCK): 64 KNOT WIND, 2 KNOT CURRENT (CONCURRENTLY)
      iii. UFC TYPE III CRITERIA (FINGER PIER): 72 KNOT WIND, 2 KNOT CURRENT (CONCURRENTLY)
   C. VESSELS:

VESSEL	LENGTH OVERALL (FT)	BEAM (FT)	FULLY LOADED DRAFT (FT)	DISPLACEMENT (LONG TONS)
YP 676	108	24.0	8.0	161
YP 703	119	27.9	7.5	223

8. BERTHING LOADS:
   A. APPROACH VELOCITY = 2.0 FT/S

9. SEISMIC LOADS
   A. SITE CLASS E
   B. S1 = 0.042g
   C. Ss = 0.128g
   D. PGA = 0.066g
   E. SD1 = 0.117g
   F. SDS = 0.205g

10. LATERAL EARTH LOAD
   F. STRATUM I (FILL):
      SOIL STRATUM THICKNESS.....5'-18'
      MEASURED N-VALUE.....WOH-14
      EFFECTIVE UNIT WEIGHT (γ').....57.3 PCF
      EFFECTIVE FRICTION ANGLE (ϕ').....28°
      ACTIVE EARTH PRESSURE COEFFICIENT (K_a).....0.36
      PASSIVE EARTH PRESSURE COEFFICIENT (K_p).....2.77

   G. STRATUM II (LOWLAND DEPOSIT):
      SOIL STRATUM THICKNESS.....5'-28'
      MEASURED N-VALUE.....WOH-23
      EFFECTIVE UNIT WEIGHT (γ').....28.3 PCF
      EFFECTIVE FRICTION ANGLE (ϕ').....30°
      ACTIVE EARTH PRESSURE COEFFICIENT (K_a).....0.33
      PASSIVE EARTH PRESSURE COEFFICIENT (K_p).....3.00

   H. STRATUM III (AQUIA/BRIGHTSEAT):
      SOIL STRATUM THICKNESS.....20'-40'
      MEASURED N-VALUE.....4-43
      EFFECTIVE UNIT WEIGHT (γ').....62.2 PCF
      EFFECTIVE FRICTION ANGLE (ϕ').....32°
      ACTIVE EARTH PRESSURE COEFFICIENT (K_a).....0.31
      PASSIVE EARTH PRESSURE COEFFICIENT (K_p).....3.25

   I. STRATUM IV (AQUIA/BRIGHTSEAT):
      SOIL STRATUM THICKNESS.....30'-65'
      MEASURED N-VALUE.....9-74
      EFFECTIVE UNIT WEIGHT (γ').....62.2 PCF
      EFFECTIVE FRICTION ANGLE (ϕ').....34°
      ACTIVE EARTH PRESSURE COEFFICIENT (K_a).....0.28
      E COEFFICIENT (K_p).....3.54

11. THERM
   A. DES
      F

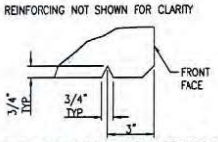
CODES AND STANDARDS

1. UFC 1-200-01: GENERAL BUILDING REQUIREMENTS, DATED 8 OCTOBER 2019 WITH CHANGE 1 DATED 1 OCTOBER 2020.
2. FC 1-300-09N: NAVY AND MARINE CORPS DESIGN PROCEDURES, DATED 1 MAY 2014 WITH CHANGE 4 DATED 14 JUNE 2018.
3. UFC 3-301-01: STRUCTURAL ENGINEERING, DATED 1 JUNE 2019.
4. UFC 4-159-03: DESIGN: MOORINGS, DATED 12 MARCH 2020.
5. UFC 4-152-07: DESIGN: SMALL CRAFT BERTHING FACILITIES, DATED 14 JULY 2009 WITH CHANGE 1 DATED 1 SEPTEMBER 2012.
6. INTERNATIONAL BUILDING CODE (IBC) 2018 – INTERNATIONAL CODE COUNCIL, FIFTH PRINTING, SEPTEMBER 2020.
7. AMERICAN SOCIETY OF CIVIL ENGINEERS: ASCE 7-16 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (2016).
8. AMERICAN INSTITUTE OF STEEL CONSTRUCTION AISC 360-16: "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (2016).
9. AMERICAN CONCRETE INSTITUTE: ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (2014).
10. AMERICAN SOCIETY OF CIVIL ENGINEERS: ASCE MOP 130 "WATERFRONT FACILITIES INSPECTION AND ASSESSMENT" (2015).
11. AMERICAN WOOD COUNCIL: ANSI/AWC NDS-2018 "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH COMMENTARY" (2018).

CONCRETE ANCHOR INSTALLATION SCHEDULE

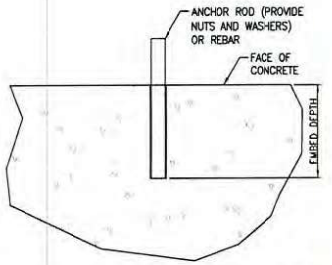
ANCHOR Ø (IN.)	MIN ALLOWABLE TENSILE CAPACITY (LBS)	MIN ALLOWABLE SHEAR CAPACITY (LBS)
1/2	3,000	
3/4	12,000	

LOADS ARE NOT FACTORED



NOTE: PLASTIC DRIP EDGE MAY BE CAST INTO THE CONCRETE DECK UNDERSIDE IN LIEU OF A FORMED DRIP EDGE. IF PLASTIC DRIP EDGES ARE UTILIZED, SUBMIT DRIP EDGE FOR APPROVAL.

C4 DETAIL - DRIP EDGE
NOT TO SCALE



C5 DETAIL - CONCRETE ANCHORS
NOT TO SCALE

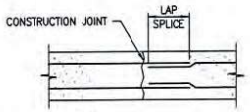
WORKING POINTS TABLE		
POINT #	NORTHING	EASTING
WP1	479,934.02	1,464,250.01
WP2	480,002.51	1,464,182.93
WP3	480,022.14	1,464,189.19
WP4	480,007.23	1,464,180.29
WP5	480,011.70	1,464,170.41
WP6	480,003.00	1,464,169.04
WP7	480,056.36	1,464,112.15
WP8	480,028.80	1,464,102.05
WP9	480,068.43	1,464,085.37
WP10	480,175.74	1,464,061.90
WP11	480,187.33	1,464,035.32
WP12	480,248.14	1,464,070.84
WP13	480,253.19	1,464,063.68
WP14	480,295.50	1,464,047.59
WP15	480,302.88	1,464,044.49
WP16	480,342.34	1,464,032.61
WP17	480,401.52	1,464,013.48
WP18	480,406.85	1,464,005.43
WP19	480,420.58	1,464,005.41
WP20	480,430.60	1,464,016.38

WORKING POINTS TABLE		
POINT #	NORTHING	EASTING
WP21	480,435.13	1,464,007.42
WP22	480,414.49	1,464,000.46
WP23	480,417.07	1,463,984.97
WP24	480,403.20	1,463,904.19
WP25	480,417.00	1,463,901.82
WP26	480,397.23	1,463,903.81
WP27	480,405.37	1,463,897.99
WP28	480,425.87	1,463,911.07
WP29	480,563.33	1,463,806.93
WP30	480,413.06	1,463,832.86
WP31	480,295.50	1,464,047.59
WP32	480,297.72	1,464,023.87
WP33	480,249.18	1,464,044.32
WP34	480,291.00	1,463,909.51
WP35	480,207.21	1,463,944.81

LAP SPLICE LENGTH			MINIMUM TENSION EMBEDMENTS			
BAR SIZE	LAP LOCATION		STD 90° HOOK		STD 180° HOOK	
ENGLISH	OTHER BARS	TOP BARS	ldh	12db	ldh	4db
#3	37"	49"	6"	4.50"	6"	2.50"
#4	49"	64"	9"	6.00"	9"	2.50"
#5	60"	78"	12"	7.50"	12"	2.50"
#6	73"	95"	16"	9.00"	16"	3.00"
#7	106"	138"	20"	10.50"	20"	3.50"
#8	120"	156"	24"	12.00"	24"	4.00"
#9	136"	177"	29"	13.54"	29"	4.51"
#10	153"	199"	35"	15.24"	35"	5.08"
#11	169"	220"	41"	16.92"	41"	5.64"

LAP SPLICE ASSUMPTIONS:

CONCRETE: 5000 PSI COMPRESSIVE STRENGTH (NORMALWEIGHT CONCRETE)
SLAB AND WALL: 6" MINIMUM REBAR SPACING WITH CONCRETE COVER = 1.5" CLEAR
BEAM: MINIMUM CLEAR SPACING BETWEEN BARS = 1.5 db (1.5" MIN). MINIMUM CONCRETE COVER = 1.5" CLEAR. MINIMUM STIRRUP #4@12 PROVIDED.
TOP BAR: HORIZONTAL REINFORCING PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW THE REINFORCING BEING DEVELOPED OR SPLICED.



NOTE:
SUBMIT JOINT PLAN FOR REVIEW.

A2 TYPICAL CONCRETE CONSTRUCTION JOINT
NOT TO SCALE

A3 TENSION LAP SPLICE AND STANDARD HOOK LENGTH (ASTM A1035 CS Gr. 100)
NOT TO SCALE

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NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
STRUCTURAL NOTES – SHEET 2 OF 2
AS NOTED
1392747
N40080-23-R-0015
TBD
TBD OF 190
S-002

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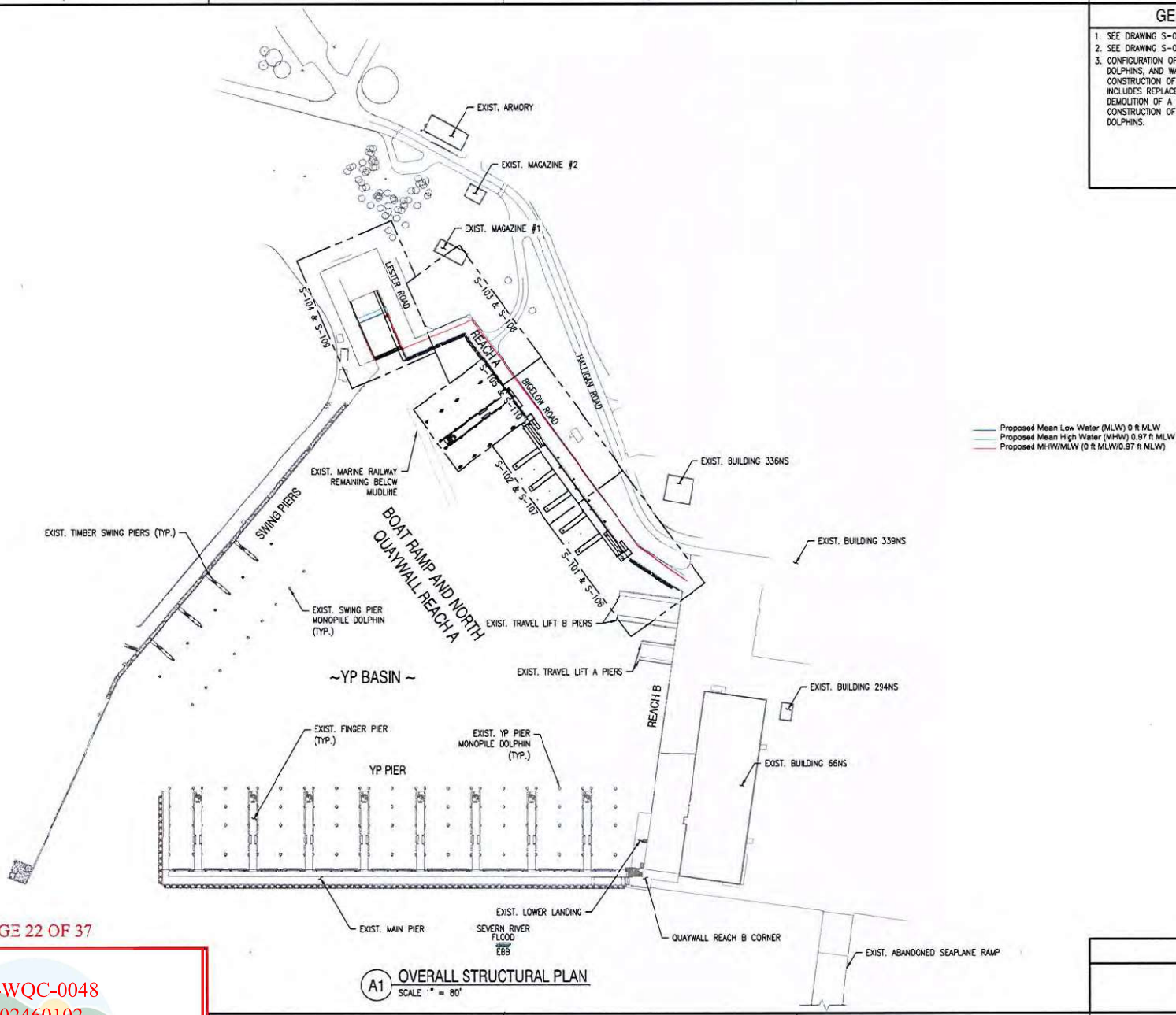
GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING S-002 FOR WORKING POINT COORDINATES.
3. CONFIGURATION OF YP PIER WAVE SCREEN, SWING PIERS, DOLPHINS, AND WALKWAY SHOWN ARE BASED ON COMPLETED CONSTRUCTION OF ONGOING PROJECT N40080230C0010, WHICH INCLUDES REPLACEMENT OF THE YP PIER AND WAVE SCREEN, DEMOLITION OF A ROW OF 15 TIMBER DOLPHINS, AND CONSTRUCTION OF FIVE SWING PIERS AND ACCOMPANYING MONOPILE DOLPHINS.



A1 OVERALL STRUCTURAL PLAN
SCALE 1" = 80'

GRAPHIC SCALE

0 40' 80' 160'
SCALE: 1" = 80'-0"

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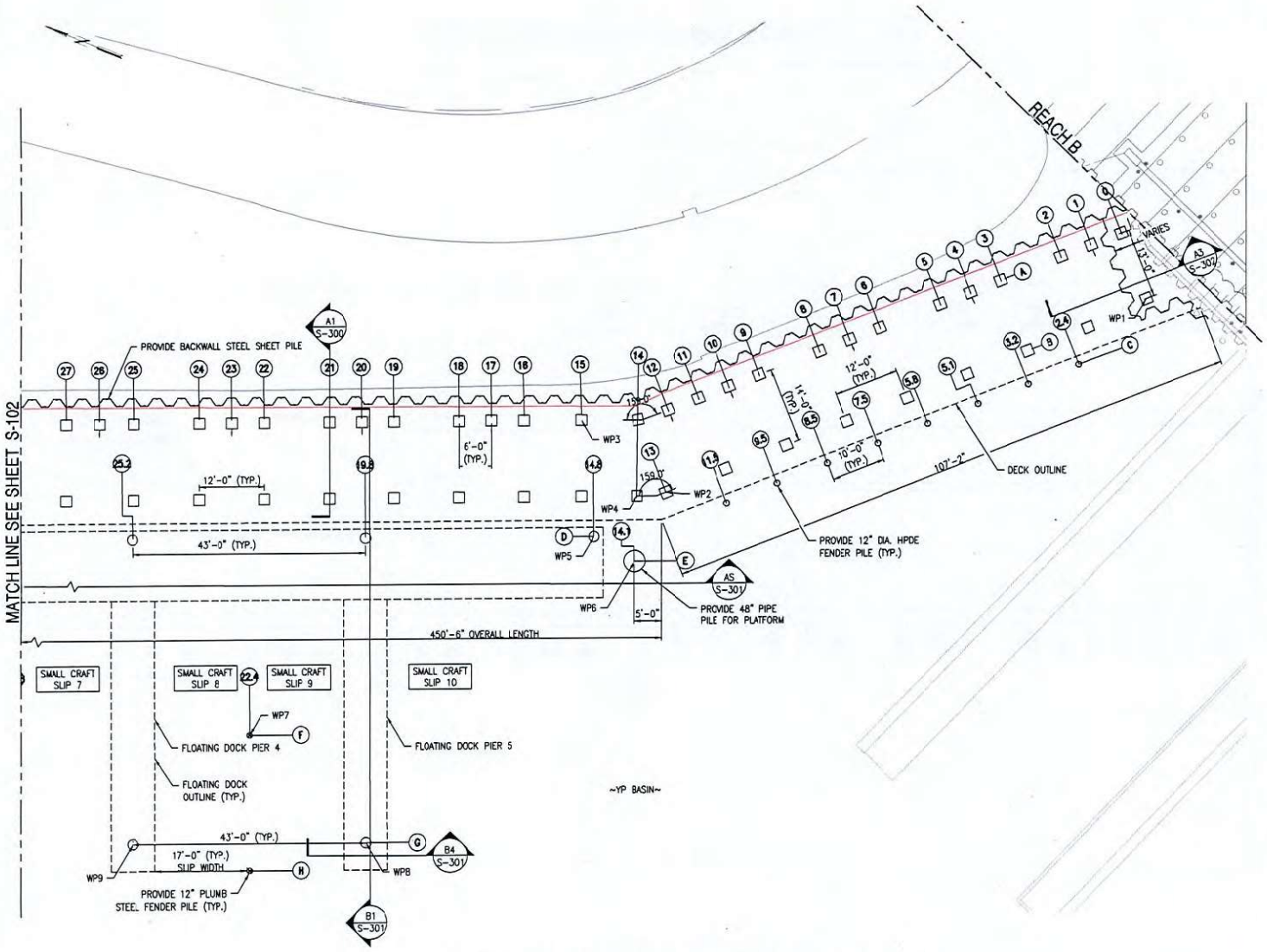
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – MID-ATLANTIC
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
OVERALL STRUCTURAL PLAN

SCALE: AS NOTED
EFD/PROJECT NO.: 1592747
CONTRACT NO.: N40080-23-R-0015
NAVFAC DRAWING NO.: TBD
SHEET TBD OF 190
S-100



A1 QUAYWALL REACH A REPAIR DESIGN PILE PLAN - SHEET 1 OF 5
SCALE 1" = 10' S-100

GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING S-002 FOR WORKING POINT COORDINATES.

SHEET KEYNOTES

1. SEE S-500 AND S-505 FOR 24" PRESTRESSED CONCRETE PILE DETAILS

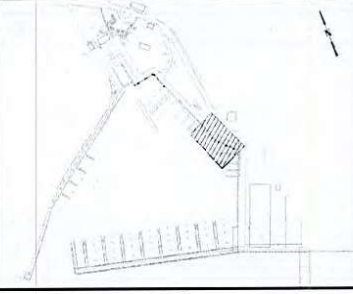
SHEET LEGEND

- 24" SQ. CONCRETE PLUMB PILE
- 24" SQ. CONCRETE BATTER PILE
- 24" SQ. CONCRETE TEST PILE
- 24" DIA. STEEL PILE
- 12" DIA. HDPE FENDER PILE
- 12" DIA. STEEL PILE
- (1)(A) BENT NUMBER/PILE ROW
- WP11 WORKING POINT
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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QUAYWALL REACH A REPAIR DESIGN
PILE PLAN - SHEET 1 OF 5

AS NOTED
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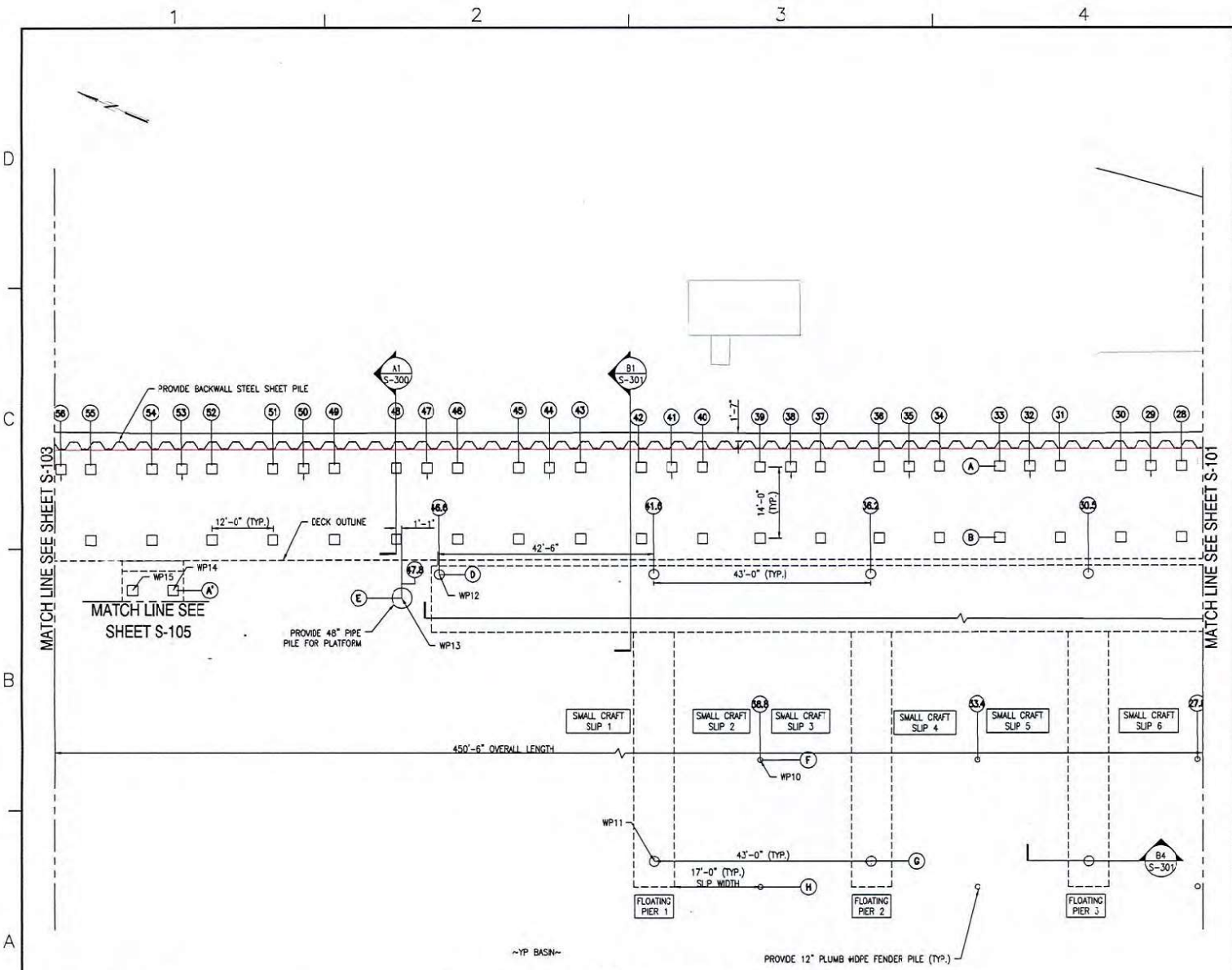


A1 QUAYWALL REACH A REPAIR DESIGN PILE PLAN - SHEET 2 OF 5
SCALE 1" = 10'

S-100

GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING S-002 FOR WORKING POINT COORDINATES.

SHEET KEYNOTES

1. SEE S-500 AND S-505 FOR 24" PRESTRESSED CONCRETE PILE DETAILS

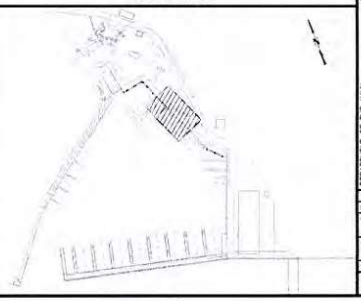
SHEET LEGEND

- 24" SQ. CONCRETE PLUMB PILE
- 24" SQ. CONCRETE BATTER PILE
- 24" SQ. CONCRETE TEST PILE
- 24" DIA. STEEL PILE
- 12" DIA. HDPE FENDER PILE
- 12" DIA. STEEL PILE
- (1)(A) BENT NUMBER/PILE ROW
- WP11 WORKING POINT
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
PILE PLAN - SHEET 2 OF 5

SCALE: AS NOTED
CONTRACT NO. 1562747
H40080-23-R-0015
TBD
SHEET TBD OF 190
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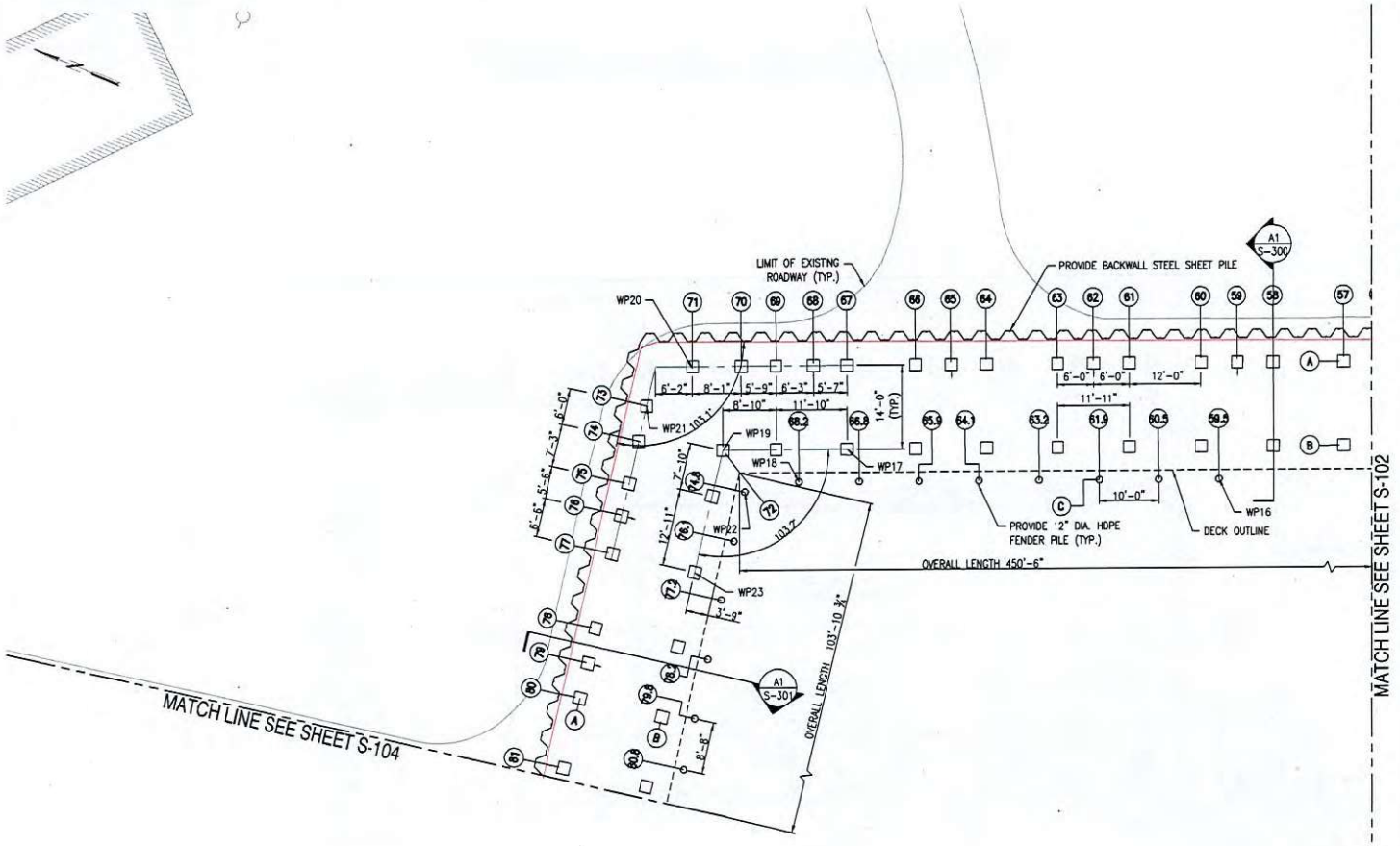


GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING S-002 FOR WORKING POINT COORDINATES.

SHEET KEYNOTES

1. SEE S-500 AND S-501 FOR 24" PRESTRESSED CONCRETE PILE DETAILS

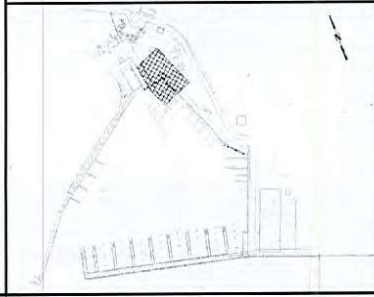
SHEET LEGEND

- 24" SQ. CONCRETE PLUMB PILE
- 24" SQ. CONCRETE BATTER PILE
- 24" SQ. CONCRETE TEST PILE
- 12" DIA. HDPE FENDER PILE
- (1)(A) BENT NUMBER/PILE ROW
- WP11 WORKING POINT
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



A1 QUAYWALL REACH A REPAIR DESIGN PILE PLAN - SHEET 3 OF 5
SCALE 1" = 10' S-100

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NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
PILE PLAN – SHEET 3 OF 5

SCALE: AS NOTED
PROJECT NO.: 1592747
CONTR. CONTR. NO.: N40080-23-R-0015
NAVFAC DRAWING NO.: TBD
SHEET TBD OF 190
S-103

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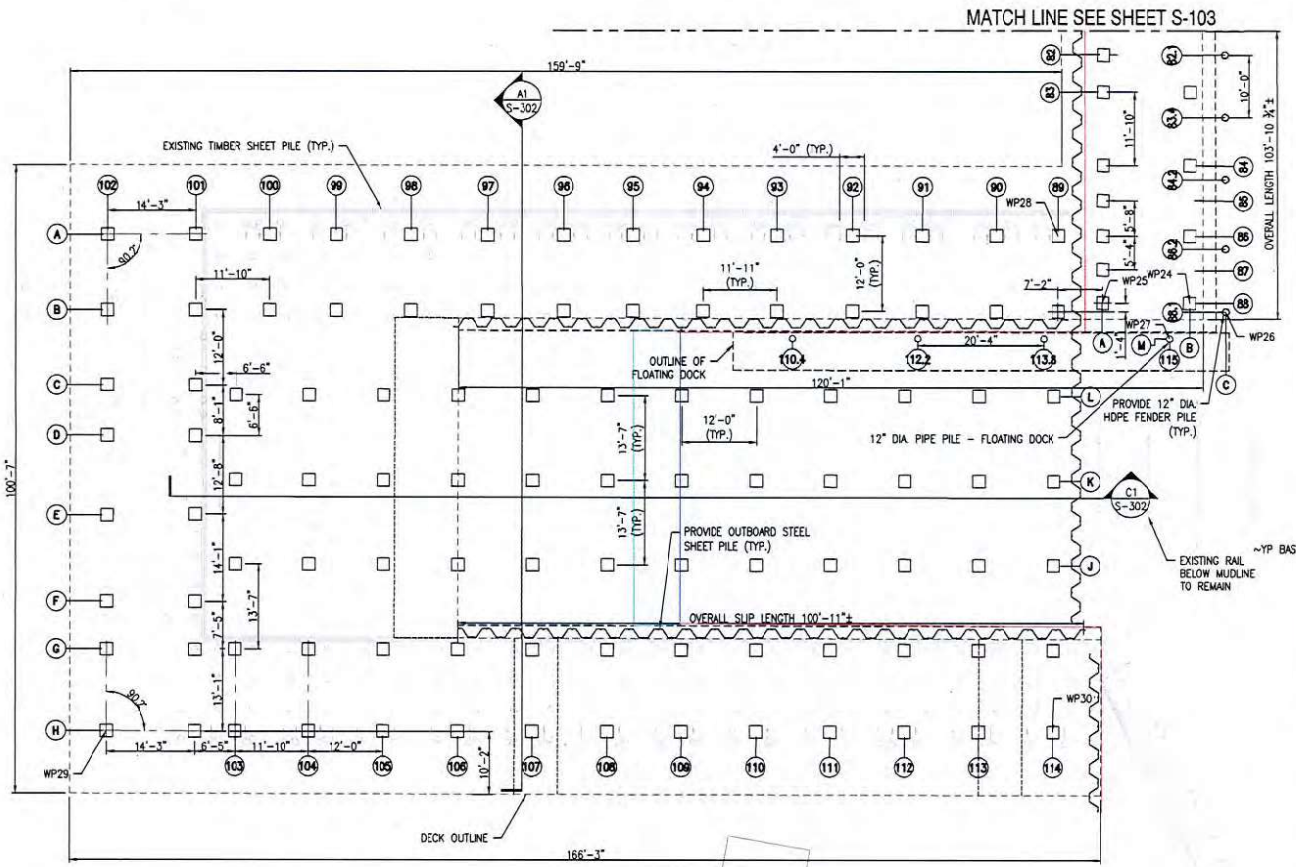


GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING S-002 FOR WORKING POINT COORDINATES.
3. EXISTING PILE LOCATIONS, BASED ON EXISTING DRAWINGS, ARE SHOWN FOR CLARITY. EXISTING PILES SHOWN ARE THOSE THAT ARE TO REMAIN. EXISTING TIMBER PILES NOT SHOWN.

SHEET KEYNOTES

1. SEE S-500 AND S-501 FOR 24" PRESTRESSED CONCRETE PILE DETAILS

SHEET LEGEND

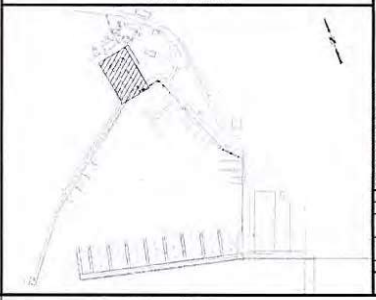
- 24" SQ. CONCRETE PLUMB PILE
- 24" SQ. CONCRETE BATTER PILE
- 24" SQ. CONCRETE TEST PILE
- 12" DIA. STEEL PIPE PILE
- 12" DIA. HDPE FENDER PILE
- EXISTING PLUMB TIMBER PILE
- EXISTING BATTER TIMBER PILE
- (1)(A) BENT NUMBER/PILE ROW
- WP11 WORKING POINT
- Proposed Mean Low Water (MLW) 0 ft MLW
- Proposed Mean High Water (MHW) 0.97 ft MLW
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'

SCALE: 1" = 10'-0"

KEY PLAN



(A1) QUAYWALL REACH A REPAIR DESIGN PILE PLAN - SHEET 4 OF 5
SCALE 1" = 10' S-100

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
PILE PLAN - SHEET 4 OF 5

ON FILE
SCALE: AS NOTED
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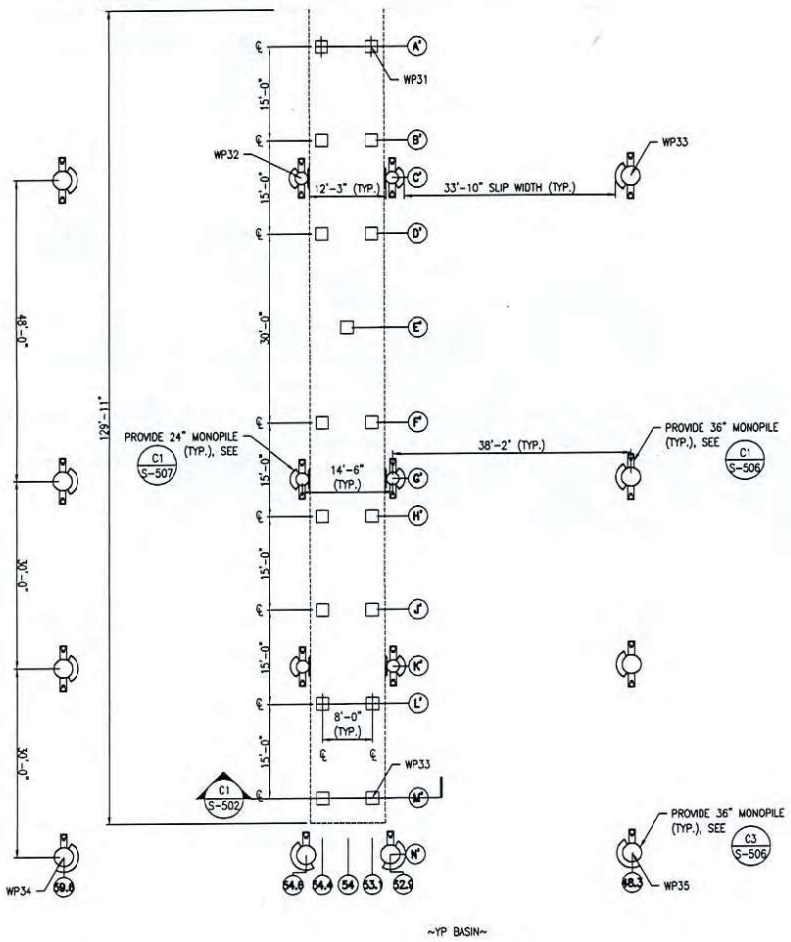
MATCH LINE SEE SHEET S-102



A1 QUAYWALL REACH A REPAIR DESIGN PILE PLAN - SHEET 5 OF 5
SCALE 1" = 10'

S-100

GENERAL SHEET NOTES

1. SEE DRAWING S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING S-002 FOR WORKING POINT COORDINATES.

SHEET KEYNOTES

1. SEE S-500 AND S-501 FOR 24" PRESTRESSED CONCRETE PILE DETAILS

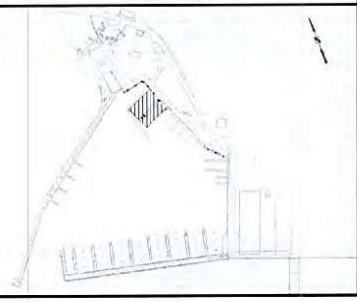
SHEET LEGEND

- 24" SQ. CONCRETE PLUMB PILE
- 24" SQ. CONCRETE TEST PILE
- (1)(A) BENT NUMBER/PILE ROW
- WP11 WORKING POINT
- 36" DIA. STEEL MONOPILE (TYPE I)
- 36" DIA. STEEL MONOPILE (TYPE II)
- 24" DIA. STEEL MONOPILE
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND

QUAYWALL REACH A REPAIR DESIGN

PILE PLAN – SHEET 5 OF 5

SCALE: AS NOTED
EFD/LANT NO.: 1592747
CONTR. CONTR. NO.: N40080-23-R-0015
NAVFAC DRAWING NO.: TBD
SHEET TBD OF 190

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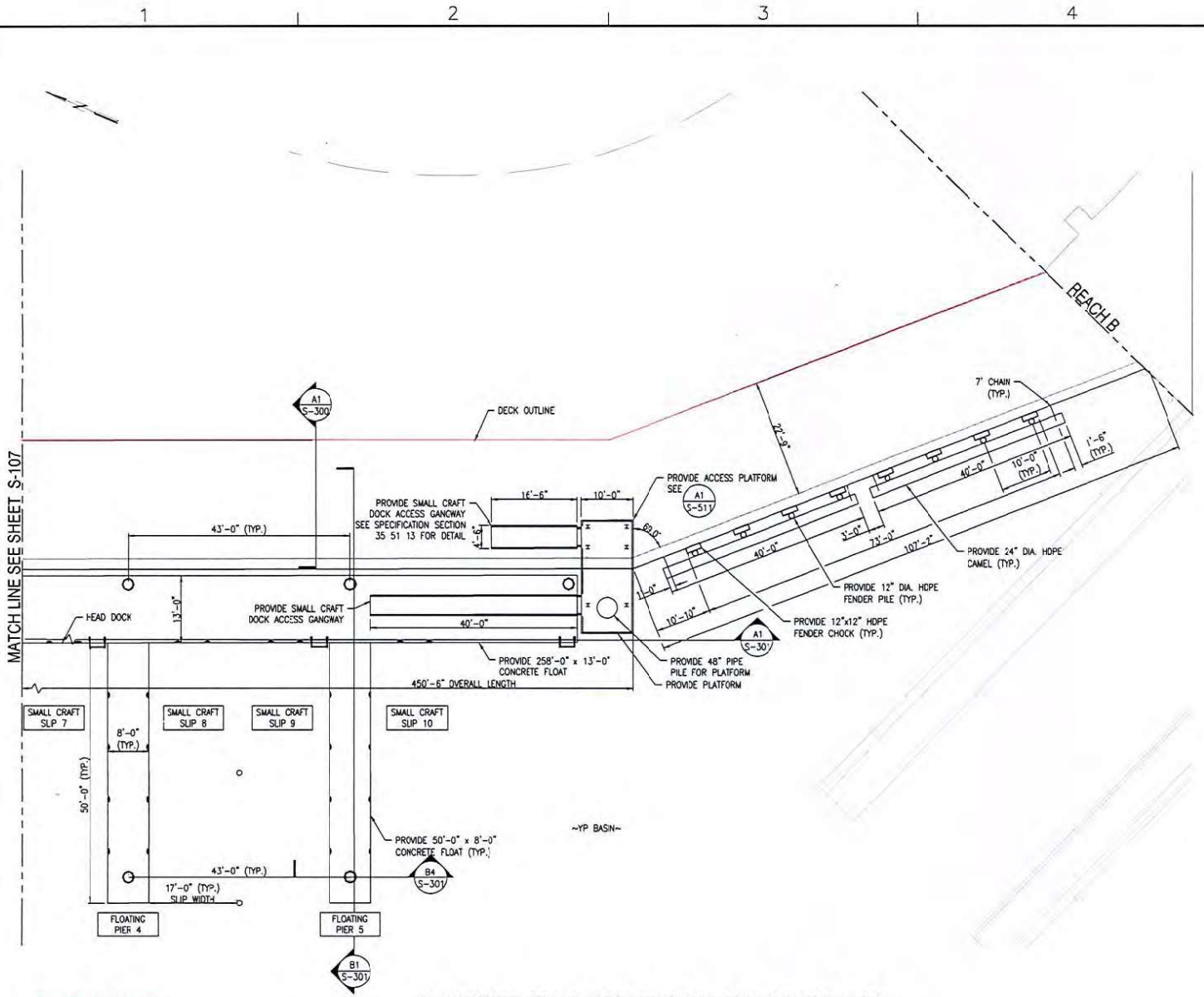


A1 QUAYWALL REACH A REPAIR DESIGN DECK PLAN - SHEET 1 OF 5
SCALE 1" = 10' S-100

GENERAL SHEET NOTES

1. SEE DRAWINGS S-001 FOR GENERAL STRUCTURAL NOTES.

SHEET KEYNOTES

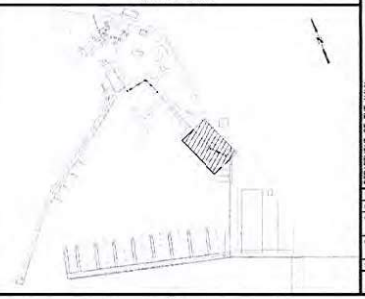
SHEET LEGEND

- FLOATING DOCK CLEAT
- ALUMINUM DOCK LADDER
- 12" DIA. HDPE PLUMB PILE
- 24" DIA. STEEL GUIDE AND GUIDE PILE ASSEMBLY
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
DECK PLAN – SHEET 1 OF 5

SCALE: AS NOTED
PROJECT NO. 1592747
CONTRACT NO. N40080-23-R-0015
NAVFAC DRAWING NO. TBD
SHEET T30 OF 190
S-106

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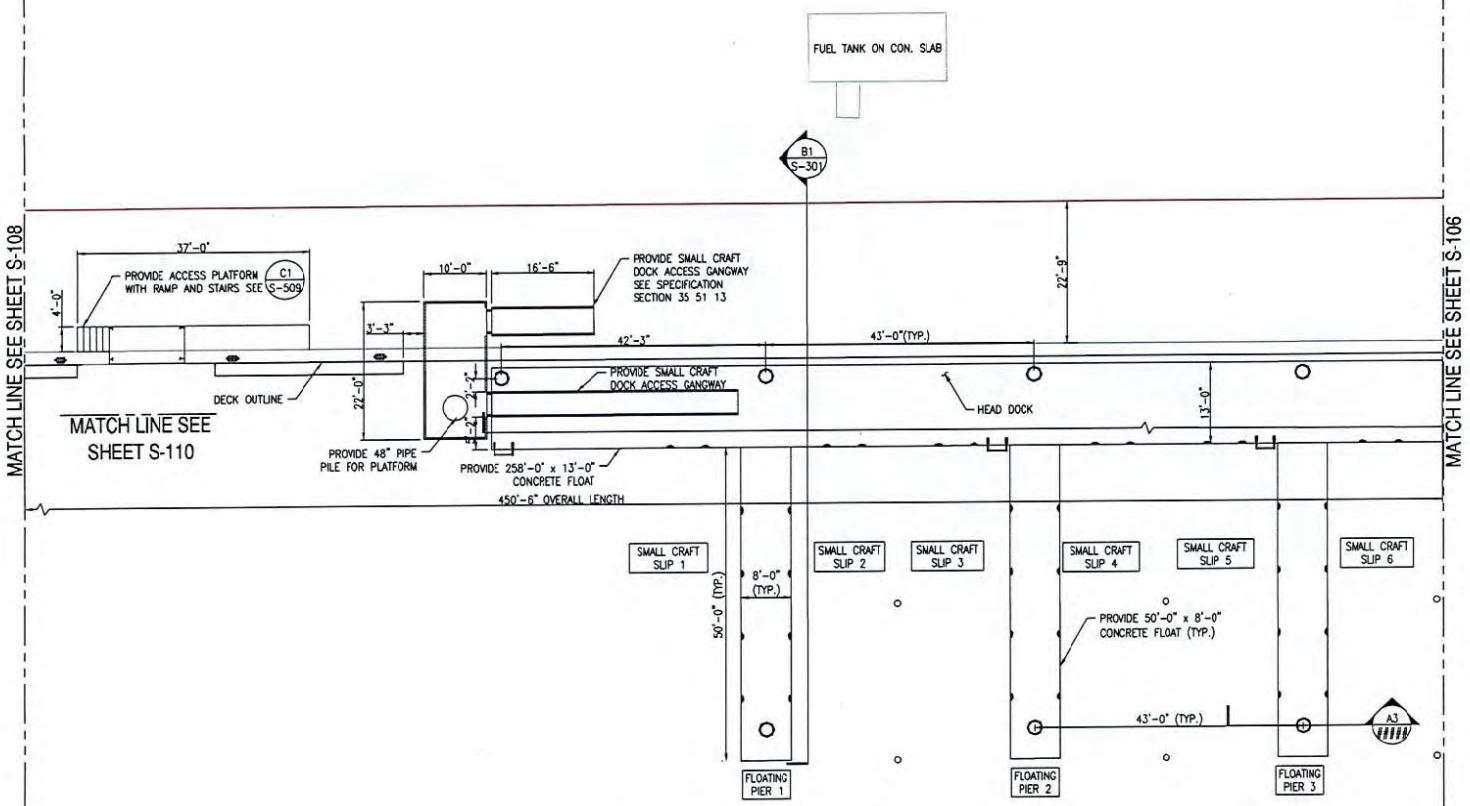


A1 QUAYWALL REACH A REPAIR DESIGN DECK PLAN - SHEET 2 OF 5
SCALE 1" = 10' S-100

GENERAL SHEET NOTES

1. SEE DRAWINGS S-001 FOR GENERAL STRUCTURAL NOTES.

SHEET KEYNOTES

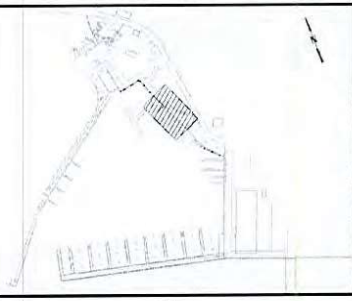
SHEET LEGEND

- FLOATING DOCK CLEAT
- FINGER PIER CLEAT
- ALUMINUM DOCK LADDER
- 12" DIA. HDPE PLUMB PILE
- 24" DIA. STEEL GUIDE AND GUIDE PILE ASSEMBLY
- Proposed MHW/MLW (0 ft MLW/0.37 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
DECK PLAN – SHEET 2 OF 5

SCALE AS NOTED
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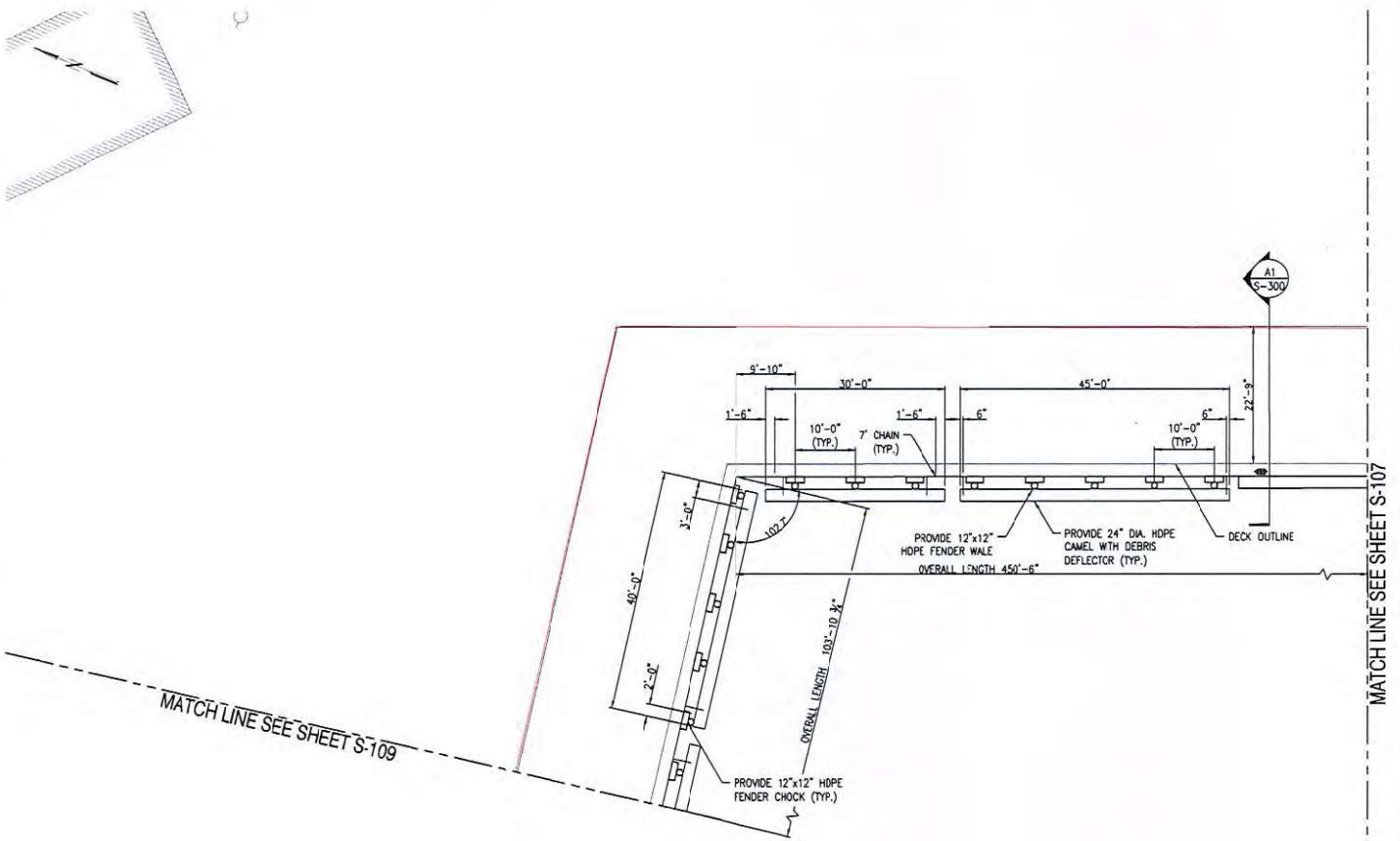


A1 QUAYWALL REACH A REPAIR DESIGN DECK PLAN - SHEET 3 OF 5
SCALE 1" = 10' S-100

GENERAL SHEET NOTES

1. SEE DRAWINGS S-001 FOR GENERAL STRUCTURAL NOTES.

SHEET KEYNOTES

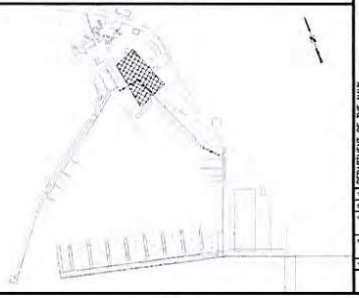
SHEET LEGEND

- FINGER PIER CLEAT
- 12" DIA. HDPE FENDER PILE
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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NRJ / JCJ

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ANNAPOLIS, MARYLAND

QUAYWALL REACH A REPAIR DESIGN
DECK PLAN – SHEET 3 OF 5

SCALE AS NOTED
EFD/NEET NO. 1592747
CONTR. CLASS. NO. M40080-23-R-0015
NAVFAC DRAWING NO. TBD
SHEET TBD OF 190

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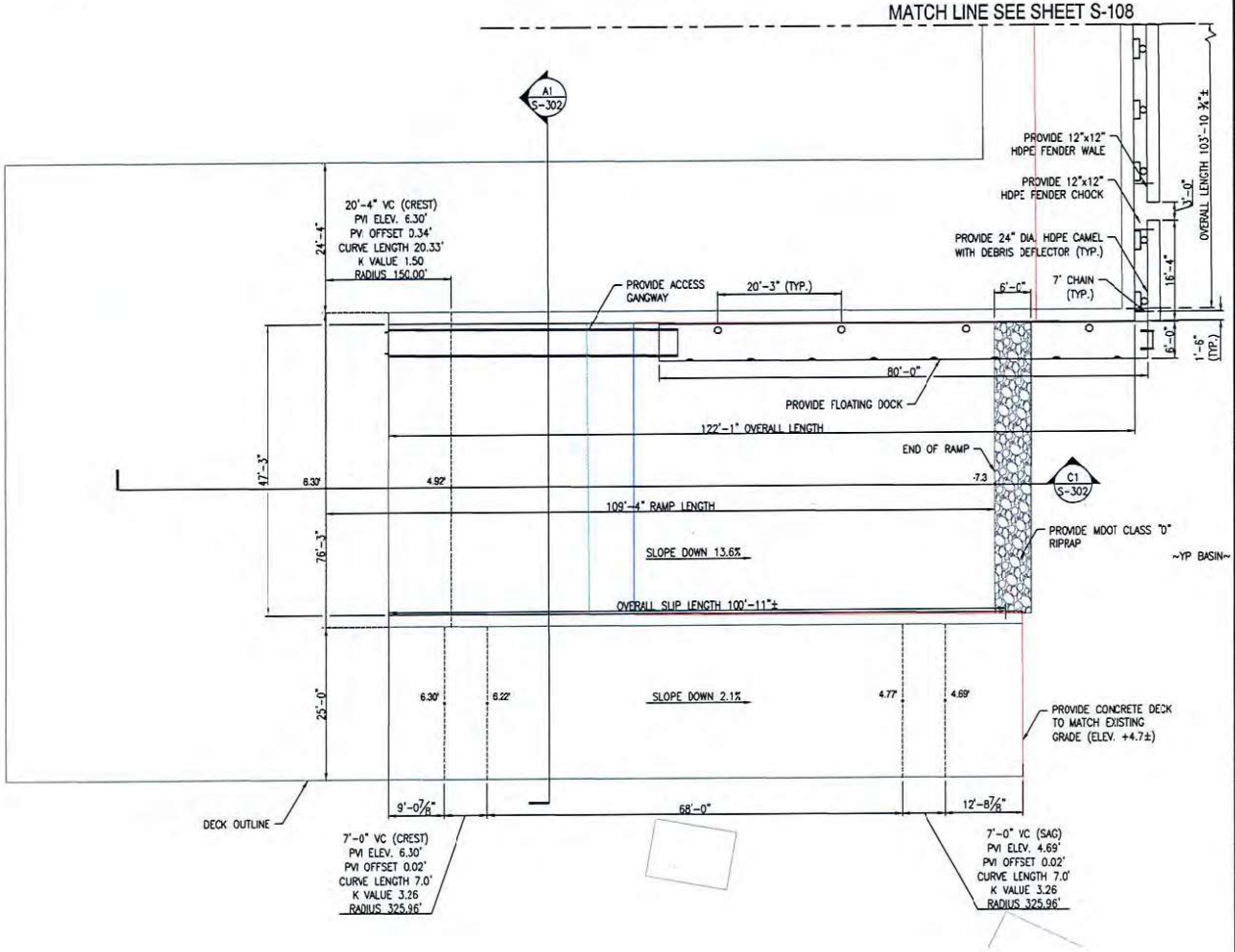


A1 QUAYWALL REACH A REPAIR DESIGN DECK PLAN - SHEET 4 OF 5
SCALE 1" = 10' S-100

GENERAL SHEET NOTES

1. SEE DRAWINGS S-001 FOR GENERAL STRUCTURAL NOTES.

SHEET KEYNOTES

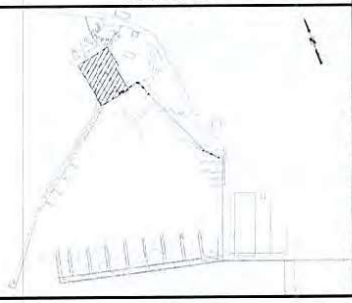
SHEET LEGEND

- CLEAT
- ALUMINUM DOCK LADDER
- 12" DIA. STEEL GUIDE AND GUIDE PILE ASSEMBLY
- Proposed Mean Low Water (MLW) 0 ft MLW
- Proposed Mean High Water (MHW) 0.97 ft MLW
- Proposed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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DES. SCD DRW. XXX CHK. SCA
PROJ. NRJ / JCJ

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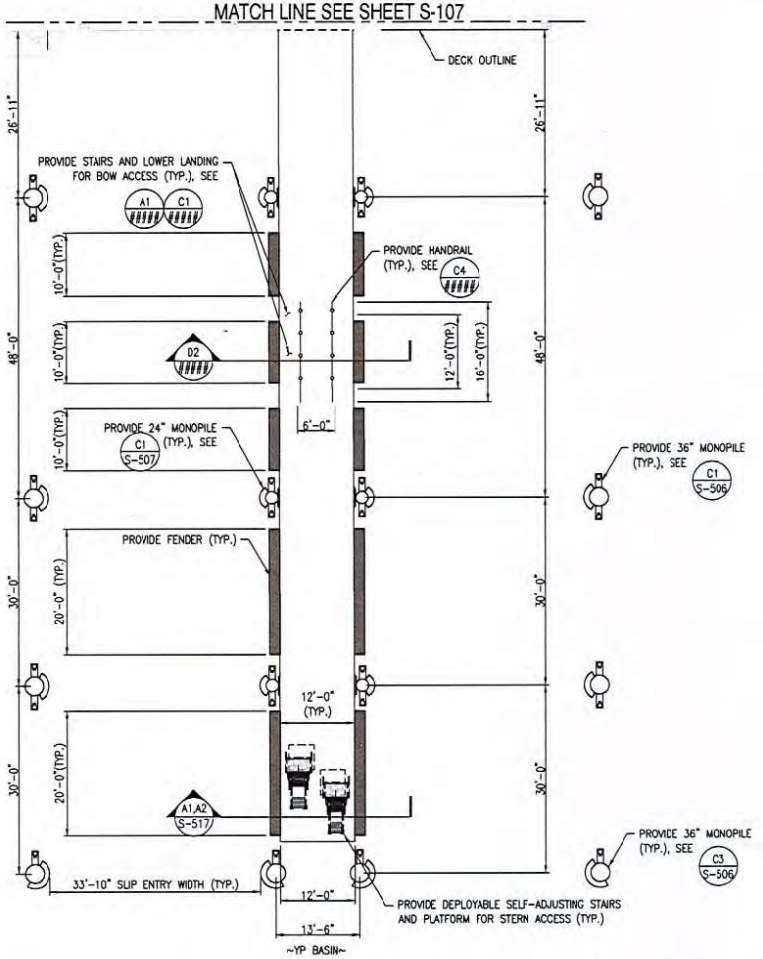
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
QUAYWALL REACH A REPAIR DESIGN
ANNAPOLIS, MARYLAND
DECK PLAN – SHEET 4 OF 5

SCALE: AS NOTED
CONTRACT NO. 1592747
CONTR. NO. N40080-23-R-0015
NAVFAC DRAWING NO. #######
SHEET TBD OF 190
S-109



A1 QUAYWALL REACH A REPAIR DESIGN DECK PLAN - SHEET 5 OF 5
SCALE 1" = 10' S-100

GENERAL SHEET NOTES

1. SEE DRAWINGS S-001 FOR GENERAL STRUCTURAL NOTES.

SHEET KEYNOTES

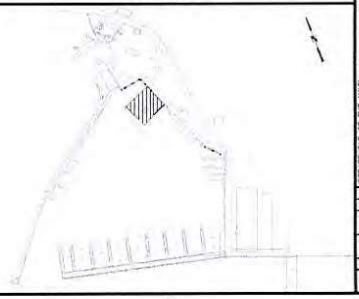
SHEET LEGEND

- FINGER PIER CLEAT
- 36" DIA. STEEL MONOPILE (TYPE I)
- 36" DIA. STEEL MONOPILE (TYPE II)
- 24" DIA. STEEL MONOPILE
- Propcsed MHW/MLW (0 ft MLW/0.97 ft MLW)

GRAPHIC SCALE

0 5' 10' 20'
SCALE: 1" = 10'-0"

KEY PLAN



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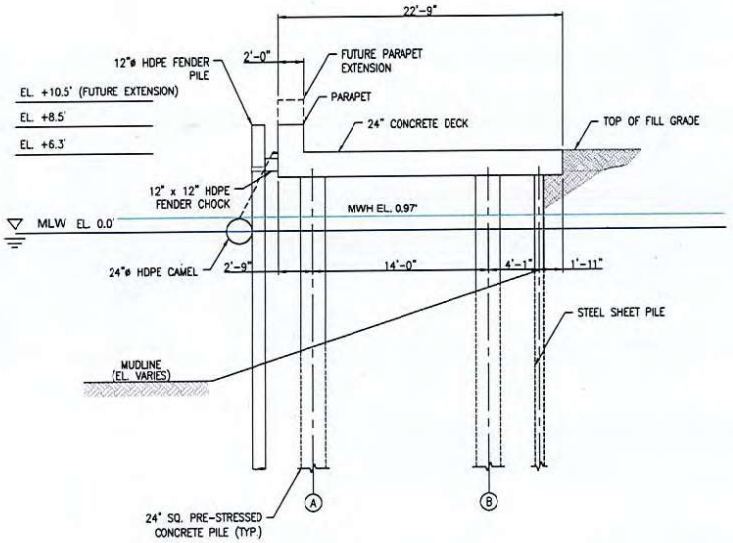
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND – WASHINGTON
NAVAL SUPPORT ACTIVITY ANNAPOLIS
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
DECK PLAN – SHEET 5 OF 5

SCALE: AS NOTED
ENTERPRISE NO.: 1597747
CONTR. CONTR. NO.: M40080-23-R-0015
NAVFAC DRAWING NO.: ########
SHEET: TBD OF 190

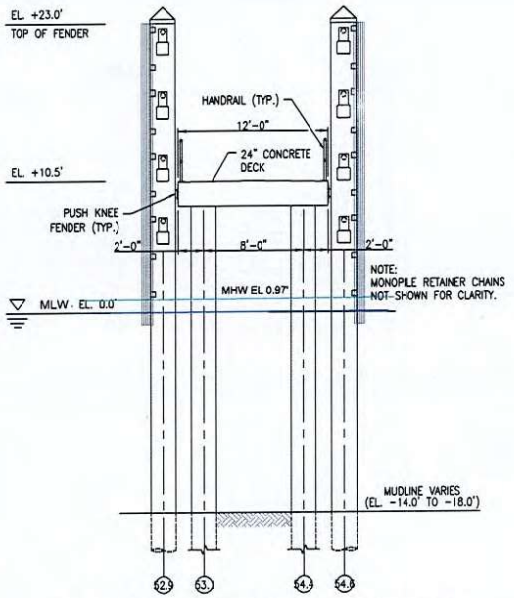
S-110

GENERAL SHEET NOTES

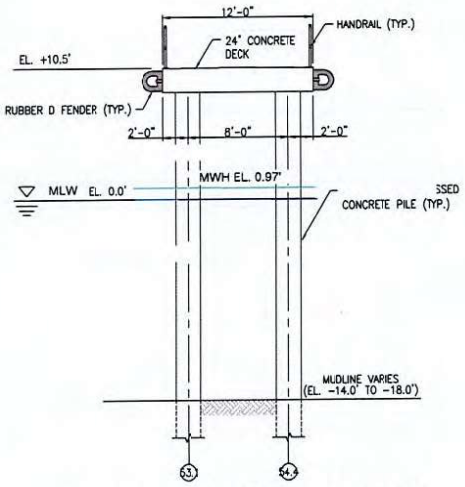
1. SEE DRAWING S-502 FOR REINFORCEMENT DETAILS.
2. SEE DRAWING S-508 FOR UTILITY TRENCH STEM WALLS ALONG ACCESS RAMP REINFORCEMENT DETAILS.



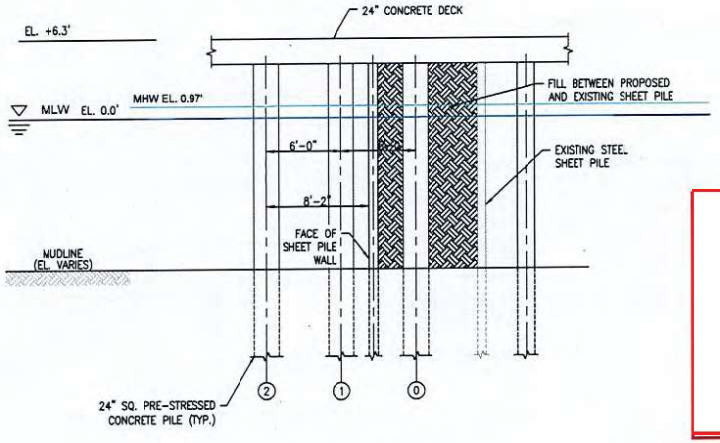
C1 NORTH QUAYWALL REACH A - TYPICAL SECTION
SCALE 1" = 5' S-101, S-102, S-103



C3 SECTION - YP FINGER PIER AT MONOPILES
SCALE 1" = 5' S-101,S-102,S-103,S-104



A1 SECTION - YP FINGER PIER (TYPICAL)
SCALE 1" = 5' S-101,S-102,S-103,S-104



A3 NORTH QUAYWALL REACH A TO REACH B TRANSITION
SCALE 1" = 5' S-101

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

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ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
SECTIONS – SHEET 1 OF 4

SCALE AS NOTED
EFP/PROJECT NO. 1992747
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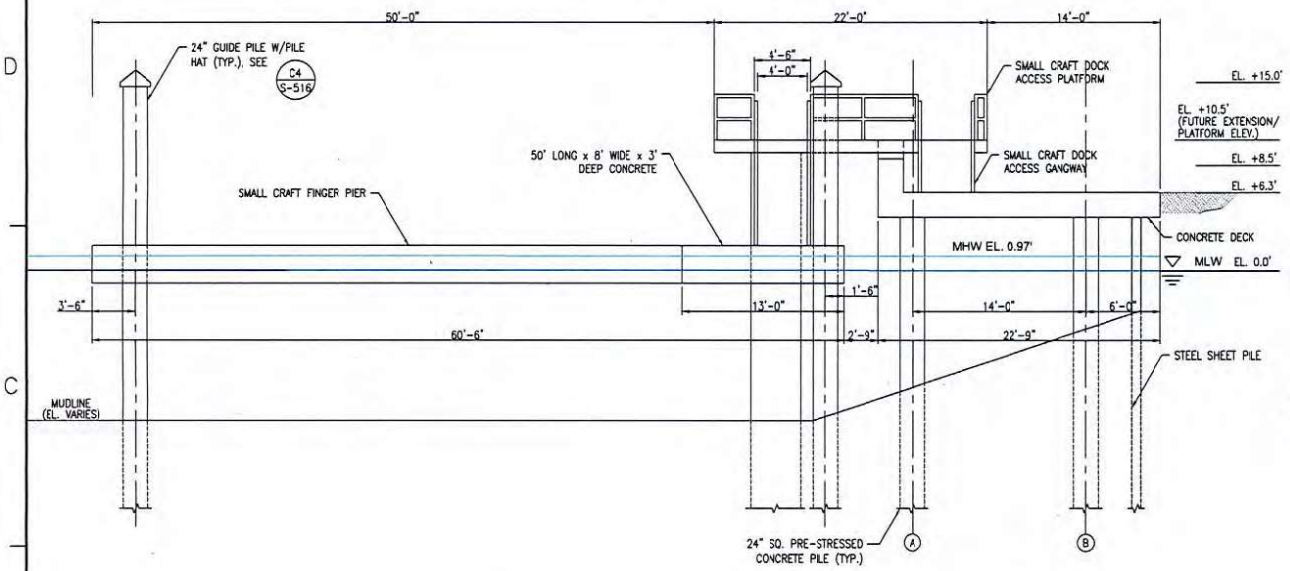
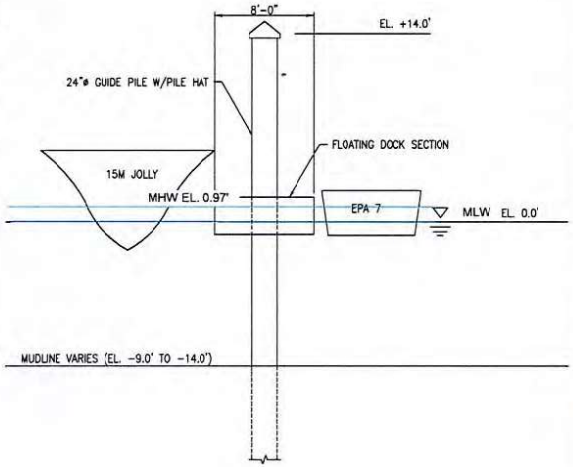
NAVFAC DRAWING NO. TBD
SHEET TBD OF 180
S-300



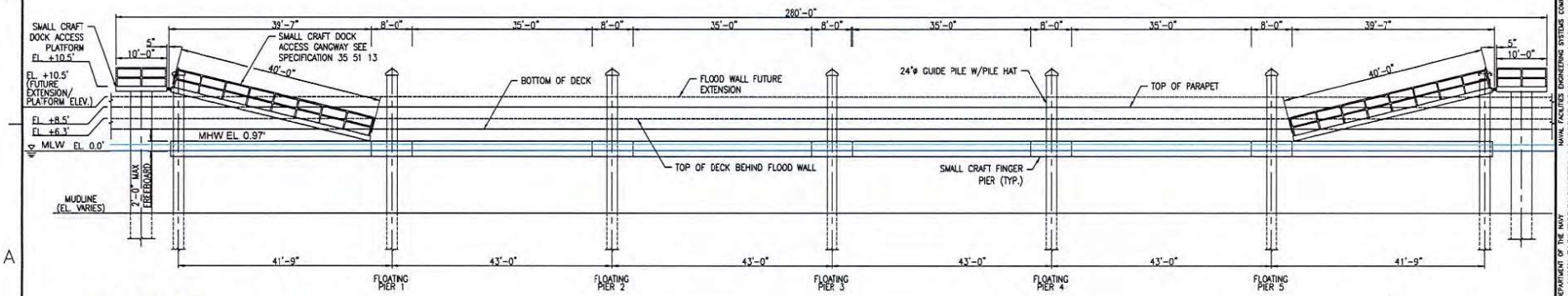
B1 NORTH QUAYWALL REACH A SECTION AT SMALL CRAFT DOCK ACCESS PLATFORM

SCALE 1" = 5' S-107



B4 SMALL CRAFT DOCK - FINGER PIER SECTION

SCALE 1" = 5' S-101, S-102



A1 SMALL CRAFT DOCK LONGITUDINAL SECTION

SCALE 1" = 10' S-106, S-107

NOTE: PRESTRESSED CONCRETE PILES SUPPORTING REACH A NOT SHOWN IN BACKGROUND FOR CLARITY

GRAPHIC SCALE

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

0 5' 10' 20' SCALE: 1" = 10'-0"

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QUAYWALL REACH A REPAIR DESIGN

SECTIONS – SHEET 2 OF 4

ON FILE

SCALE: AS NOTED
EFMP PROJECT NO. 1562747
CONTRACT NO. N40080-23-R-0015
NAVFAC DRAWING NO. TBD
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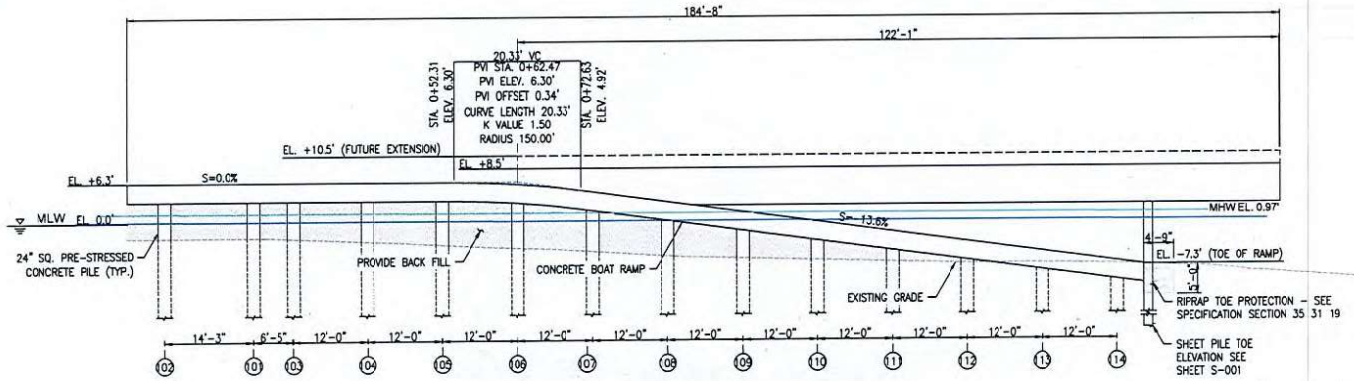
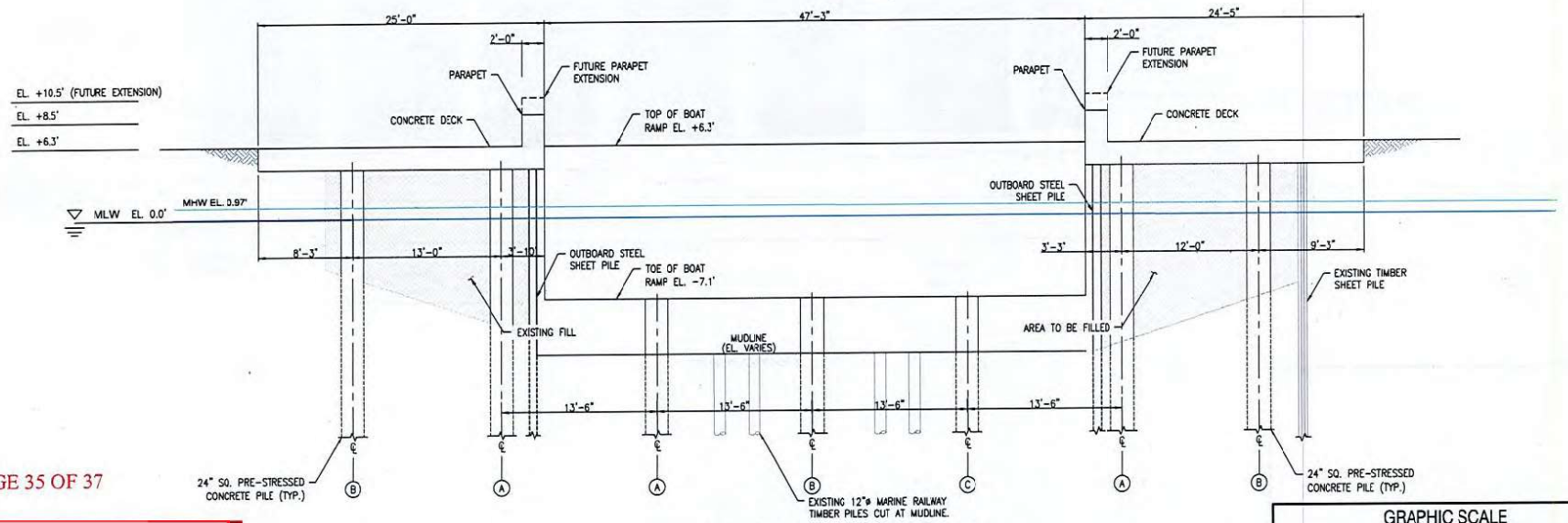


C1 BOAT RAMP LONGITUDINAL SECTION
SCALE 1" = 10' S-104



A1 BOAT RAMP - TRANSVERSE SECTION
SCALE 1" = 5' S-104

GRAPHIC SCALE
0 5' 10'
SCALE: 1" = 5'-0"
0 5' 10' 20'
SCALE: 1" = 10'-0"

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ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
SECTIONS - SHEET 3 OF 4

SCALE AS NOTED
PROJECT NO. 1502747
CONTR. CONTR. NO. N40080-23-R-0015
NAVFAC DRAWING NO. TBD
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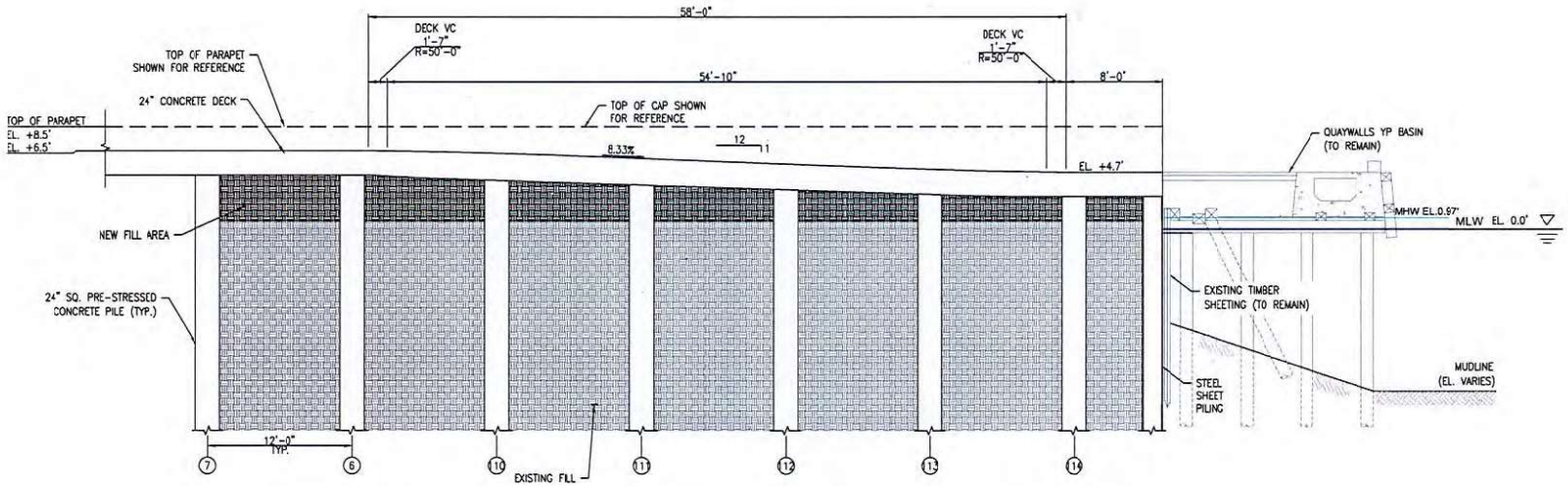
S-302

GENERAL SHEET NOTES

1. SEE DRAWING S-502 FOR REINFORCEMENT DETAILS.



B1 TRANSITION TO EXISTING - TYPICAL SECTION
SCALE 1" = 5' S-109

GRAPHIC SCALE

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

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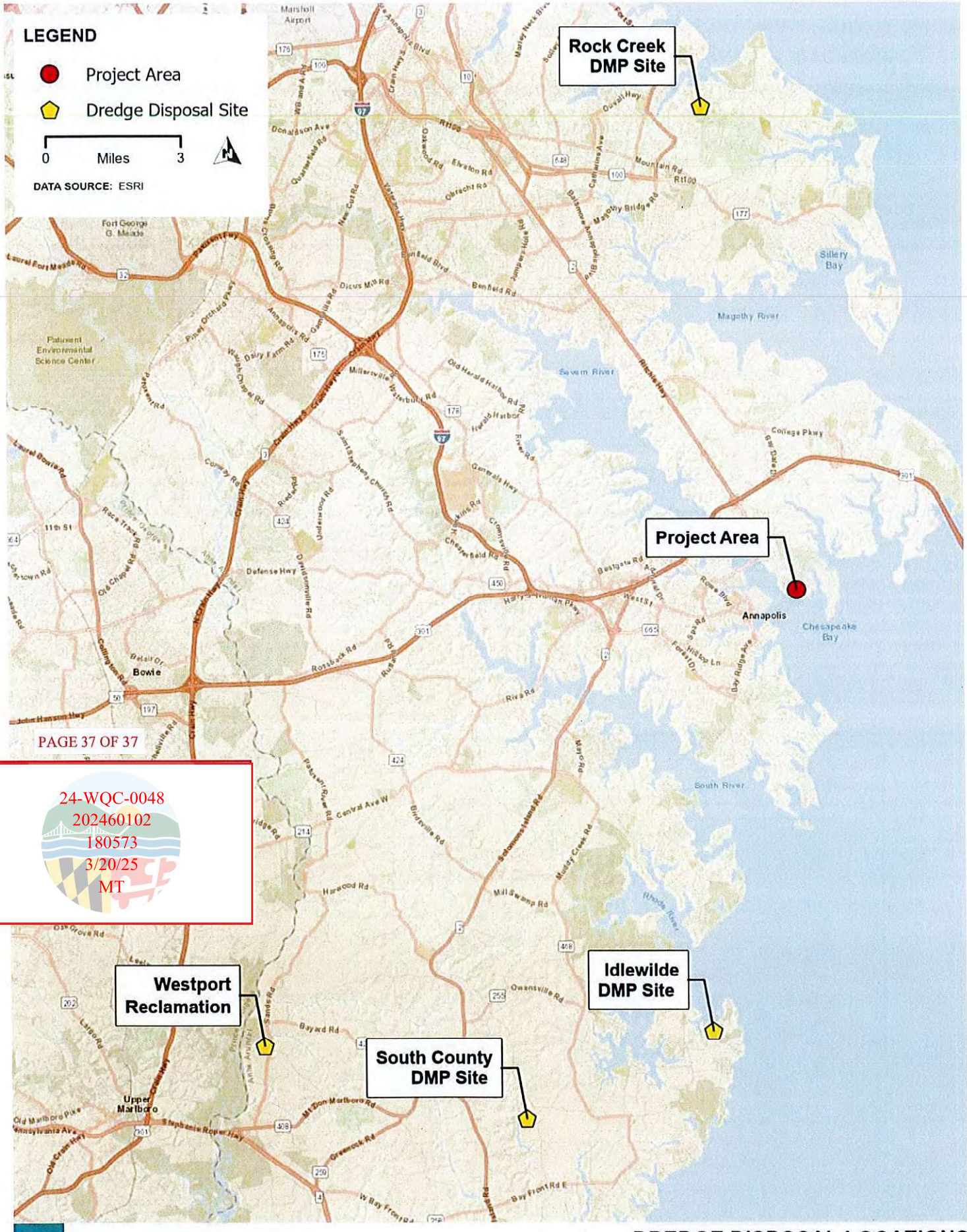
ANNAPOLIS, MARYLAND
QUAYWALL REACH A REPAIR DESIGN
SECTIONS – TRANSITION TO EXISTING

SCALE: AS NOTED
EFMSQUEST NO.: 1592747
CONTRACT NO.: N40080-23-R-0015
SHEET TBD OF 190
S-303



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180573
3/20/25
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HDR MARINE SOLUTIONS

DREDGE DISPOSAL LOCATIONS

REPAIRS TO YP BASIN QUAYWALL AND YP PIER AT 87NS

MARCH 2024

PATH: X:\GIS\PROJECTS\291823_MARINE_SOLUTIONS\10260242_NAVFAC_YP_ANNAPOLIS_PIER\7.2_WORK_IN_PROGRESS\MAP_DOCS\APRX\YP_ANNAPOLIS_PIER\YP_ANNAPOLIS_PIER.APRX - USER: RWILK - DATE: 3/28/2024