Maryland
Department of the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary

February 21, 2024

U.S. Navy - Naval Facilities Engineering Command
c/o Lisa A Dosmann
NAVFAC Washington
1314 Harwood Dr, Bldg 212, Fl2
Washington Navy Yard, DC 20374

Via email: lisa.a.dosmann.civ@us.navy.mil

Re: Agency Interest Number: 179235
Tracking Number: 202361195
Tidal Authorization Number: 23-WQC-0043

Dear U.S. Navy - Naval Support Activity Annapolis:

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 Kathryn Burcham at kathryn.burcham@maryland.gov or 410-537-3647 with any questions.

Sincerely,

Tammy Roberson

Tammy K. Roberson,
Chief
Tidal Wetlands Division

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

23-WQC-0043

EFFECTIVE DATE:	**February 21, 2024**
CERTIFICATION HOLDER:	**U.S. Navy - Naval Support Activity Annapolis**
ADDRESS:	**Attn: Lisa Dosmann NAVFAC Washington** **1314 Harwood St, Bldg 212** **Washington Navy Yard, DC 20374**
PROJECT LOCATION:	**West Rd, Greenbury Point 38.982998 - 76.454974** **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 NSAA Berm Living Shoreline AND AS DESCRIBED IN THE ATTACHED PLAN SHEETS DATED January 23, 2024 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.

PROJECT DESCRIPTION

Create a 750-foot low profile stone, sand containment sill; and to fill and grade with 3,485 yards of sand along 750 feet of eroding shoreline and plant approximately 6,227 square feet of low marsh vegetation, 9,125 square feet of high marsh vegetation, and 7,325 square feet of upland vegetation, all extending a maximum distance of 48 feet channelward of the mean high water line.

The Administration satisfied statutory and regulatory public notice requirements by placing this WQC on Public Notice from January 01, 2024 to January 31, 2024 on the Maryland Department of the Environment's Public Notice webpage and advertising in The Capital on January 05, 2024. A pre-scheduled hearing was noticed in the Maryland Register on December 29th, 2023 for February 15th, 2024 but no hearing requests were received and the hearing was cancelled as a result.

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. The Certification Holder shall allow authorized representatives of the Department 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 2023-61195 until such time that it expires or is not administratively extended.

SPECIAL CONDITIONS

1. The Certificate Holder shall comply with all Critical Area requirements and obtain all necessary authorizations from local jurisdiction. This License 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. If the authorized work is not performed by the property owner, all work performed under this Tidal Wetlands License 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. 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 construct the marsh establishment area in accordance with the following conditions:
    a. The Certificate Holder shall use clean substrate fill material, no more than 10% of which shall pass through a standard number 100 sieve.
    b. The marsh establishment area shall be planted within one year following completion of the filling operation.
    c. The marsh establishment project shall be maintained as a wetland, with non-nuisance species' aerial coverage of at least 85% for three consecutive years. If 85% coverage is not attained, the reasons for failure shall be determined, corrective measures shall be taken, and the area shall be replanted.
    d. If the fill is graded hydraulically, the licensee shall use a turbidity curtain around the perimeter of the instream work.
    e. If the existing bank is to be cleared or graded:
        1. The Certificate Holder shall perform all work under and in accordance with an approved Soil Erosion and Sediment Control Plan from the applicable sediment and erosion control agency; and
        2. The Certificate Holder shall perform all work under and in accordance with the Critical Area requirements of the local jurisdiction in the form of an approved Buffer Management Plan.

5. The Certificate Holder shall accept the terms of the attached marsh maintenance plan by signing and returning the standard plan to the Water and Science Administration, Tidal Wetlands Division prior to commencement of any work authorized under Tidal Wetlands License 23-WL-0756. If the Certificate Holder wishes to propose an alternative marsh maintenance plan, the alternative plan must be submitted to and approved by the Tidal Wetlands Division, Water and Science Administration, prior to commencement of any work authorized under this License. Any alternative plan must provide assurances of success that are at least equivalent to those of the standard plan, in terms of the extent of native marsh plant coverage, elimination of invasive species and timeframe for plant establishment.

6. The Certificate Holder shall construct 10-foot wide vent(s) (opening in the stone edging) at least every 100 linear feet to facilitate marsh flushing and shall be located along the stone edging as depicted on the attached plans.

7. The Certificate Holder shall not perform any construction 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.

CITATIONS AND STATEMENTS OF NECESSITY

1. Statement of Necessity for General Conditions 1, 2, 3, 4 and Special Conditions 1, 3, and 4: 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 4, 5: 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 Special Condition 6: Requirements to structures allow for tidal flushing through living shoreline which ensures that numeric standards for dissolved oxygen and temperature may be met. Failure to meet numeric standards for temperature and dissolved oxygen levels may result in conditions that do not support shallow water submerged aquatic vegetation, shellfish harvesting, fish spawning and nurseries, and fish and shellfish survival and growth.

   Citation: COMAR 26.08.02.02.B.(3); COMAR 26.08.02.02-1; COMAR 26.08.02.03-3.C.(8)(d); COMAR 26.08.02.03-3.C.(3)(a)

8. Statement of Necessity for Special Condition 7: A time of year restriction is necessary to allow for wintering waterfowl to move from breeding areas to seasonally use suitable winter habitat. Breeding and wintering habitat are both essential to support waterfowl populations. Breeding habitat would not sustain waterfowl during winter. Disturbance during the closure period would interfere directly or indirectly with designated uses.

   Citation: COMAR 26.08.02.02.B.(3); COMAR 26.08.02.02.B.(1)(d); COMAR 26.08.02.03.B.(1)(b); COMAR 26.08.02.03.B.(2)(e); COMAR 26.24

CERTIFICATION APPROVED

D. Lee Currey, Director
Water and Science Administration

2/23/2024
Date

Tracking Number: 202361195
Agency Interest Number: 179235

Effective Date: February 21, 2024

Enclosure: Plan Sheets dated January 23, 2024

cc: WSA Inspection & Compliance Program
Army Corps of Engineers

23-WL-0756
202361195
179235
January 23, 2024
KB

Prepared For:
NAVFAC Washington
1314 Harwood St. Bldg 212
Washington Navy Yard, DC 20374

Prepared by:
Marstel-Day, LLC
10708 Ballantraye Drive
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Fredricksburg, VA 22407

Environmental Systems Analysis, Inc.
Natural Resources Management
Ecological Restoration
2141 Priest Bridge Drive, Suite 1
Crofton, Maryland 21114

AERIAL IMAGE

NSAA Berm Stabilization

Shoreline Stabilization

Anne Arundel County, Maryland

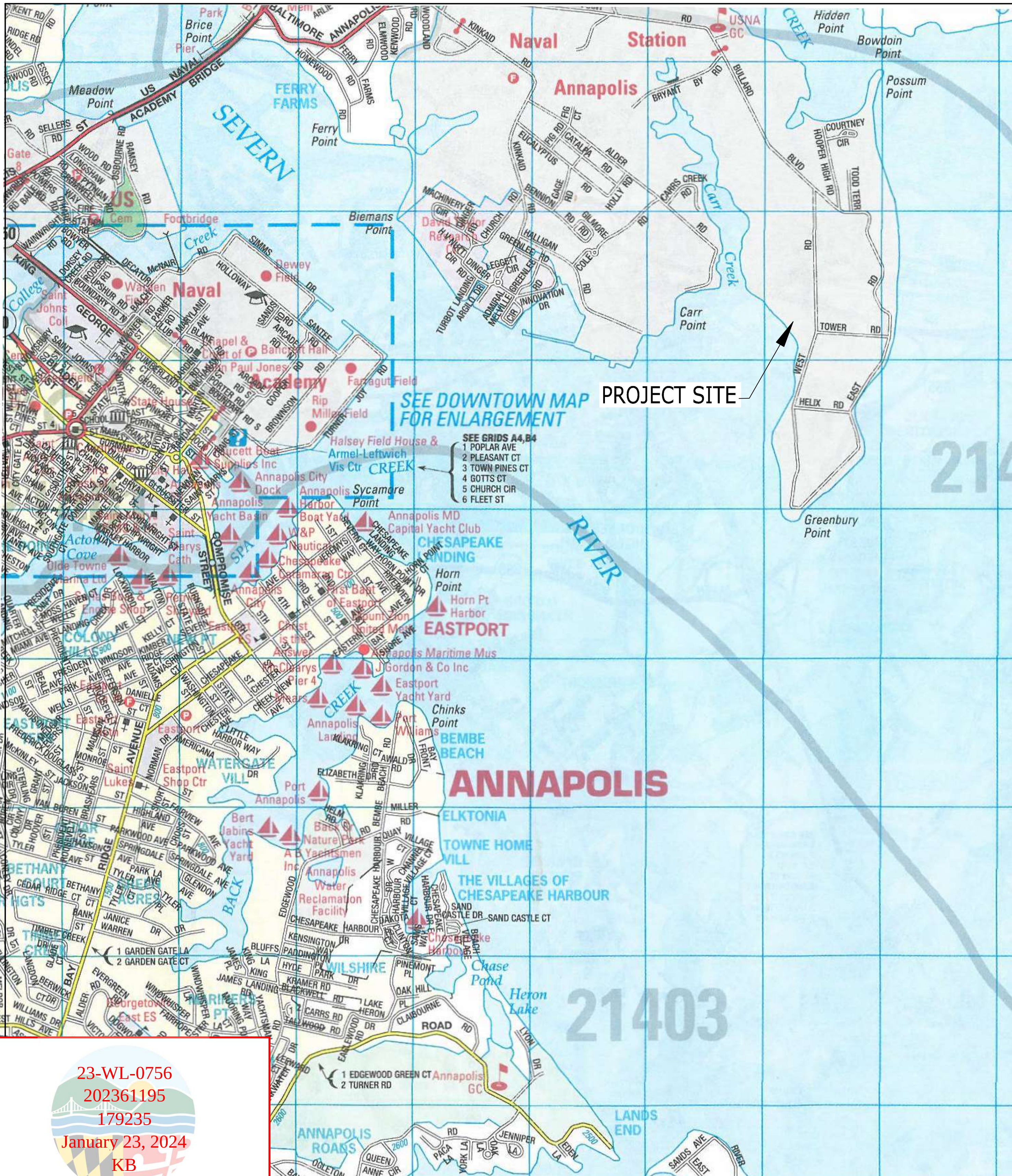
NORTH

SCALE: 1"=150'

DATE: January 2024

ESA PROJECT NAME 22563 NSAA ENV PLANNING/01 NSAA BERM/CAD

SHEET: 1 of 10



23-WL-0756
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January 23, 2024
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VICINITY MAP

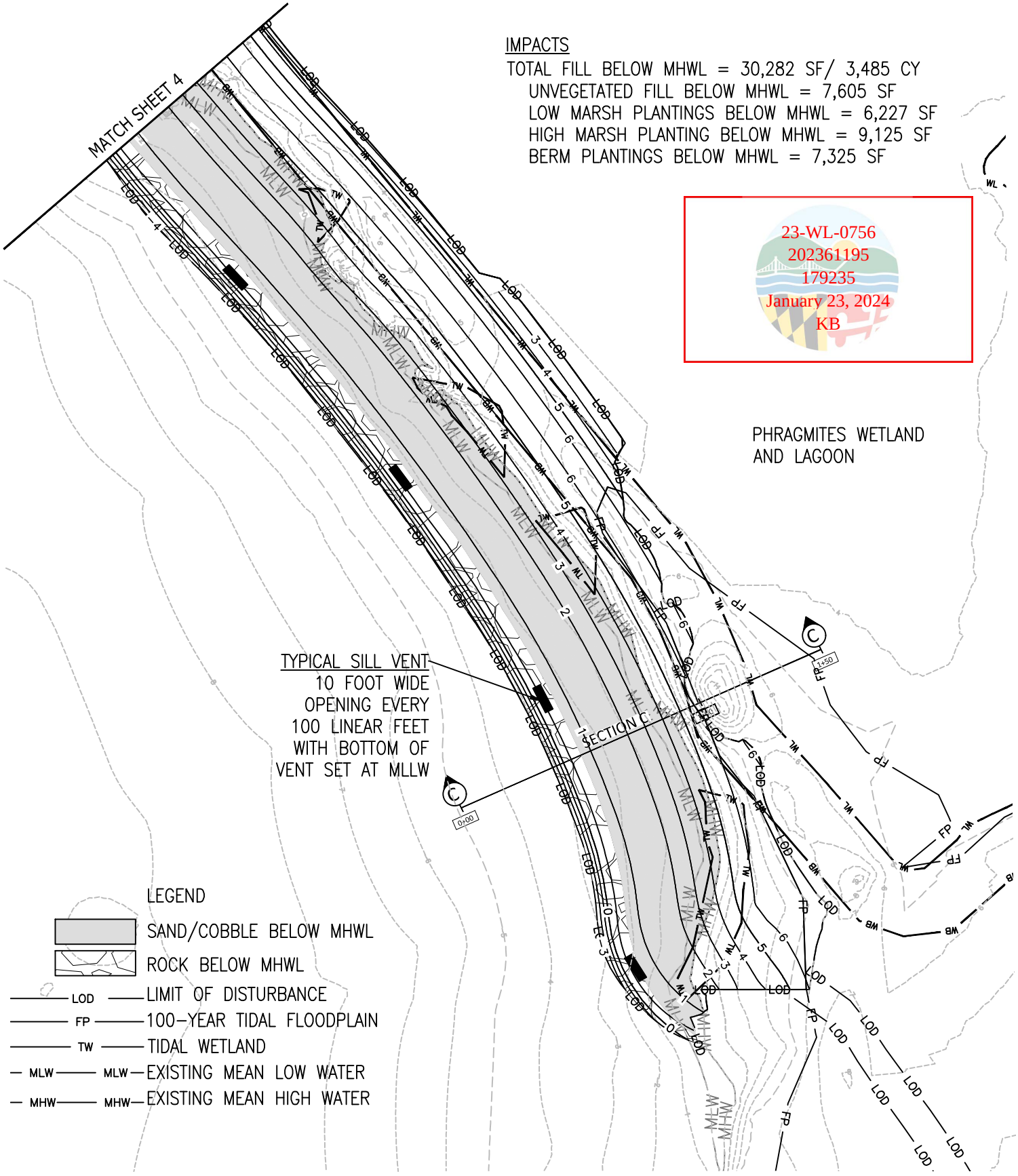
NSAA Berm Stabilization
Shoreline Stabilization

Anne Arundel County, Maryland

SCALE: 1"=2000'
DATE: January 2024
ESA PROJECT NAME: 22563 NSAA ENV PLANNING/01 NSAA BERM/CAD

NORTH

SHEET: 2 of 10



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Washington Navy Yard, DC 20374

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TIDAL WATERS IMPACT PLATE

NSAA Berm Stabilization
Shoreline Stabilization
Anne Arundel County, Maryland

SCALE: 1"=50'
DATE: January 2024
ESA PROJECT NAME: 22563 NSAA ENV PLANNING/01 NSAA BERM
ESA Project: 22563 NAVFAC ENV Planning/01 NSAA Berm
NORTH
SHEET: 3 of 10

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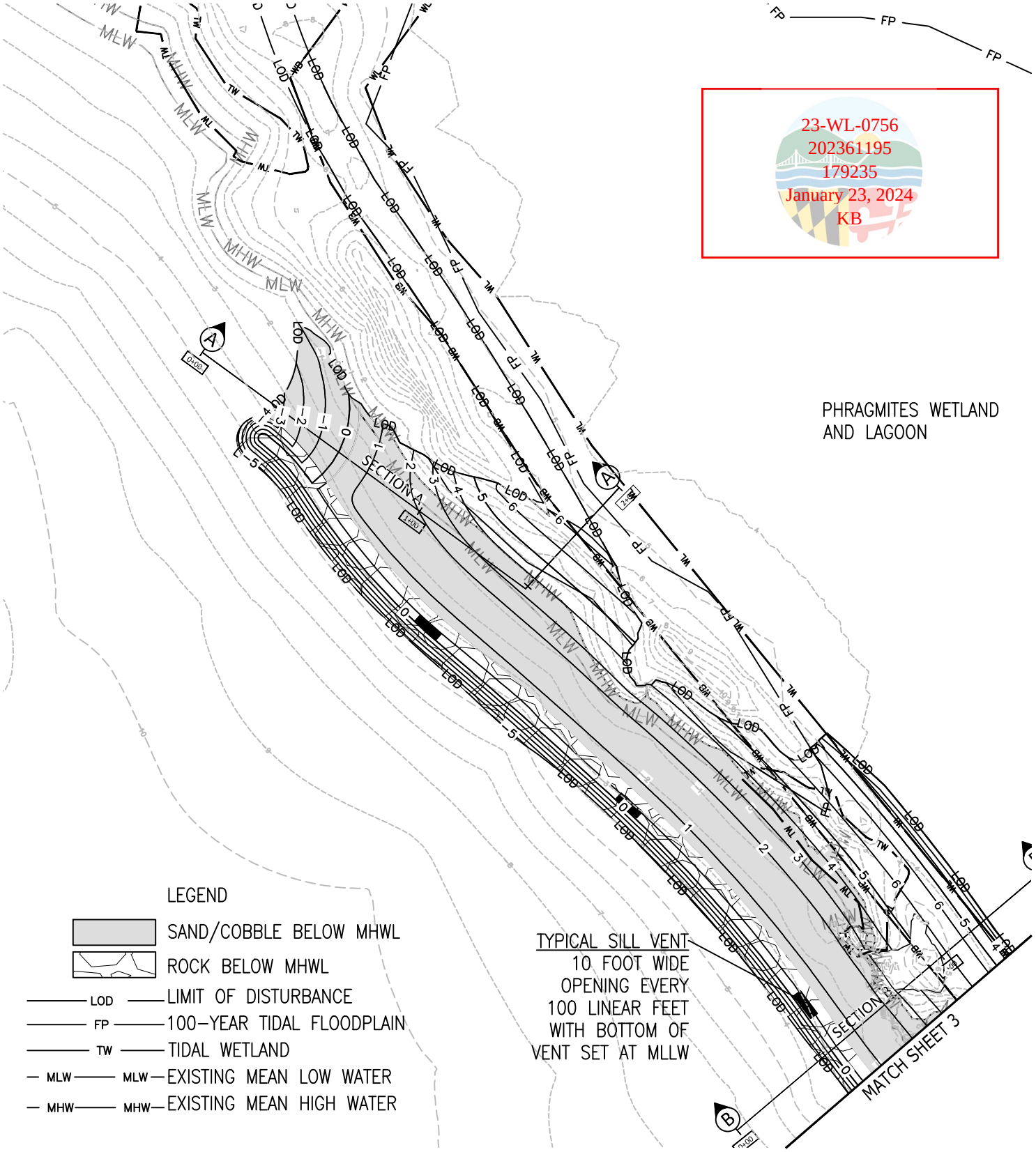

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TIDAL WATERS IMPACT PLATE

NSAA Berm Stabilization

Shoreline Stabilization

Anne Arundel County, Maryland

NORTH

SCALE: 1"=50'

DATE: January 2024

ESA PROJECT NAME: 22563 NSAA ENV PLANNING/01 NSAA BERM

ESA Project: 22563 NAVFAC ENV Planning\01 NSAA Berm

SHEET: 4 of 10

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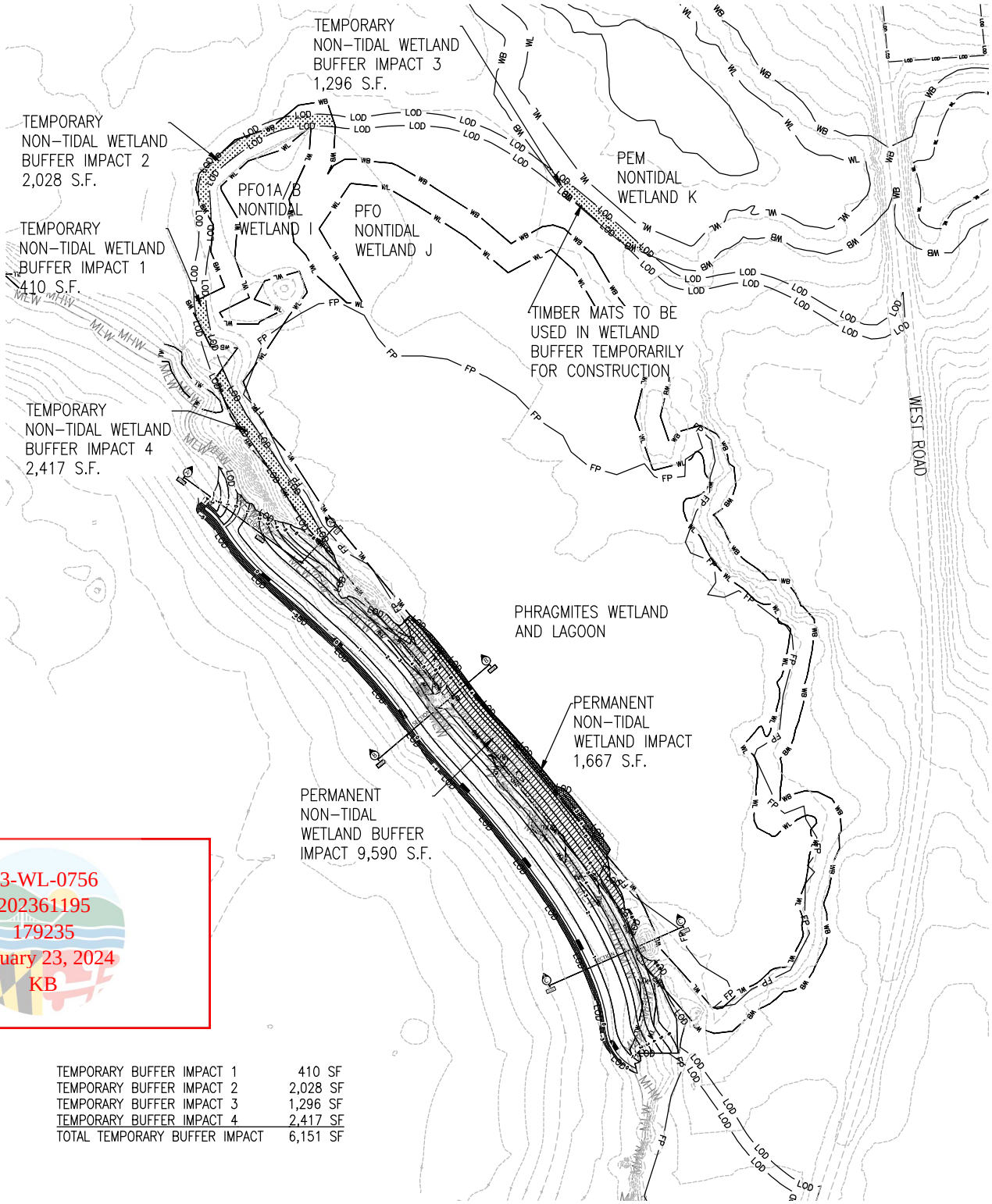

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202361195
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January 23, 2024
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TEMPORARY BUFFER IMPACT 1	410 SF
TEMPORARY BUFFER IMPACT 2	2,028 SF
TEMPORARY BUFFER IMPACT 3	1,296 SF
TEMPORARY BUFFER IMPACT 4	2,417 SF
TOTAL TEMPORARY BUFFER IMPACT	6,151 SF

LEGEND

- LOD — LIMIT OF DISTURBANCE
- FP — 100–YEAR TIDAL FLOODPLAIN
- WL — NONTIDAL WETLAND BOUNDARY
- WB — 25–FOOT NONTIDAL WETLAND BUFFER
- TW — TIDAL WETLAND
- MLW — MLW — EXISTING MEAN LOW WATER
- MHW — MHW — EXISTING MEAN HIGH WATER

- TEMPORARY NONTIDAL WETLAND BUFFER IMPACTS = 6,151 SF
- PERMANENT NONTIDAL WETLAND BUFFER IMPACT = 9,590 SF
- PERMANENT NONTIDAL WETLAND IMPACT: = 1,667 SF/20 CY

Prepared For:
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NON-TIDAL WETLAND IMPACT PLATE

NSAA Berm Stabilization
Shoreline Stabilization
Anne Arundel County, Maryland

SCALE: 1"=100'
DATE: January 2024
ESA PROJECT NAMB 22563 NSAA ENV PLANNING/01 NSAA BERM
ESA Project: 22563 NAVFAC ENV Planning/01 NSAA Berm
NORTH
SHEET: 5 of 10

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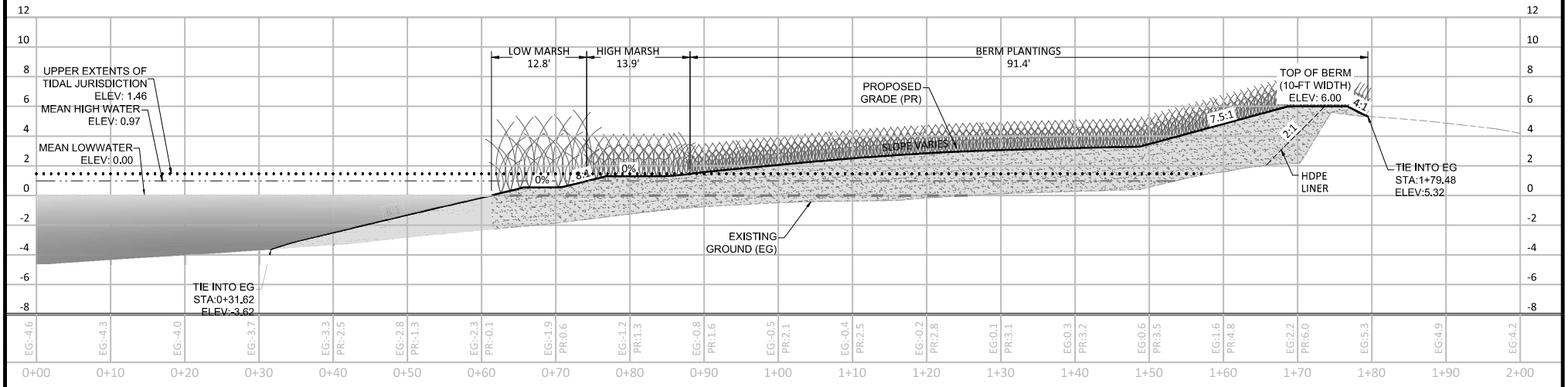

SECTION A

SCALE: 1" = 10' H
1" = 5' V

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TIDAL WATERS CROSS SECTIONS

NSAA Berm Stabilization

Shoreline Stabilization

Anne Arundel County, Maryland

SCALE: AS SHOWN
DATE: January 2024
Revision #: 3
ESA Project: 22563 NAVFAC ENV Planning/01 NSAA Berm
NORTH
SHEET: 6 of 10

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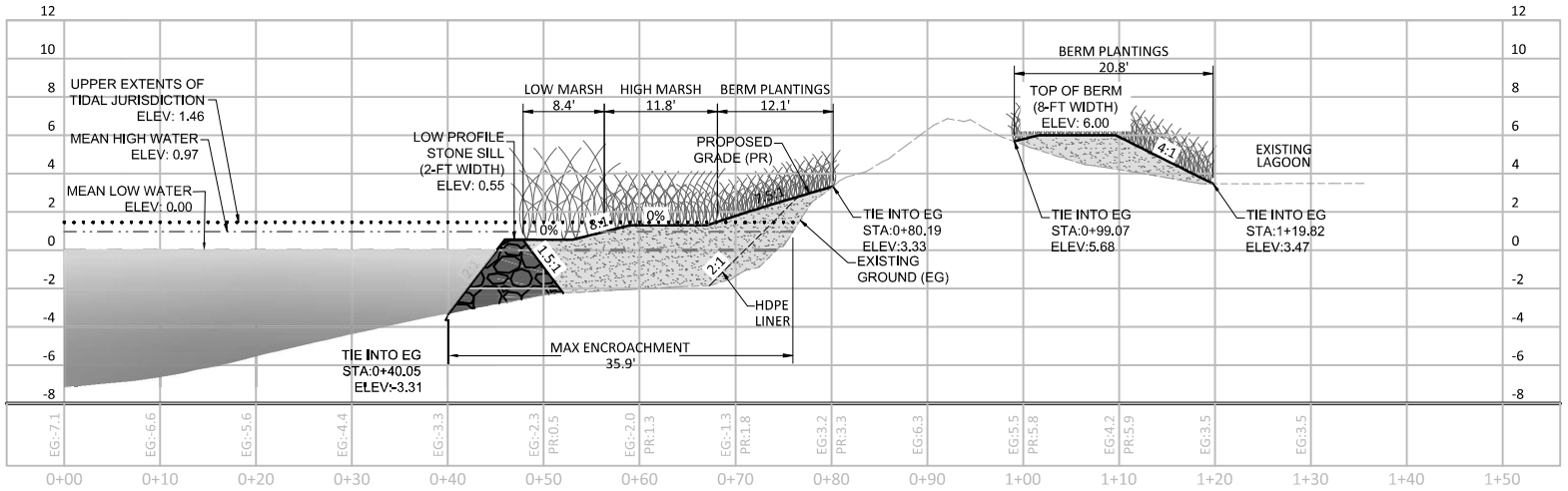
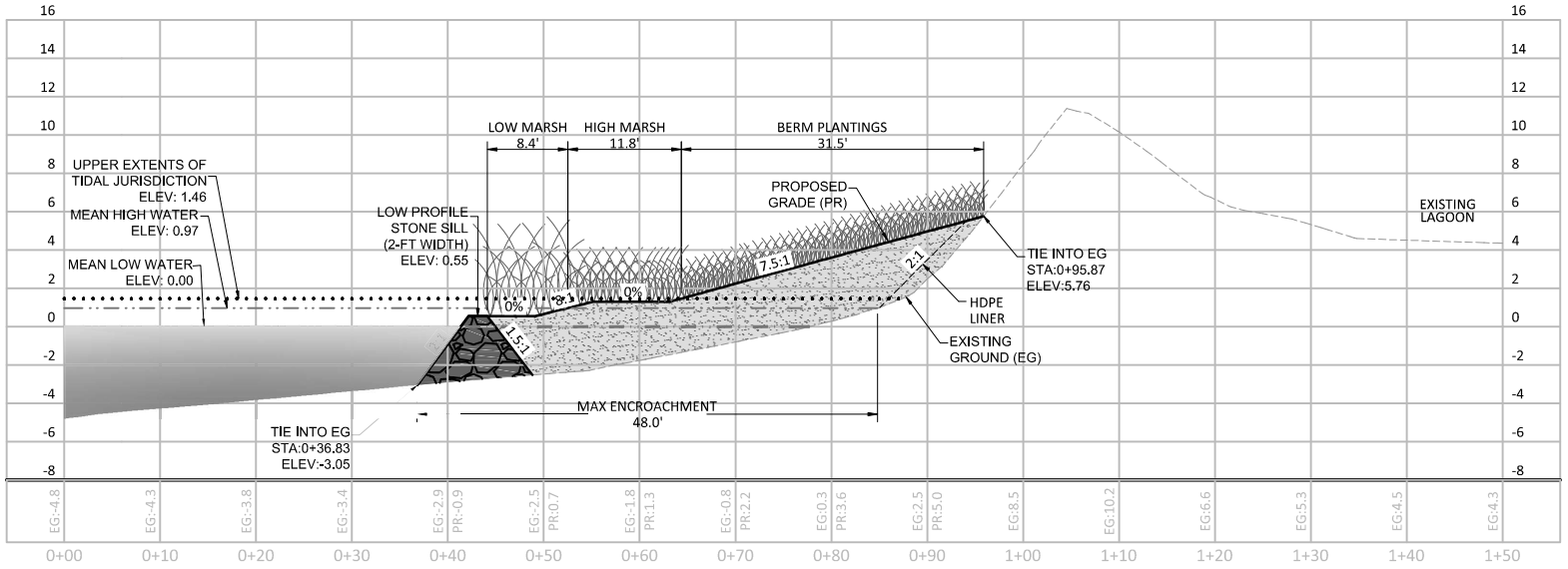


SECTION B

SCALE: 1" = 10' H
1" = 5' V



SECTION C

SCALE: 1" = 10' H
1" = 5' V

23-WL-0756
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January 23, 2024
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TIDAL WATERS CROSS SECTIONS

NSAA Berm Stabilization

Shoreline Stabilization

Anne Arundel County, Maryland

NORTH

SCALE: AS SHOWN
DATE: January 2024
Revision #: 3
ESA Project: 22563 NAVFAC ENV Planning/01 NSAA Berm
SHEET: 7 of 10

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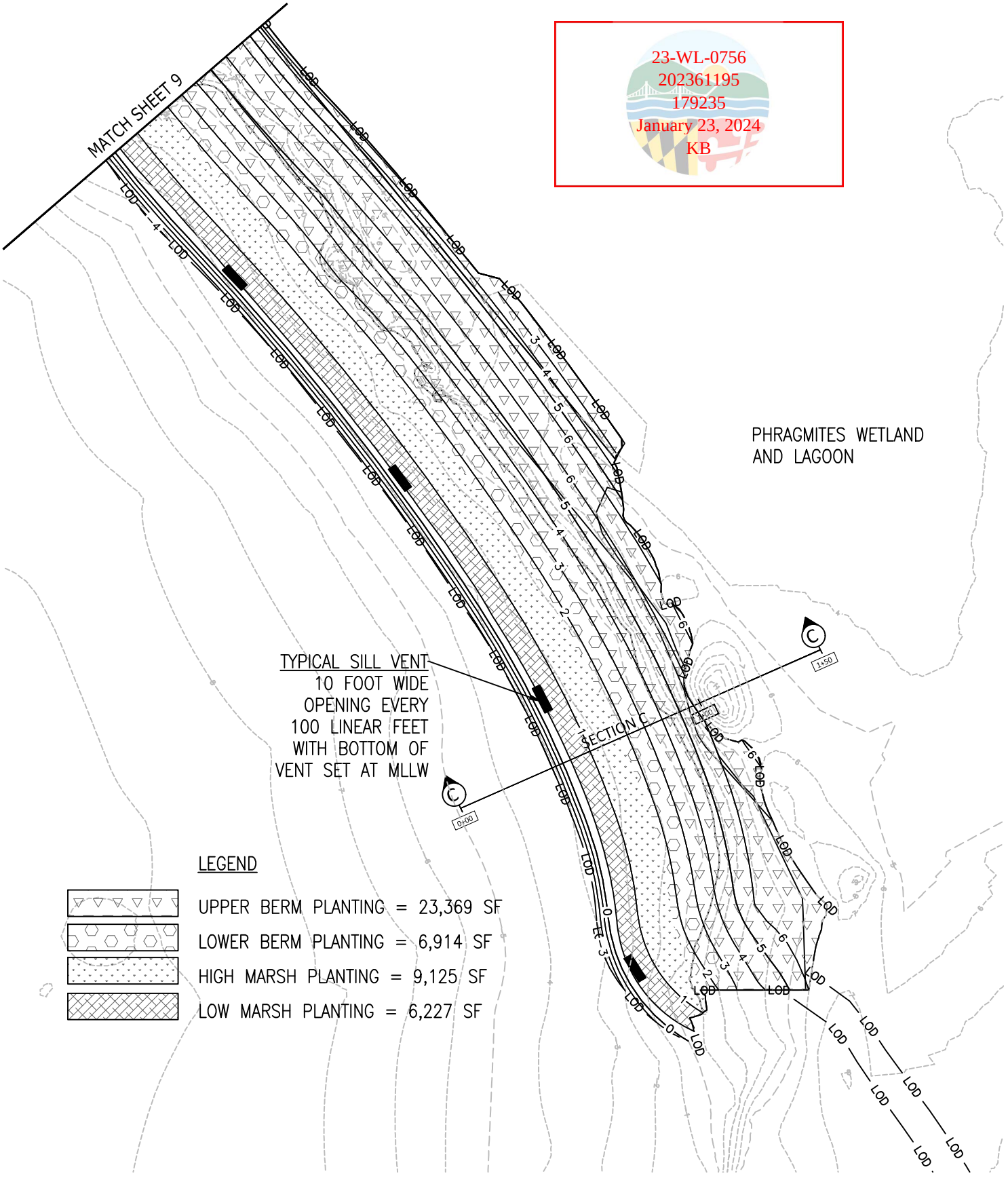

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LANDSCAPE PLAN

NSAA Berm Stabilization

Shoreline Stabilization

Anne Arundel County, Maryland

NORTH

SCALE: 1"=50'
DATE: January 2024
ESA PROJECT NAME: 22563 NSAA ENV PLANNING/01 NSAA BERM
ESA Project: 22563 NAVFAC ENV Planning/01 NSAA Berm
SHEET: 8 of 10

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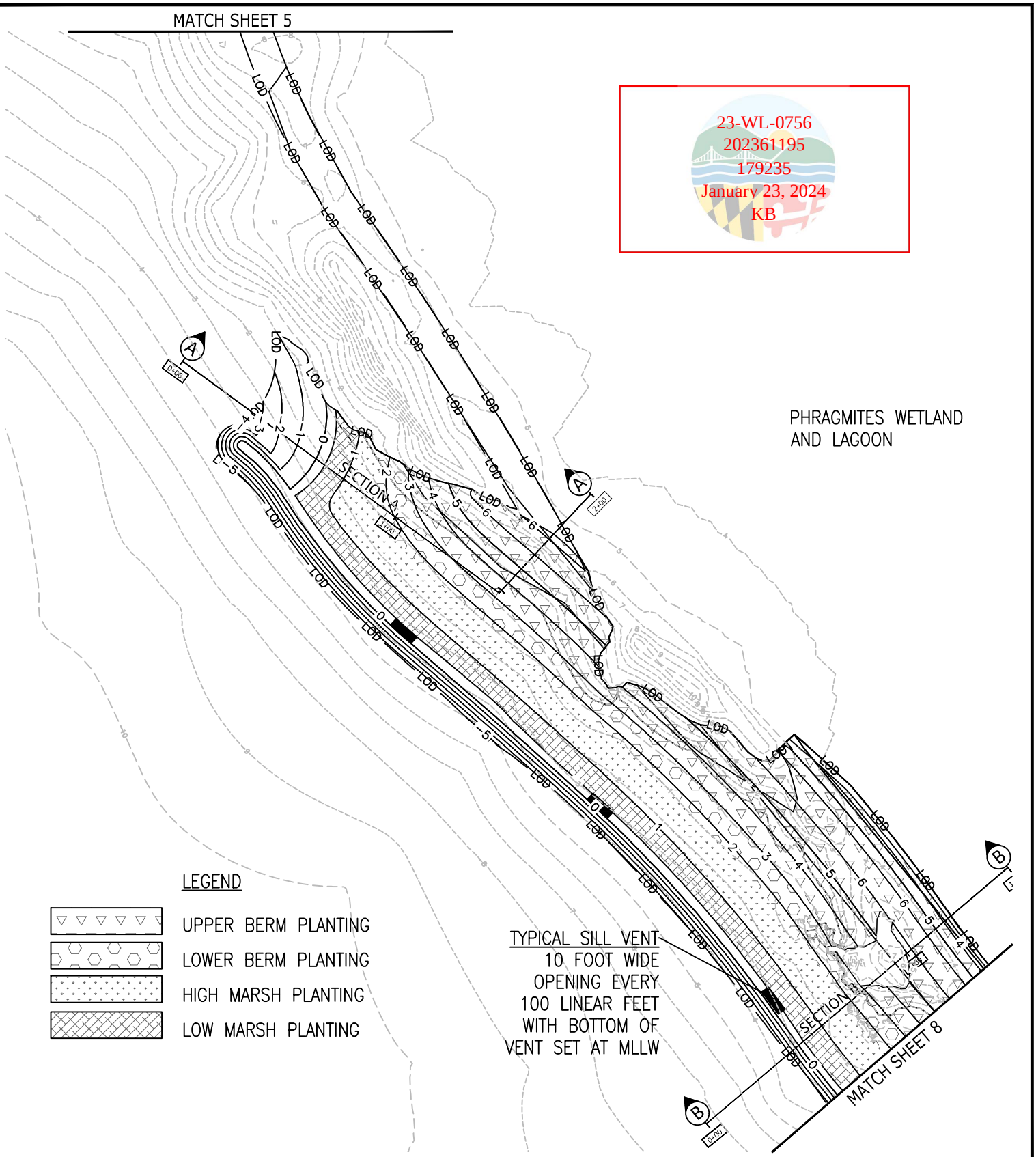

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LANDSCAPE PLAN

NSAA Berm Stabilization

Shoreline Stabilization

Anne Arundel County, Maryland

SCALE: 1"=50'
DATE: January 2024
ESA PROJECT NAME: 22563 NSAA ENV PLANNING/01 NSAA BERM
ESA Project: 22563 NAVFAC ENV Planning/01 NSAA Berm
SHEET: 9 of 10

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GENERAL PLANTING NOTES

1. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE RESTORATION SPECIALIST OF THE SCHEDULED DATE FOR COMMENCEMENT OF PLANTING SO THAT ALL MATERIALS AND PLANTING METHODS MAY BE INSPECTED AND APPROVED BY THE RESTORATION SPECIALIST. NO PLANTS SHALL BE INSTALLED WITHOUT THE RESTORATION SPECIALIST ON SITE.
2. ALL PLANTS SHALL BE PLACED WITHIN THE LIMITS OF DISTURBANCE.
3. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND FOR UNDERSTANDING AND HONORING PROPERTY BOUNDARIES. ANY UTILITIES OR OTHER PROPERTY DAMAGED DURING PLANTING SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.
4. GIVEN THE LARGE QUANTITY OF PLUGS, CONTACT THE NURSERY WELL IN ADVANCE OF PLANTING TO ENSURE AVAILABILITY.

STANDARDS

1. ALL PLANT MATERIAL SHALL CONFORM TO THE CURRENT ISSUE OF THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND AS SPECIFIED BELOW.
2. ALL CONTAINER STOCK SHALL BE NURSERY-GROWN WITHIN A 200-MILE RADIUS OF THE SITE. PLANT MATERIALS, WITH THE EXCEPTION OF LIVE STAKES, THAT ARE COLLECTED FROM THE WILD WILL BE REJECTED.
3. PLANT MATERIAL SHALL BE OBTAINED FROM NURSERIES THAT HAVE BEEN INSPECTED AND CERTIFIED BY STATE PLANT INSPECTORS.
4. THE ROOT SYSTEM OF CONTAINER GROWN PLANTS SHALL BE WHITE, WELL DEVELOPED, AND WELL-DISTRIBUTED THROUGHOUT THE CONTAINER WITH THE ROOTS VISIBLY EXTENDING TO THE INSIDE FACE OF THE GROWING CONTAINER.
5. IF IN LEAF, THE PLANTS SHALL APPEAR HEALTHY WITH NO LEAF SPOTS, LEAF DAMAGE, LEAF DISCOLORATION, LEAF WILTING OR EVIDENCE OF INSECTS ON THE PLANT.
6. THERE SHALL BE NO CHANGE IN THE QUANTITY, SIZE OR SPECIES OF SCHEDULED PLANT MATERIAL WITHOUT THE PRIOR APPROVAL OF THE RESTORATION SPECIALIST.

STORAGE AND DELIVERY

1. AFTER BEING DELIVERED TO THE JOB SITE, PLANTS SHALL BE STORED IN A COOL, SHADY LOCATION. PLANT ROOT MASSES SHALL BE KEPT MOIST WITH PERIODIC WATERING UNTIL THE TIME OF PLANTING.
2. SOIL ROOT MASSES SHALL BE THOROUGHLY MOIST UPON DELIVERY TO THE SITE. DRY OR LIGHT WEIGHT PLANTS SHALL BE REJECTED. IF THE SOIL/ROOT MASSES ARE SUBSTANTIALLY SMALLER THAN THE SPECIFIED CONTAINER SIZE AND LOOSE SOIL EXISTS ON THE BOTTOM OF THE CONTAINERS, THE PLANTS SHALL BE REJECTED.
3. ALL REJECTED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE SITE.

MAINTENANCE AND GUARANTEE

1. PLANT MATERIAL SHALL BE MAINTAINED BY THE LANDSCAPE CONTRACTOR FOR ONE YEAR FROM THE DATE OF INITIAL INSPECTION AND ACCEPTANCE OF THE PLANTING BY THE RESTORATION SPECIALIST. MAINTENANCE SHALL INCLUDE ALL WATERING, FERTILIZATION AND ANIMAL REPELLENTS NECESSARY TO ENSURE THE SURVIVAL AND GROWTH OF THE PLANTS.
2. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE THAT 85% OF THE PLANTED SHRUBS, 75% OF THE HERBACEOUS STOCK SHALL BE ALIVE AND HEALTHY ONE YEAR AFTER THE INITIAL INSPECTION AND ACCEPTANCE BY THE RESTORATION SPECIALIST. AT THE END OF THIS PERIOD, THE RESTORATION SPECIALIST SHALL CONDUCT A FINAL INSPECTION WITH THE LANDSCAPE CONTRACTOR. ALL PLANT MATERIAL EXCEEDING THOSE THRESHOLDS SHALL BE REPLACED BY THE LANDSCAPE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THIS GUARANTEE SHALL COVER ALL DAMAGES EXCEPT VANDALISM, FIRE, AND FLOOD, AND ANIMAL PREDATION.
3. PLANT MATERIAL WHICH IS 25% DEAD OR MORE SHALL BE CONSIDERED DEAD.
4. PLANT MATERIAL REPLACEMENTS SHALL BE OF THE SAME SIZE, TYPE AND VARIETY AS THE PLANTS SPECIFIED IN THE PLANTING SCHEDULE OR AS THE APPROVED SUBSTITUTES FOR THE ORIGINAL PLANTING.
5. PLANTS SHALL BE FURNISHED AND PLANTED AS SPECIFIED IN THESE PLANS.

GENERAL PLANTING PROCEDURES

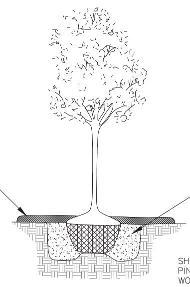
1. PLANTING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF "THE LANDSCAPE CONTRACTORS ASSOCIATION'S LANDSCAPE SPECIFICATION GUIDELINES" AND AS SPECIFIED BELOW.
2. CONTAINER STOCK MAY BE INSTALLED FROM SEPTEMBER 1 TO DECEMBER 1 AND FROM MARCH 15 TO JUNE 15. PLANTING SHALL NOT BE PERFORMED OUTSIDE OF THESE DATES WITHOUT THE EXPRESSED PERMISSION OF THE RESTORATION SPECIALIST. IN ADDITION, PLANTING SHALL NOT OCCUR IN SUB-FREEZING TEMPERATURES, WHEN THE GROUND IS FROZEN, OR WHEN THE SOIL IS TOO DRY OR WET, OR OTHERWISE IN A CONDITION NOT GENERALLY ACCEPTED AS SATISFACTORY FOR PLANTING.
3. HERBACEOUS PLUGS SHALL BE PLANTED BETWEEN MAY 1 TO SEPTEMBER 30.

CONTAINER STOCK

1. FOR TREES AND SHRUBS, EXCAVATE A HOLE AT LEAST 12" WIDER THAN THE WIDTH OF THE ROOTBALL AND TO A DEPTH WHICH LEAVES APPROXIMATELY $\frac{1}{8}$ OF THE ROOTBALL ABOVE THE EXISTING GRADE. FOR HERBACEOUS STOCK, EXCAVATE THE HOLE AT LEAST 1" WIDER THAN THE WIDTH OF THE ROOT MASS.
2. REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER.
3. TO ENCOURAGE THE OUTWARD GROWTH OF THE ROOTS FOR TREES AND SHRUBS, MAKE 4 TO 5, 1" DEEP CUTS THE LENGTH OF THE ROOT BALL WITH A SHARP KNIFE OR BLADE.
4. INSTALL PLANT IN THE CENTER OF THE HOLE AT FINISHED LANDSCAPE GRADE. ADD OSMOCOTE 18-6-12 SLOW RELEASE FERTILIZER TO THE HOLE PER PRODUCT SPECIFICATIONS AND INSTALL PLANT IN CENTER OF THE HOLE AT FINISHED LANDSCAPE GRADE.
5. BACKFILL PLANTING HOLE WITH TWO THIRDS EXISTING SOIL AND ONE THIRD COMPOST (SEE MATERIAL SPECS SHEET 5) AND HYDROPHILIC GEL PER PRODUCT SPECIFICATIONS.
6. ANY SURPLUS SOIL WHICH REMAINS AFTER PLANTING SHALL BE USED TO CREATE A SMALL MOUND AROUND THE EDGE OF THE PLANTING HOLE TO HOLD WATER DURING WATERING OPERATIONS.
7. THOROUGHLY WATER EACH PLANT AFTER INSTALLATION. WATERING SHALL BE PERFORMED EVEN IF IT IS RAINING. A SECOND WATERING MAY BE NECESSARY TO INSURE SATURATION OF THE ROOTBALL AND ELIMINATION OF THE AIR POCKETS.
8. PRUNE ANY AND ALL TREE BRANCHES THAT ARE DEAD, DISEASED, DAMAGED, OR CONFLICTING.
9. REMOVE ALL TAGS, LABELS, STRINGS AND WIRE.

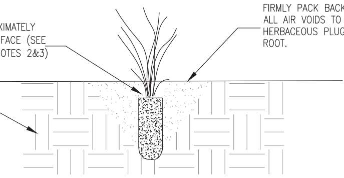
TYPICAL DECIDUOUS PLANTING DETAIL

CONTAINER / B&B



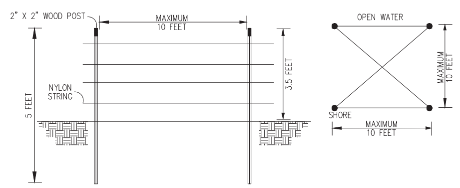
SHREDDED MULCH SHALL BE FROM HARDWOOD OR PINE SOURCES AND MAY INCLUDE BARK AND WOOD FRAGMENTS THAT ARE BROWN IN COLOR AND AGED. MULCH SHALL BE FREE OF LEAVES, VINES, TRASH AND FOREIGN MATTER.

TYPICAL HERBACEOUS PLUG PLANTING DETAIL



GOOSE EXCLUSIONARY FENCING

NOT TO SCALE



1. INSTALL 5' WOOD POSTS 1.5-FEET IN EXISTING SOIL ON A 10' GRID.
2. NYLON STRING SHALL BE INSTALLED TAUT AND WRAPPED ONCE AROUND EACH POST.
3. ROPE SHALL BE INSTALLED A MAXIMUM OF 6 INCHES OFF THE GROUND.
4. ROPE SHALL BE EVENLY SPACED OVER THE 4 STRANDS.
5. THE TOP STRAND SHALL BE CROSSED OVER THE GRID AS SHOWN IN THE PLAN VIEW.

Low Marsh Zone (6,227 SF)					
Qty.	**Scientific Name**	**Common Name**	**Condition**	**Indicator Status**	**Spacing**
2,768	*Spartina alterniflora*	Salt marsh cordgrass	Plug	FACW	18" O.C.

High Marsh Zone (9,125 SF)					
Qty.	**Scientific Name**	**Common Name**	**Condition**	**Indicator Status**	**Spacing**
4,055	*Spartina patens*	Salt-meadow Hay	Plug	FACW	18" O.C.

Lower Berm Zone (6,914 SF)					
Qty.	**Scientific Name**	**Common Name**	**Condition**	**Indicator Status**	**Spacing**
1400	*Panicum virgatum*	Switchgrass	Plug	FAC	18" O.C.
1400	*Schizachyrium littorale*	Coastal little bluestem	Plug	FAC	18" O.C.
700	*Solidago sempervirens*	Seaside goldenrod	Plug	FACW	18" O.C.

Upper Berm Zone (23,369 SF)					
Qty.	**Scientific Name**	**Common Name**	**Condition**	**Indicator Status**	**Spacing**
3750	*Ammophila breviligulata*	American beach grass	Plug	UPL	18" O.C.
3750	*Panicum amarum*	Bitter panicgrass	Plug	UPL	18" O.C.
3200	*Schizachyrium littorale*	Coastal little bluestem	Plug	FAC	18" O.C.

Tree Replacement					
Qty.	**Scientific Name**	**Common Name**	**Condition**	**Indicator Status**	**Spacing**
10	*Acer rubrum*	Red maple	#3 cont.	FAC	15'
8	*Acer negundo*	Boxelder	#3 cont.	FAC	15'
10	*Diospyros virginiana*	Persimmon	#3 cont.	FAC	15'
5	*Liquidambar styraciflua*	Sweetgum	#3 cont.	FAC	15'
10	*Prunus serotina*	Black cherry	#3 cont.	FACU	15'
5	*Quercus palustris*	Pin oak	#3 cont.	FACW	15'

NOTES:

1. SPARTINAS AND A. BREVILIGULATA SHALL BE PLANTED 2 INCHES BELOW NURSERY GROWN DEPTH.
2. ALL OTHER PLUGS SHALL BE PLANTED 0.5 TO 1 INCH BELOW NURSERY GROWN DEPTH.
3. PLUGS ON BERM SHALL BE PLACED IN CLUSTERS OF 3 TO 9 OF THE SAME SPECIES.

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January 23, 2024
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sheet 10 of 10

LANDSCAPE PLAN NOTES AND DETAILS

NSAA BERM LIVING SHORELINE

PREPARED FOR NAVFAC WASHINGTON

ANNE ARUNDEL COUNTY MARYLAND

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I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ______, LICENSE NO. ______, EXPIRATION DATE:________

NO.	REVISIONS	DATE	BY

DATE:	4/3/2023
SCALE:	AS SHOWN
DESIGN BY:	S.MCCULLOUGH
DRAWN BY:	S.MCCULLOUGH
CHECKED BY:	F.MCCULLOUGH
SS PROJECT NO:	22013
SHEET NUMBER	OF