



Maryland

Department of the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary
Adam Ortiz, Deputy Secretary

March 10, 2025

Maryland Coastal Bays Program
c/o Billy Weiland
MD Coastal Bays
8219 Stephen Decatur Hwy
Berlin, MD 21811

Via email: bweiland@mdcoastalbays.org

Re: Agency Interest Number: 177619
Tracking Number: 202360233
Tidal Authorization Number: 24-WQC-0040

Dear Maryland Coastal Bays Program:

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.

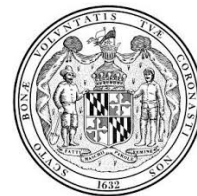
You should not begin any work until you have obtained all necessary State, local, and federal authorizations. Please contact Robert M Simmons at robertm.simmons@maryland.gov or 410-901-4044 with any questions.

Sincerely,

Jonathan Stewart, Chief
Eastern Region
Tidal Wetlands Division



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



24-WQC-0040

EFFECTIVE DATE: **March 10, 2025**
CERTIFICATION HOLDER: **Maryland Coastal Bays Program**
ADDRESS: **Attn: B Weiland**
8219 Stephen Decatur Hwy
Berlin, MD 21811
PROJECT LOCATION: **11800 Marsh View Ln**
Berlin, MD 21811

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 SINEPUXENT SOUTH SHORELINE STABILIZATION AND AS DESCRIBED IN THE ATTACHED PLAN SHEETS DATED JANUARY 8, 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.

PROJECT DESCRIPTION

1. Construct 4 segmented headland breakwaters with cobble toes measuring between 139 and 282 feet long and between 35 and 58 feet wide, all associated with a tombolo style living shoreline with segmented headland breakwaters extending 143 to 275 feet channelward of the mean high water line;
2. Fill and grade with approximately 3,825.7 cubic yards of a sand and 2,475.3 cubic yards of stone for tombolo/habitat construction and plant with 6,749 square feet of low marsh vegetation, 34,047 square feet of high marsh vegetation, and 8,450 square feet of dune vegetation.

The Administration satisfied statutory and regulatory public notice requirements by placing the WQC on Public Notice from October 1, 2024 to October 15, 2024 on the Maryland Department of the Environment's Public Notice webpage. The public notice for the associated Wetland License was advertised on the Maryland Department of the Environment's Public Notice webpage from October 15, 2023 to November 15, 2023 and in the Worcester County Times on October 26, 2023.

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-2023-60233 (MD Coastal Bays Program – Sinepuxent South) 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 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:
 - i. 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
 - ii. 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 this Certificate. 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 Certificate. 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 submit photographs on an annual basis for the first five growing seasons to the Tidal Wetlands Division, Water and Science Administration in order to document the success of the project in terms of the extent of native marsh plant coverage. Photographs shall be taken from at least two directions, as necessary to fully depict the living shoreline.
7. Due to Submerged Aquatic Vegetation, the Certificate Holder shall perform no in-water work between April 15 and October 15 of any year.

STATEMENTS OF NECESSITY & CITATIONS

1. Statement of Necessity for General Conditions 1, 2, 3, 4, and Special Conditions 1, 3: 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, 6: 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 Conditions 4, 5, 6: Tidal wetlands provide essential habitat, water quality, food, and movement corridors for wildlife, and support of estuarine and marine aquatic life and shellfish harvesting. Successful establishment is necessary to prevent discharges which interfere with designated uses, including growth and propagation of fish, other aquatic life, and wildlife through loss of stream channel habitat and wetlands. Required establishment, re-establishment, or enhancement and loss limits will maintain the designated use.

Citations: COMAR 26.08.02.02B(3); COMAR 26.08.02.03B(3) and B(4); COMAR 26.24.

8. 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 (Mar 14, 2025 07:42 EDT)

D. Lee Currey, Director
Water and Science Administration

Mar 14, 2025

Date

Tracking Number: 202360233
Agency Interest Number: 177619

Effective Date: **March 10, 2025**

Enclosure: Plan Sheets dated **January 8, 2025**

cc: WSA Inspection & Compliance Program
Army Corps of Engineers



VICINITY MAP

SHEET INDEX

DESCRIPTION	SHEET
VICINITY MAP AND AERIAL PHOTO.....	1
PROJECT VICINITY CONDITIONS	2
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23-WL-0142 & 24-WQC-0040
202360233
177619
1/8/2025
RMS

PLAN
SCALE: 1"=500'

UNDERWOOD & ASSOCIATES
LANDSCAPE ARCHITECTURE ♦ ECOLOGICAL RESTORATION
A DESIGN/BUILD Co.
1753 EBLING TRAIL • ANNAPOLIS, MD 21401
tel. 410-849-3211 fax. 410-849-2136

JANUARY 8, 2025	
Scale	AS SHOWN
Drawn By	J.H./J.K./E.C.
Approved By	K.B.
Sheet No.	1 Of 15
Project No.	21-032
Proposal No.	...
VICINITY MAP AND AERIAL PHOTO	
SINEPUXENT SOUTH LIVING SHORELINE 11800 MARSH VIEW LANE, BERLIN, MD 21811 MAP 0042, GRID 0020, PARCEL 0008 1ST ELECTION DISTRICT, WORCESTER COUNTY 202360233 / 23-WL-0142	



23-WL-0142 & 24-WQC-0040

202360233

177619

1/8/2025

RMS

PLAN

SCALE: 1"=1000'



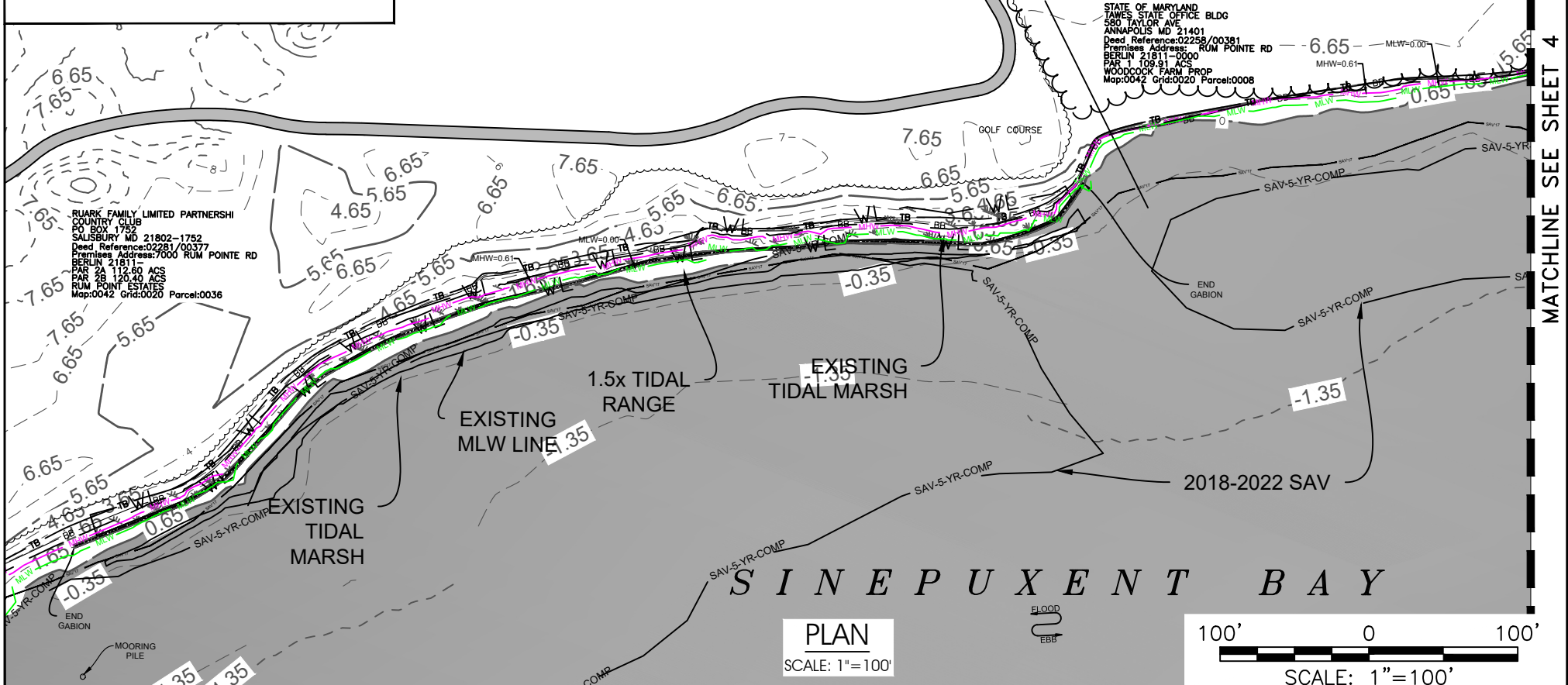
JANUARY 8, 2025		PROJECT VICINITY CONDITIONS	
Scale	AS SHOWN	SINEPUXENT SOUTH LIVING SHORELINE 11800 MARSH VIEW LANE, BERLIN, MD 21811 MAP 0042, GRID 0020, PARCEL 0008 1ST ELECTION DISTRICT, WORCESTER COUNTY 202360233 / 23-WL-0142	
Drawn By	J.H./J.K./E.C.		
Approved By	K.B.		
Sheet No.	2 Of 15		
Project No.	21-032		
Proposal No.	...		

Code File: S:\006-projects\assateague phase II\04-CAD\Drawings\FOR MDE\WDE_02_PROJECT VICINITY.dwg

LEGEND

EXISTING FEATURES

MINOR CONTOUR	---	1
MAJOR CONTOUR	---	5
MEAN HIGH WATER	---	MHW
MEAN LOW WATER	---	MLW
TREE CANOPY	---	
PROPERTY LINE	---	
TOP OF BANK	---	TB
BOTTOM OF BANK	---	BB



NOTES:

MHW = 1.26 / MLW = 0.65 (NAVD88 DATUM)
MHW = 0.61 / MLW = 0 (MLW DATUM)
MHW AND MLW ARE BASED ON BIOLOGICAL BENCHMARK OF EXISTING MARSH

UNDERWOOD & ASSOCIATES

LANDSCAPE ARCHITECTURE ♦ ECOLOGICAL RESTORATION

A DESIGN/BUILD Co.

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JANUARY 8, 2025

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Approved By	K.B.
Sheet No.	--- Of 15
Project No.	21-032
Proposal No.	...

EXISTING CONDITIONS

SINEPUXENT SOUTH LIVING SHORELINE
11800 MARSH VIEW LANE, BERLIN, MD 21811
MAP 0042, GRID 0020, PARCEL 0008
1ST ELECTION DISTRICT, WORCESTER COUNTY
202360233 / 23-WL-0142

23-WL-0142 & 24-WQC-0040

202360233

177619

1/8/2025

RMS

23-WL-0142 & 24-WQC-0040
202360233
177619
1/8/2025
RMS

DEPARTMENT OF FORESTS
AND PARKS
580 TAYLOR AVE
ANNAPOLIS MD 21401
Doc# Reference:00319/00027
Parcel Address:11800 MARSH VIEW LN
BERLIN 21811-0000
0.58 AC
Map:0042 Grid:0000 Parcel:0028

~~EXISTING TIDAL MARSH~~

EXISTING
MLW LINE

1.5x TIDAL RANGE

2018-2022 SAV

2017 SAV

S I N E P U X E N T ^{-1.35} *B A Y*

PLAN

SCALE: 1"=100'

SCALE: 1"=100'

JANUARY 8, 2025

LEGEND

EXISTING FEATURES

MINOR CONTOUR
MAJOR CONTOUR
MEAN HIGH WATER
MEAN LOW WATER
TREE CANOPY
PROPERTY LINE
TOP OF BANK
BOTTOM OF BANK

NOTES:

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MHW = 0.61 / MLW = 0 (MLW DATUM)
MHW AND MLW ARE BASED ON
BIOLOGICAL BENCHMARK OF
EXISTING MARSH

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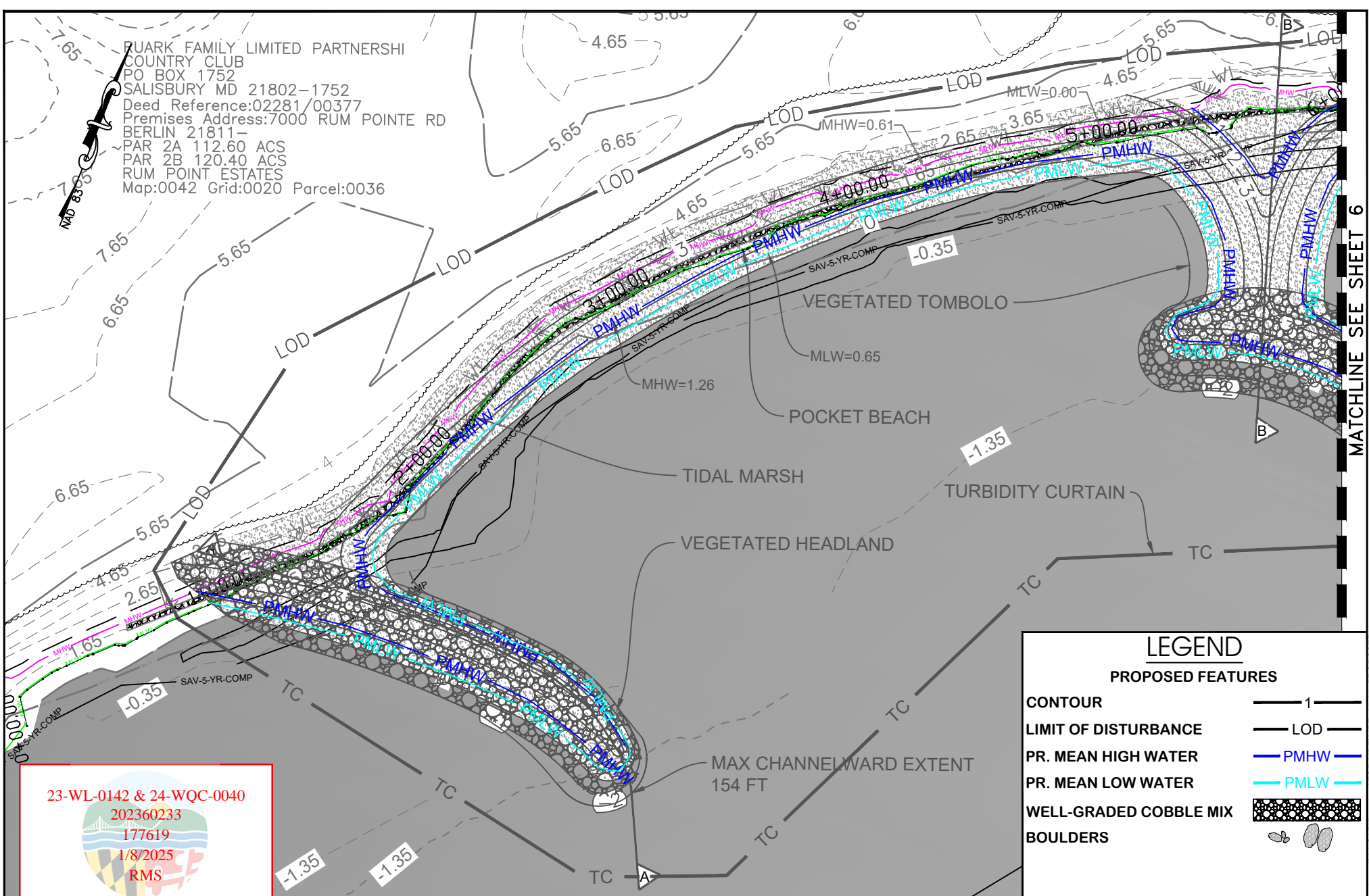
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Approved By	K.B.
Sheet No.	4 Of 15
Project No.	21-032
Proposal No.	...

EXISTING CONDITIONS

**SINEPUXENT SOUTH
LIVING SHORELINE**
11800 MARSH VIEW LANE, BERLIN, MD 21811
MAP 0042, GRID 0020, PARCEL 0008
1ST ELECTION DISTRICT, WORCESTER COUNTY
202360233 / 23-WL-0142

QUARK FAMILY LIMITED PARTNERSHI
COUNTRY CLUB
PO BOX 1752
SALISBURY MD 21802-1752
Deed Reference:02281/00377
Premises Address:7000 RUM POINTE RD
BERLIN 21811-
PAR 2A 112.60 ACS
PAR 2B 120.40 ACS
RUM POINT ESTATES
Map:0042 Grid:0020 Parcel:0036



Regenerative Stream Channel (RSC)

MATCHLINE SEE SHEET 6

LEGEND

PROPOSED FEATURES

CONTOUR	1
LIMIT OF DISTURBANCE	LOD
PR. MEAN HIGH WATER	PMHW
PR. MEAN LOW WATER	PMLW
WELL-GRADED COBBLE MIX	
BOULDERS	

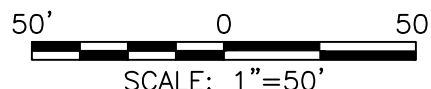
JANUARY 8, 2025

NOTES:

MHW = 1.26 / MLW = 0.65 (NAVD88 DATUM)
MHW = 0.61 / MLW = 0 (MLW DATUM)
MHW AND MLW ARE BASED ON
BIOLOGICAL BENCHMARK OF EXISTING
MARSH

PLAN

SCALE: 1"=50'



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Approved By	K.B.
Sheet No.	5 Of 15
Project No.	21-032
Proposal No.	...

PROPOSED CONDITIONS

SINEPUXENT SOUTH LIVING SHORELINE

11800 MARSH VIEW LANE, BERLIN, MD 21811
MAP 0042, GRID 0020, PARCEL 0008
1ST ELECTION DISTRICT, WORCESTER COUNTY
202360233 / 23-WL-0142

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LEGEND

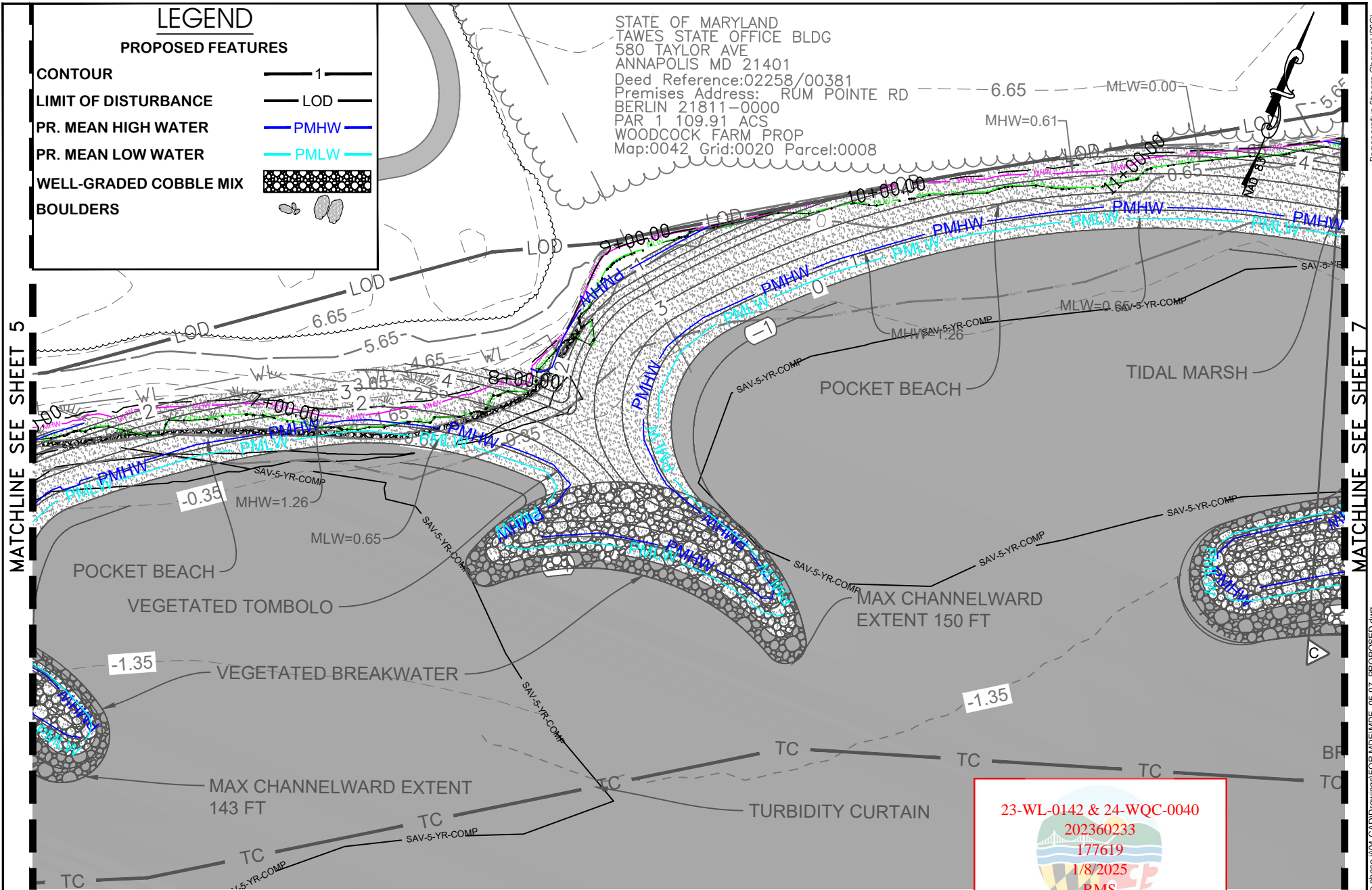
PROPOSED FEATURES

CONTOUR	1
LIMIT OF DISTURBANCE	LOD
PR. MEAN HIGH WATER	PMHW
PR. MEAN LOW WATER	PMLW
WELL-GRADED COBBLE MIX	
BOULDERS	

STATE OF MARYLAND
TAWES STATE OFFICE BLDG
580 TAYLOR AVE
ANNAPOLIS MD 21401
Deed Reference:02258/00381
Premises Address: RUM POINTE RD
BERLIN 21811-0000
PAR 1 109.91 ACS
WOODCOCK FARM PROP
Map:0042 Grid:0020 Parcel:0008

MATCHLINE SEE SHEET 5

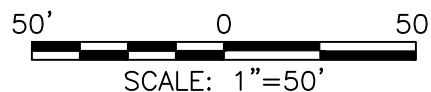
MATCHLINE SEE SHEET 7



NOTES:

MHW = 1.26 / MLW = 0.65 (NAVD88 DATUM)
MHW = 0.61 / MLW = 0 (MLW DATUM)
MHW AND MLW ARE BASED ON
BIOLOGICAL BENCHMARK OF EXISTING
MARSH

PLAN
SCALE: 1"=50'



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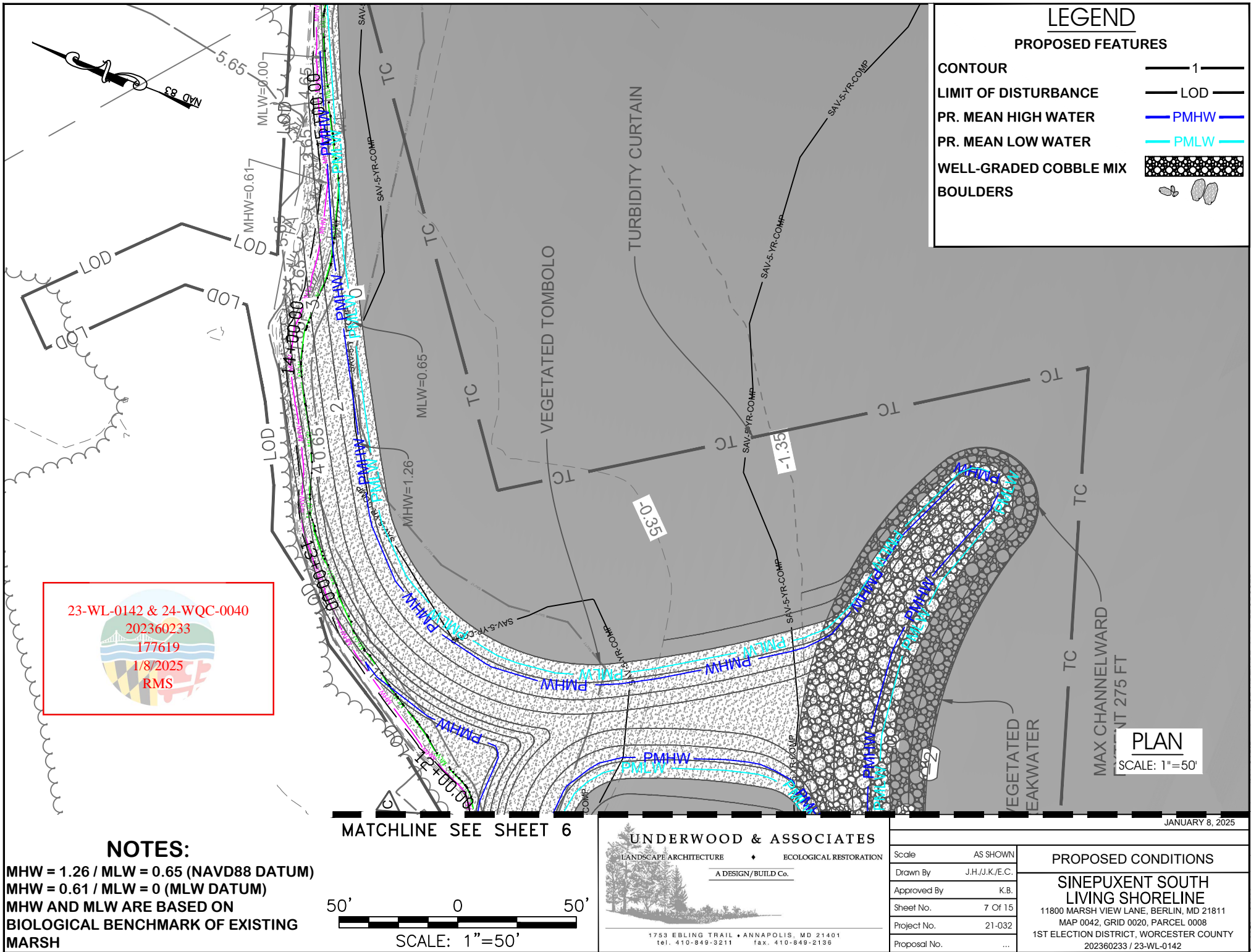
JANUARY 8, 2025

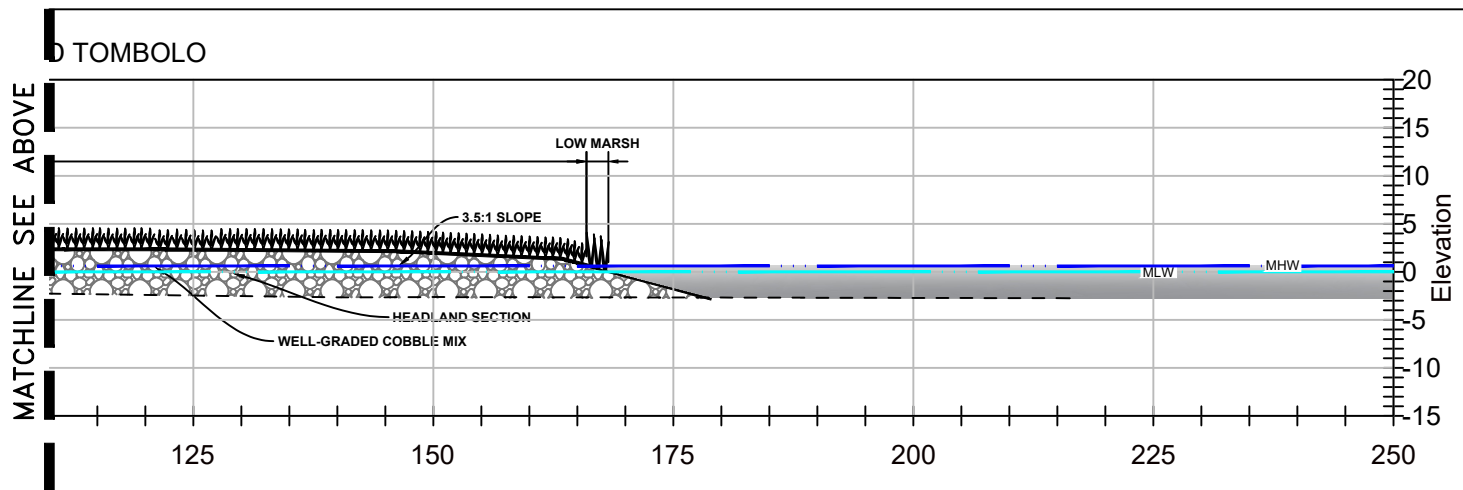
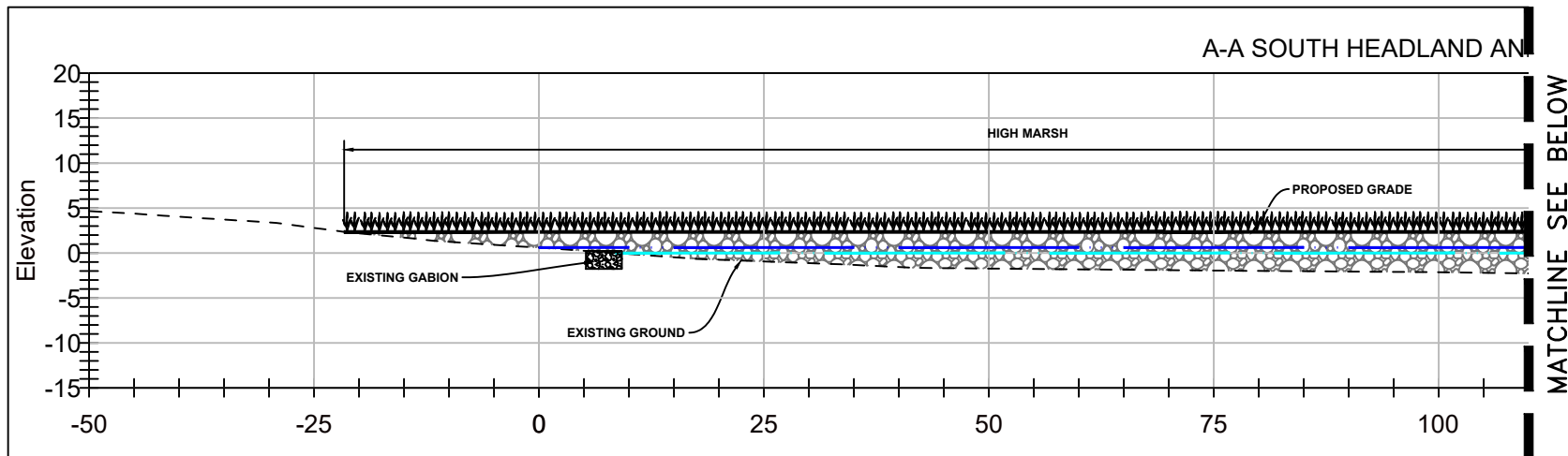
Scale	AS SHOWN
Drawn By	J.H./J.K./E.C.
Approved By	K.B.
Sheet No.	6 Of 15
Project No.	21-032
Proposal No.	...

PROPOSED CONDITIONS

SINEPUXENT SOUTH LIVING SHORELINE

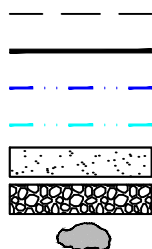
11800 MARSH VIEW LANE, BERLIN, MD 21811
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202360233 / 23-WL-0142





LEGEND

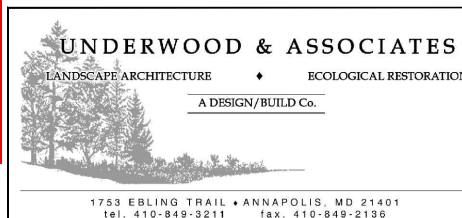
EXISTING GRADE
PROPOSED GRADE
MEAN HIGH WATER (MHW)
MEAN LOW WATER (MLW)
SAND/WOOD CHIP MIX
WELL-GRADED COBBLE MIX
BOULDER



CROSS SECTIONS

SCALE: HORI. 1"=20', VERT. 1"=20'

23-WL-0142 & 24-WQC-0040
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1/8/2025
RMS



NOTES:

MHW = 1.26 / MLW = 0.65 (NAVD88 DATUM)
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MHW AND MLW ARE BASED ON BIOLOGICAL
BENCHMARK OF EXISTING MARSH

JANUARY 8, 2025

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PROJECT CROSS SECTION

**SINEPUXENT SOUTH
LIVING SHORELINE**
11800 MARSH VIEW LANE, BERLIN, MD 21811
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1ST ELECTION DISTRICT, WORCESTER COUNTY
202360233 / 23-WL-0142

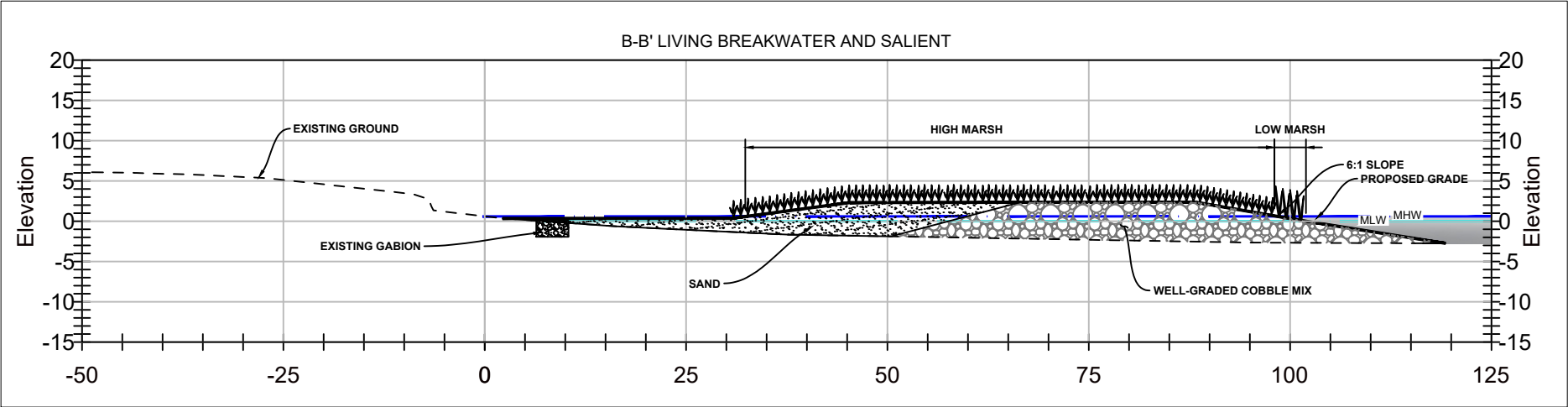
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CROSS SECTIONS

SCALE: HORI. 1"=20', VERT. 1"=20'

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- SAND/WOOD CHIP MIX
- WELL-GRADED COBBLE MIX
- BOULDER

NOTES:

MHW = 1.26 / MLW = 0.65 (NAVD88 DATUM)
MHW = 0.61 / MLW = 0 (MLW DATUM)
MHW AND MLW ARE BASED ON BIOLOGICAL BENCHMARK OF EXISTING MARSH

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JANUARY 8, 2025

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Approved By	K.B.
Sheet No.	9 Of 15
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PROJECT CROSS SECTION

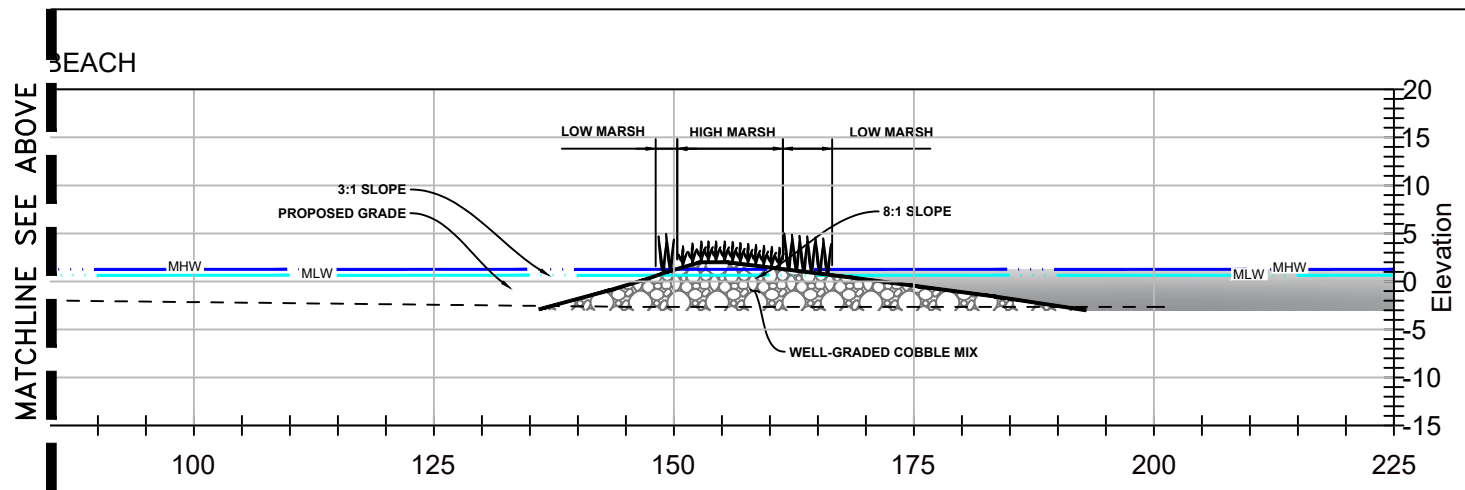
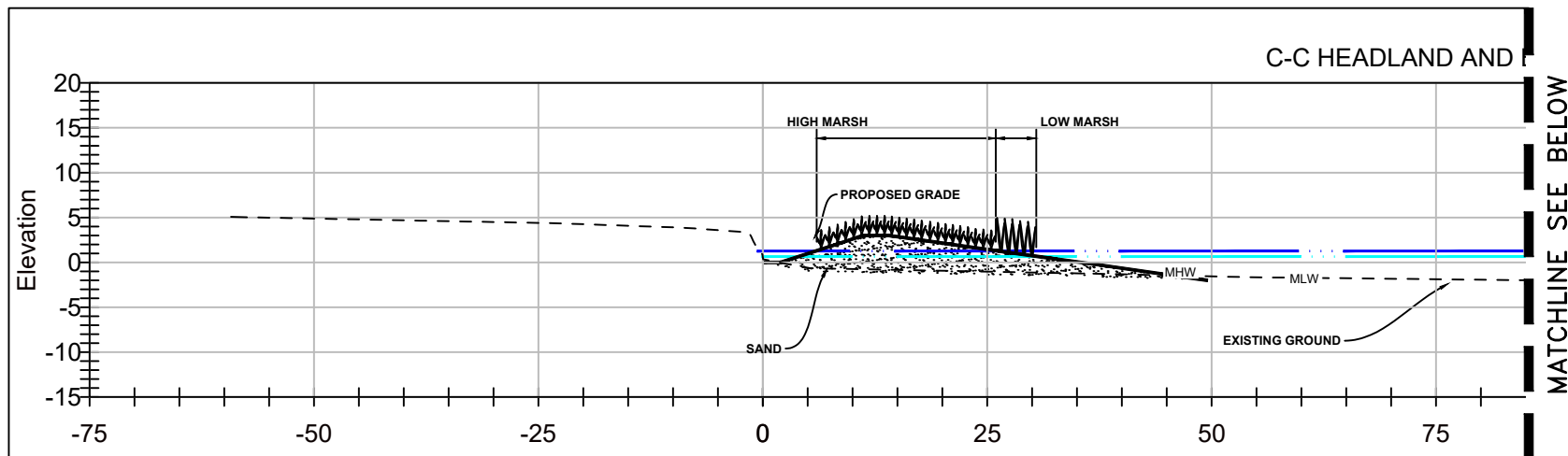
SINEPUXENT SOUTH LIVING SHORELINE

11800 MARSH VIEW LANE, BERLIN, MD 21811

MAP 0042, GRID 0020, PARCEL 0008

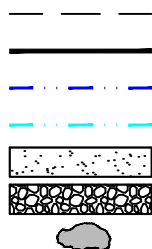
1ST ELECTION DISTRICT, WORCESTER COUNTY

202360233 / 23-WL-0142



LEGEND

EXISTING GRADE
 PROPOSED GRADE
 MEAN HIGH WATER (MHW)
 MEAN LOW WATER (MLW)
 SAND/WOOD CHIP MIX
 WELL-GRADED COBBLE MIX
 BOULDER



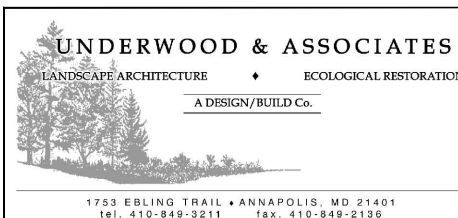
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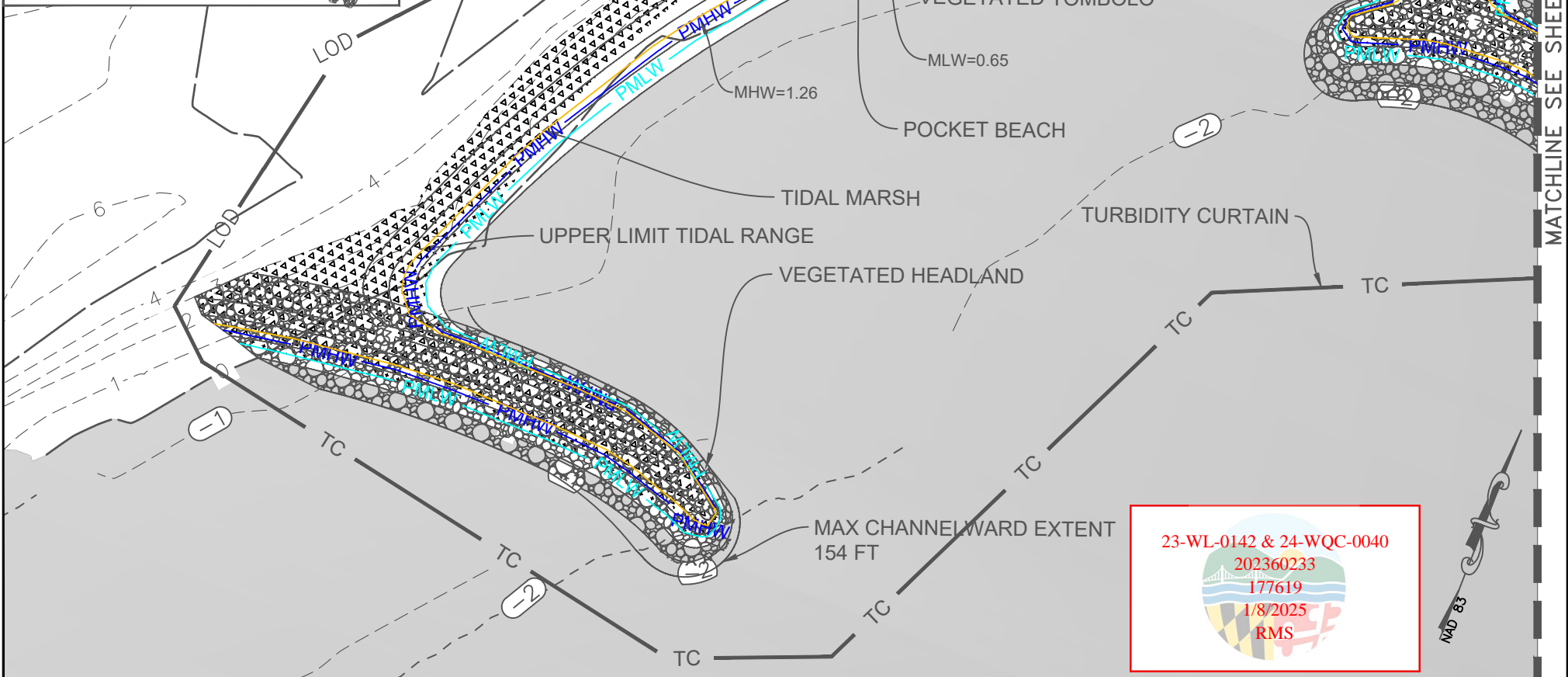


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Sheet No.	10 Of 15
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PROJECT CROSS SECTION	
SINEPUXENT SOUTH LIVING SHORELINE	
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MAP 0042, GRID 0020, PARCEL 0008	
1ST ELECTION DISTRICT, WORCESTER COUNTY	
202360233 / 23-WL-0142	

LEGEND

PROPOSED FEATURES

CONTOUR	1
LIMIT OF DISTURBANCE	LOD
PROPOSED MEAN HIGH WATER	PMHW
PROPOSED MEAN LOW WATER	PMLW
SPARTINA ALTERNIFLORA (LOW MARSH)	+
SPARTINA PATENS (HIGH MARSH)	△
DUNE PLANTINGS	○
UPLAND FORESTATION	□
BOULDERS	●

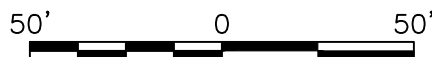


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PLAN

SCALE: 1"=50'



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BUFFER MANAGEMENT PLAN

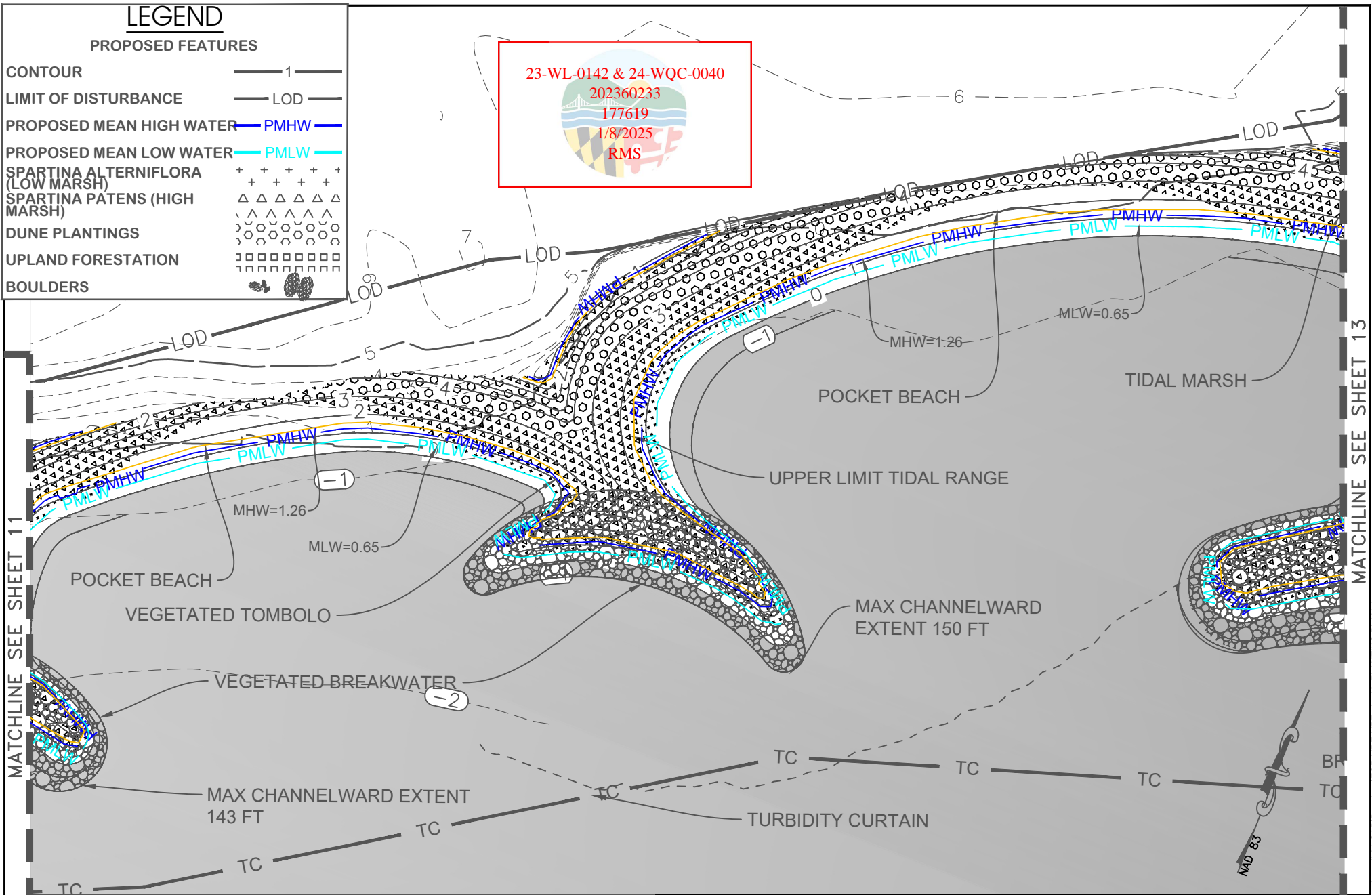
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LIVING SHORELINE**
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MAP 0042, GRID 0020, PARCEL 0008
1ST ELECTION DISTRICT, WORCESTER COUNTY
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LEGEND

PROPOSED FEATURES

CONTOUR	1
LIMIT OF DISTURBANCE	LOD
PROPOSED MEAN HIGH WATER	PMHW
PROPOSED MEAN LOW WATER	PMLW
SPARTINA ALTERNIFLORA (LOW MARSH)	+
SPARTINA PATENS (HIGH MARSH)	Δ
DUNE PLANTINGS	○
UPLAND FORESTATION	□
BOULDERS	●

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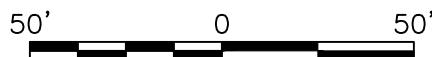


NOTES:

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MHW = 0.61 / MLW = 0 (MLW DATUM)
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PLAN

SCALE: 1"=50'



SCALE: 1"=50'

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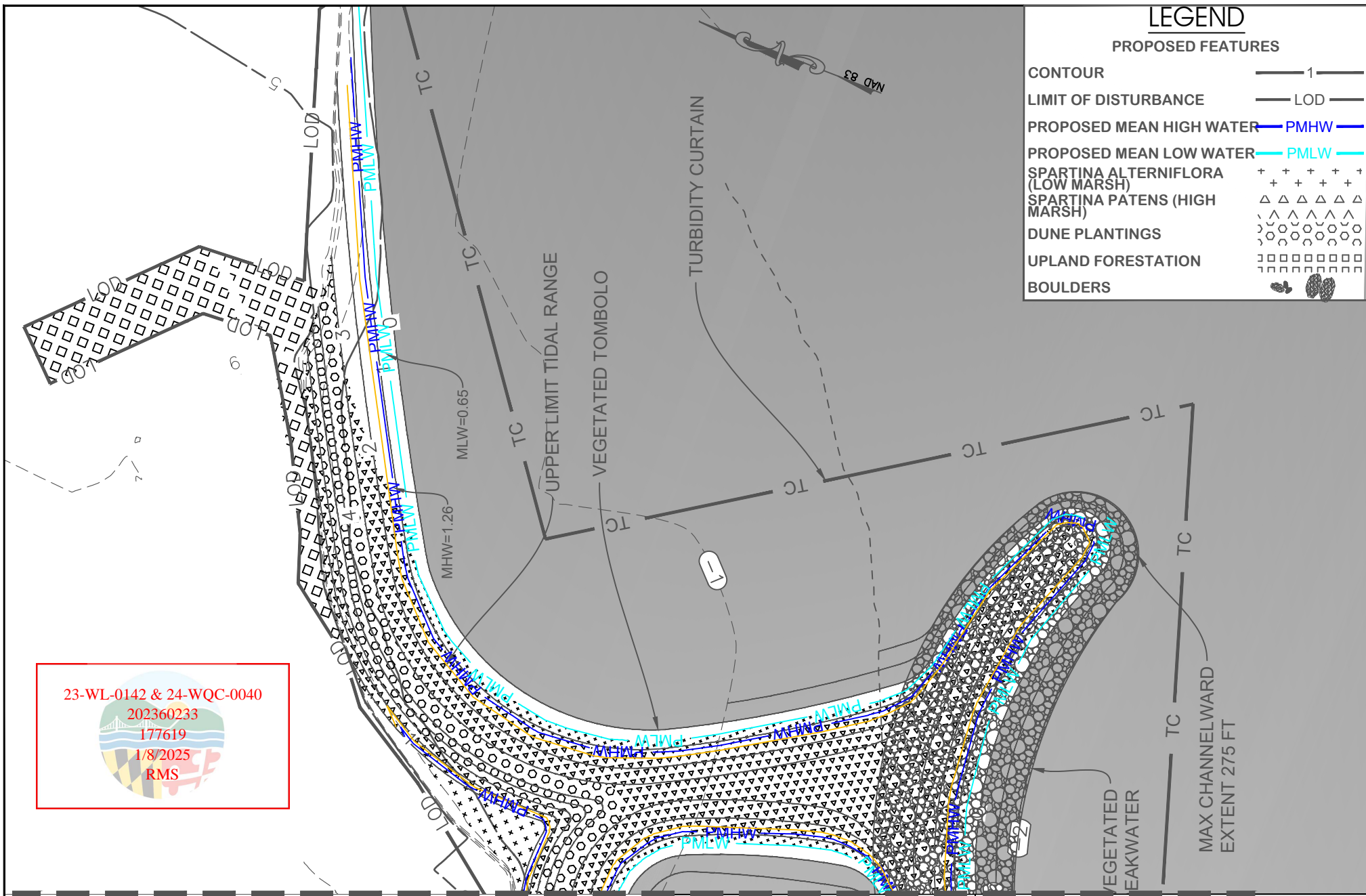
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Sheet No.	12 Of 15
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BUFFER MANAGEMENT PLAN

**SINEPUXENT SOUTH
LIVING SHORELINE**
11800 MARSH VIEW LANE, BERLIN, MD 21811
MAP 0042, GRID 0020, PARCEL 0008
1ST ELECTION DISTRICT, WORCESTER COUNTY
202360233 / 23-WL-0142

Matchline SEE SHEET 11
Matchline SEE SHEET 13
Cadd File: S:\006-projects\assateague phase II\04-CAD\Drawings\FOR WDE\WDE_11-13_PLANTING PLAN.dwg
Regenerative Stream Channel (RSC)



LEGEND

PROPOSED FEATURES

CONTOUR	1
LIMIT OF DISTURBANCE	LOD
PROPOSED MEAN HIGH WATER	PMHW
PROPOSED MEAN LOW WATER	PMLW
SPARTINA ALTERNIFLORA (LOW MARSH)	+ + + + +
SPARTINA PATENS (HIGH MARSH)	Δ Δ Δ Δ Δ
DUNE PLANTINGS	○ ○ ○ ○ ○
UPLAND FORESTATION	□ □ □ □ □
BOULDERS	● ●

NOTES:
 MHW = 1.26 / MLW = 0.65 (NAVD88 DATUM)
 MHW = 0.61 / MLW = 0 (MLW DATUM)
 MHW AND MLW ARE BASED ON
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 MARSH

MATCHLINE SEE SHEET 12
PLAN
 SCALE: 1"=50'

50' 0 50'
 SCALE: 1"=50'

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BUFFER MANAGEMENT PLAN	
SINEPUXENT SOUTH LIVING SHORELINE	
11800 MARSH VIEW LANE, BERLIN, MD 21811	
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PROJECT DATA TABLES

Tidal Wetlands Impacts and Creation Summary

Resource Type	High Marsh (<i>S. patens</i>)	Low Marsh (<i>S. alterniflora</i>)	SAV	Open Water
Delineation Notes	up to +2.15 MLW (upper limit of existing marsh)	between MHW & MLW	2018 - 2022 VIMS composite	other areas below MHW
Project Impact (acres)	0.086	0.085	0.474	1.620
Anticipated Post-Project [created or recolonized] (acres)	0.510	0.101	0.551	0.000
In-Kind Ratio	1:1	1:1	1:1	1:1
In-Kind (acres)	0.086	0.085	0.474	0.000
Out-of-Kind Replacement Ratio	2:1	2:1	2:1	1:1
Out-of-Kind Replacement Type	-	-	-	High Marsh
Out-of-Kind (total created acres)	0.000	0.000	0.000	0.424
Out-of-Kind (credit acres)	0.000	0.000	0.000	0.424
Combination In-Kind and Out-of-Kind Provided (credit acres)	0.086	0.085	0.474	0.424
Adequate Replacement Provided?	Yes	Yes	Yes	No
Excess Replacement Provided (acres)	0.424	0.015	0.077	0.000
Replacement Deficit (acres)	0.000	0.000	0.000	1.195

Sinepuxent South Living Shoreline - Project Information

Feature	Existing	Proposed	Difference
High marsh- <i>S. patens</i> (SF)	3745	22233	18488
Low marsh - <i>S. alterniflora</i> (SF)	3718	8646	4928
Total Tidal Wetlands (SF)	7463	30879	23416
Bulkhead (LF)	0.0	0.0	0.0
Gabion Baskets (LF)	751.3	0.0	-751.3
Shoreline at MHW (LF)	1406.0	2665.5	1259.5
Sand Fill Area (SF)	0.0	50087.3	50087.3
Sand Fill Volume (CY)	0.0	4218.0	4218.0
Vegetated Rock Fill Area (SF)	0.0	14586.2	14586.2
Unvegetated Rock Fill Area (SF)	0.0	12392.5	12392.5
Rock Fill Volume (CY)	0.0	1705.0	1705.0
Total Channelward Fill Area (SF)	0.0	77066.0	77066.0
Total Channelward Fill Volume (CY)	0.0	5923.0	5923.0

DATUM TRANSFORMATIONS

ELEVATIONS ON THESE PLANS ARE REFERENCED TO
MLW = 0
TO BE IN AGREEMENT WITH THE CONSTRUCTION
PLANS, SUBTRACT 0.65 FROM ALL ELEVATIONS

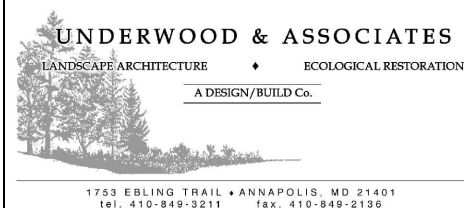
DATA IN FT FROM BIOLOGICAL BENCHMARK

NAVD88 MLW
1.26 ——— 0.61 MHW - MEAN HIGH WATER

0.65 ——— 0.00 MLW - MEAN LOW WATER

0.00 ——— -0.65 NAVD88 - NORTH AMERICAN
VERTICAL DATUM OF 1988

Note: All existing tidal marsh impacts and proposed creations are restricted to the field delineated upper limit of existing tidal wetlands using field verified tidal data (biological benchmark of existing marsh).



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PROJECT DATA TABLES

SINEPUXENT SOUTH LIVING SHORELINE

11800 MARSH VIEW LANE, BERLIN, MD 21811
MAP 0042, GRID 0020, PARCEL 0008
1ST ELECTION DISTRICT, WORCESTER COUNTY
202360233 / 23-WL-0142

BUFFER MANAGEMENT PLAN PLANTING SCHEDULE

Planting Zone	Symbol	Total Area (Ft²)	Common Name	Scientific Name	Type	Wetland Indicator Status	Size	Distribution	Avg Spacing (ft)	Quantity	Credit Area (SF per plant)	Total Credit Area (SF)	Description
Lowmarsh Cordgrass	Pluses	8,646	Lowmarsh Cordgrass	<i>Spartina alterniflora</i>	SAV	OBL	Gal	Random	2.5	1,384	0	0	Between PMLW and PMHW.
Highmarsh Cordgrass	Triangles	34,047	Highmarsh Cordgrass	<i>Spartina patens</i>	SAV	FACW+	Gal	Random	2.5	5,448	0	0	Between PMHW to proposed elevation 3 ft NAVD88 (3.7 ft MLW)
Dune	Hexagons	8,450	Evening primrose	<i>Oenothera humifusa</i>	Herbaceous	FACU	Qt	Random	5	49	2	98	All newly created areas above elevation 3 ft NAVD88 (3.7 ft MLW)
			Beach plum	<i>Prunus maritima</i>	Shrub	UPL	2-3'	Random	8	19	50	950	
			Bitter panicgrass	<i>Panicum amarum</i>	Herbaceous	FACU-	Qt	Random	5	49	2	98	
			American beachgrass	<i>Ammophila breviligulata</i>	Herbaceous	FACU	Qt	Random	5	49	2	98	
			Switchgrass	<i>Panicum virgatum</i>	Herbaceous	FAC	1-2'	Random	8	19	50	950	
			Seaside goldenrod	<i>Solidago sempervirens</i>	Herbaceous	FACW	1-2'	Random	8	19	50	950	
			Prickly pear	<i>Opuntia humifosa</i>	Herbaceous	N/A	Qt	Random	5	49	2	98	
Upland Forestation	Squares	3,672	Southern bayberry	<i>Myrica cerifera</i>	Shrub	FAC	2-3'	Random	8	9	2	18	Primarily the upland canopy area impacted by construction access
			Eastern red cedar	<i>Juniperus virginiana</i>	Tree	FACU	2-3'	Random	15	3	50	150	
			Persimmon	<i>Diospyros virginiana</i>	Tree	FAC	2-3'	Random	15	3	50	150	
			Black gum	<i>Nyssa sylvatica</i>	Tree	FAC	2-3'	Random	15	3	50	150	
			American Holly	<i>Ilex opaca</i>	Tree	FAC	2-3'	Random	15	3	100	300	
			Black Chokeberry	<i>Prunus virginiana</i>	Tree	FACU	2-3'	Random	15	3	100	300	
			Southern Red Oak	<i>Quercus falcata</i>	Tree	FACU	2-3'	Random	15	3	100	300	
Critical Area Mitigation Calculations			Total Area of Disturbed Canopy (SF)		Mitigation Ratio			Total Mitigation Credit Required (SF)			Total Credit Area (SF)		Percent Mitigation (%)
			3,672		1:1			3,672			4,610		126%

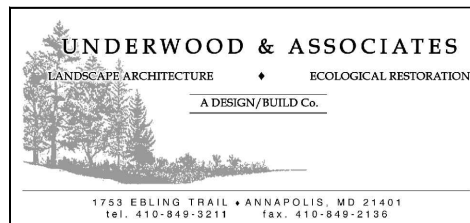
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BUFFER MANAGEMENT SCHEDULE

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 1ST ELECTION DISTRICT, WORCESTER COUNTY
 202360233 / 23-WL-0142







24-WQC-0040 (final)

Final Audit Report

2025-03-14

Created:	2025-03-11
By:	Jonathan Stewart (jon.stewart@maryland.gov)
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Transaction ID:	CBJCHBCAABAAxRYR75Rt_5mMz85W_g-j6r8MgWkgTNS5

"24-WQC-0040 (final)" History

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-  Signer mde.wsaepermits@maryland.gov entered name at signing as Matthew C. Rowe
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